

L252	0	L245 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:57
L253	0	nonlinear with element same nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:57
L254	0	((detect\$3 sensor receiver) and hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:57
L255	9	(semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:57
L256	461	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:57
L257	10	L245 and (fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:57
L258	0	L256 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:57
L259	9	L256 and (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:57
L487	5477	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L488	177	L487 AND (blood pulp).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L489	0	nonlinear with element with nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L490	0	L487 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L491	461	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L492	2844	(spectroscopy and infrared).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L493	5	L487 AND (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L494	0	L487 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L495	0	nonlinear with element same nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L496	0	((detect\$3 sensor receiver) and hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L497	9	(semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00

L498	461	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L499	10	L487 and (fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L500	0	L498 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L501	9	L498 and (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L503	5477	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L504	177	L503 AND (blood pulp).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L505	0	nonlinear with element with nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L506	0	L503 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L507	461	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L508	2844	(spectroscopy and infrared).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L509	5	L503 AND (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L510	0	L503 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L511	0	nonlinear with element same nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L512	0	((detect\$3 sensor receiver) and hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L513	9	(semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L514	461	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L515	10	L503 and (fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L516	0	L514 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
L517	9	L514 and (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00

S110	3495	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:54
S111	91	S110 AND (blood pulp).clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:54
S112	0	nonlinear with element with nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:54
S113	0	S110 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:55
S114	407	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:55
S115	2424	(spectroscopy and infrared).clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:55
S116	2	S110 AND (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:55
S117	0	S110 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:55
S118	0	nonlinear with element same nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:56
S119	0	((detect\$3 sensor receiver) and hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:56
S120	6	(semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:56
S121	407	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:57
S122	3	S110 and (fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:57
S123	0	S121 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:57
S124	6	S121 and (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:57
S125	6	S121 AND (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:57
S245	4892	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S246	149	S245 AND (blood pulp).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S247	0	nonlinear with element with nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48

S248	0	S245 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S249	447	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S250	2725	(spectroscopy and infrared).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S251	5	S245 AND (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S252	0	S245 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S253	0	nonlinear with element same nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S254	0	((detect\$3 sensor receiver) and hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S255	9	(semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S256	447	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S257	9	S245 and (fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S258	0	S256 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S259	9	S256 and (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S260	9	S256 AND (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S491	5428	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S492	177	S491 AND (blood pulp).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S493	0	nonlinear with element with nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S494	0	S491 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S495	460	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S496	2836	(spectroscopy and infrared).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14



S497	5	S491 AND (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S498	0	S491 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S499	0	nonlinear with element same nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S500	0	((detect\$3 sensor receiver) and hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S501	9	(semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S502	460	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S503	10	S491 and (fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S504	0	S502 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S505	9	S502 and (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S506	9	S502 AND (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S507	5428	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S508	177	S507 AND (blood pulp).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S509	0	nonlinear with element with nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S510	0	S507 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S511	460	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S512	2836	(spectroscopy and infrared).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S513	5	S507 AND (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S514	0	S507 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S515	0	nonlinear with element same nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14

S516	0	((detect\$3 sensor receiver) and hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S517	9	(semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S518	460	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S519	10	S507 and (fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S520	0	S518 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S521	9	S518 and (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S522	9	S518 AND (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S839	5428	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S840	177	S839 AND (blood pulp).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S841	0	nonlinear with element with nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S842	0	S839 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S843	460	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S844	2836	(spectroscopy and infrared).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S845	5	S839 AND (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S846	0	S839 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S847	0	nonlinear with element same nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S848	0	((detect\$3 sensor receiver) and hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S849	9	(semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S850	460	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33

S851	10	S839 and (fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S852	0	S850 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S853	9	S850 and (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S855	5428	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S856	177	S855 AND (blood pulp).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S857	0	nonlinear with element with nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S858	0	S855 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S859	460	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S860	2836	(spectroscopy and infrared).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S861	5	S855 AND (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S862	0	S855 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S863	0	nonlinear with element same nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S864	0	((detect\$3 sensor receiver) and hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S865	9	(semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S866	460	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S867	10	S855 and (fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S868	0	S866 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S869	9	S866 and (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33

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Receipt date: 05/12/2017

15/594,053 - GAU: 2886

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number	15/594,053 - GAU: 2886
	Filing Date	
	First Named Inventor	Mohammed N. ISLAM
	Art Unit	
	Examiner Name	/MD M RAHMAN/
	Attorney Docket Number	OMNI 0105 PUSP2

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		
	First Named Inventor	Mohammed N. ISLAM	
	Art Unit		
	Examiner Name	/MD M RAHMAN/	
	Attorney Docket Number	OMNI 0105 PUSP2	

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		
	First Named Inventor	Mohammed N. ISLAM	
	Art Unit		
	Examiner Name	/MD M RAHMAN/	
	Attorney Docket Number	OMNI 0105 PUSP2	

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That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

**OR**

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

**SIGNATURE**

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/David S. Bir/	Date (YYYY-MM-DD)	2017-05-12
Name/Print	David S. Bir	Registration Number	38383

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15/594,053 - GAU: 2886

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PTO/SB/08a (01-10)

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	First Named Inventor	Mohammed N. ISLAM
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	2	2005013843	WO	A2	2005-02-17	The Regents of the University of California		
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	1	VINAY V. ALEXANDER ET AL.; Modulation Instability High Power All-Fiber Supercontinuum Lasers And Their Applications; Optical Fiber Technology 18; 2012; pages 349-374.	
	2	ROBERT S. JONES ET AL.; Near-Infrared Transillumination At 1310-nm For The Imaging Of Early Dental Decay; Volume 11, No. 18; Optics Express 2259; September 8, 2003	

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3		Extended European Search Report for European Application No. 13867874.3 dated July 15, 2016
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<sup>1</sup> See Kind Codes of USPTO Patent Documents at [www.USPTO.GOV](http://www.USPTO.GOV) or MPEP 901.04. <sup>2</sup> Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>3</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>4</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>5</sup> Applicant is to place a check mark here if English language translation is attached.

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		
	First Named Inventor	Mohammed N. ISLAM	
	Art Unit		
	Examiner Name	/MD M RAHMAN/	
	Attorney Docket Number	OMNI 0105 PUSP2	

**CERTIFICATION STATEMENT**

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

**OR**

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See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

**SIGNATURE**

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/David S. Bir/	Date (YYYY-MM-DD)	2017-05-12
Name/Print	David S. Bir	Registration Number	38383


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<b>Issue Classification</b> 	<b>Application/Control No.</b> 15594053	<b>Applicant(s)/Patent Under Reexamination</b> ISLAM, MOHAMMED N.
	<b>Examiner</b> MD M RAHMAN	<b>Art Unit</b> 2886


CPC						
Symbol					Type	Version
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G01J	3			108	I	2013-01-01
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G01J	2003			104	A	2013-01-01
G01J	3			453	I	2013-01-01
G01N	21			359	I	2013-01-01
G01J	3			14	I	2013-01-01
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/MD M RAHMAN/ Examiner.Art Unit 2886					<b>Total Claims Allowed:</b>	
(Assistant Examiner)					13	
(Date)						
/MD M RAHMAN/ Examiner.Art Unit 2886					<b>O.G. Print Claim(s)</b>	
(Primary Examiner)					1	
(Date)					<b>O.G. Print Figure</b>	
04/20/2018					21	

<b>Issue Classification</b> 	<b>Application/Control No.</b> 15594053	<b>Applicant(s)/Patent Under Reexamination</b> ISLAM, MOHAMMED N.	
	<b>Examiner</b> MD M RAHMAN	<b>Art Unit</b> 2886	

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H01S	3	0092	A	2013-01-01

CPC Combination Sets				
Symbol	Type	Set	Ranking	Version


/MD M RAHMAN/ Examiner.Art Unit 2886  (Assistant Examiner)	(Date)	<b>Total Claims Allowed:</b> 13	
/MD M RAHMAN/ Examiner.Art Unit 2886  (Primary Examiner)	04/20/2018 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 21

<b>Issue Classification</b>  	<b>Application/Control No.</b> 15594053	<b>Applicant(s)/Patent Under Reexamination</b> ISLAM, MOHAMMED N.
	<b>Examiner</b> MD M RAHMAN	<b>Art Unit</b> 2886

US ORIGINAL CLASSIFICATION						INTERNATIONAL CLASSIFICATION														
CLASS			SUBCLASS			CLAIMED					NON-CLAIMED									
356			300			G	0	1	J	3 / 00 (2006.01.01)										
<b>CROSS REFERENCE(S)</b>																				
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)																			

/MD M RAHMAN/ Examiner.Art Unit 2886  (Assistant Examiner)		<b>Total Claims Allowed:</b>  13	
/MD M RAHMAN/ Examiner.Art Unit 2886  (Primary Examiner)		04/20/2018  (Date)	O.G. Print Claim(s)  1
			O.G. Print Figure  21



<b>Issue Classification</b> 	<b>Application/Control No.</b> 15594053	<b>Applicant(s)/Patent Under Reexamination</b> ISLAM, MOHAMMED N.
	<b>Examiner</b> MD M RAHMAN	<b>Art Unit</b> 2886

<input type="checkbox"/> Claims renumbered in the same order as presented by applicant																<input type="checkbox"/> CPA		<input checked="" type="checkbox"/> T.D.		<input type="checkbox"/> R.1.47	
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original						
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/MD M RAHMAN/ Examiner.Art Unit 2886  (Assistant Examiner)	(Date)	<b>Total Claims Allowed:</b> 13	
/MD M RAHMAN/ Examiner.Art Unit 2886  (Primary Examiner)	04/20/2018 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 21

Receipt date: 05/12/2017

15/594,053 - GAU: 2886

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Filed

Approved for use through 07/31/2012. OMB 0651-0031

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number	15/594,053 - GAU: 2886
	Filing Date	
	First Named Inventor	Mohammed N. ISLAM
	Art Unit	
	Examiner Name	/MD M RAHMAN/
	Attorney Docket Number	OMNI 0105 PUSP2

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Examiner Initial*	Cite No	Patent Number	Kind Code <sup>1</sup>	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	6181414		2001-01-30	Raz et al.	
	2	7105823		2006-09-12	Abrahamsson et al.	
	3	8472108		2013-06-25	Islam	

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	1	20060283931		2006-12-21	Polli et al.	
	2	20120239013		2012-09-20	Islam	
	3	20130274569		2013-10-17	Islam	

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		
	First Named Inventor	Mohammed N. ISLAM	
	Art Unit		
	Examiner Name	/MD M RAHMAN/	
	Attorney Docket Number	OMNI 0105 PUSP2	

4	20140236021	2014-08-21	Islam
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**FOREIGN PATENT DOCUMENTS**

Examiner Initial*	Cite No	Foreign Document Number <sup>3</sup>	Country Code <sup>2</sup> i	Kind Code <sup>4</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T <sup>5</sup>
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**NON-PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>5</sup>
	1	'Application Brief AB-070: The role of infrared microprobe analysis in forensic drug analysis," www.smithsdetection.com, June 27, 2005.	
	2	Jasco Application Note No. 200DR0188-E, "Rapid Identification of illegal drug using NIR (identification of MDMA tablet)", September 4, 2008.	
	3	PALOU, A. J. CRUZ, M. BLANCO, J. TOMAS, J. DE LOS RIOS, M. ALCALA, "Determination of drug, excipients and coating distribution in pharmaceutical tablets using NIR-CI," Journal of Pharmaceutical Analysis, Vol. 2, no. 2, pp. 90-97 (2012).	
	4	ARNOLD, T., M. De BIASIO, R. LEITNER, "Near-Infrared Imaging Spectroscopy for Counterfeit Drug Detection," Next Generation Spectroscopic Technologies IV, edited by M. A. Druy, R.A. Crocombe, Proceedings of SPIE, Vol. 8032, 80320Y-1 to 7, (2011).	
	5	WEDDING, B.B., C. WRIGHT, S. GRAUF, R.D. WHITE, "The application of near infrared spectroscopy for the assessment of avocado quality attributes," Infrared Spectroscopy – Life and Biomedical Sciences, pp. 211-230 (2011).	

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6	MICHAELS, C.A., T. MASIELLO, P.M. CHU, "Fourier transform spectrometry with a near infrared supercontinuum source," Optical Society of America, CLEO/IQEC Conference, paper CMDD6 (2009).
7	MICHAELS, C.A., T. MASIELLO, P.M. CHU, "Fourier transform spectrometry with a near-infrared supercontinuum source," Applied Spectroscopy, Vol. 63, no. 5, pp. 538-543 (2009).
8	MOROS, J., J. KULIGOWSKI, G. QUINTAS, S. GARRIGUES, M. DeLa GUARDIA, "New cut-off criterion for uninformative variable elimination in multivariate calibration of near-infrared spectra for the determination of heroin in illicit street drugs," Analytica Chimica Acta, Vol. 630, pp. 150-160 (2008).
9	MOROS, J. N. GALLPIENSO, R. VILCHES, S. GARRIGUES, M. DeLa GUARDIA, "Nondestructive direct determination of heroin in seized illicit street drugs by diffuse reflectance near-infrared spectroscopy," Analytical Chemistry, Vol. 80, no. 19, pp. 7257-7265 (October 1, 2008).
10	ROGGO, Y. P. CHALUS, L. MAURER, C. LEMA-MARTINEZ, A. EDMOND, N. JENT, "A review of near infrared spectroscopy and chemometrics in pharmaceutical technologies," Journal of Pharmaceutical and Biomedical Analysis, Vol. 44, pp. 683-700 (2007).
11	POJIC, M. J. MASTILOVIC, N. MAJZEN, "The application of near infrared spectroscopy in wheat quality control," Infrared Spectroscopy - Life and Biomedical Sciences, pp. 167-184 (2012).
12	REICH, G. "Near-infrared spectroscopy and imaging: basic principles and pharmaceutical applications," Advanced Drug Delivery Reviews, vol. 57, pp. 1109-1143 (2005).
13	RODIONOVA, O.Y., L.P. HOUMOLLER, A.L. POMERANTSEV, P. GELADI, J. BURGER, V.L. DOROFEYEV, A.P. ARZAMASTSEV, "NIR spectrometry for counterfeit drug detection: a feasibility study," Analytica Chimica Acta, vol. 549, pp. 151-158 (2005).
14	SCHNEIDER, R.C., K.A. KOVAR, "Analysis of ecstasy tablets: comparison of reflectance and transmittance near infrared spectroscopy," Forensic Science International, vol. 134, pp. 187-195 (2003).
15	OLSEN, B.A., M.W. BORER, F.M. PERRY, R.A. FORBES, "Screening for counterfeit drugs using near-infrared spectroscopy," Pharmaceutical Technology, pp. 62-71 (June 2002).
16	SCAFI, S.H.F., C. PASQUINI, "Identification of counterfeit drugs using near-infrared spectroscopy," Analyst, vol. 126, pp. 2218-2224 (2001).

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17		SONDERMANN, N., K.A. KOVAR, "Identification of ecstasy in complex matrices using near-infrared spectroscopy," Forensic Science International, vol. 102, pp. 133-147 (1999).
18		RAMBLA, F.J., S. GARRIGUES, M. DeLa GUARDIA, "PLS-NIR determination of total sugar, glucose, fructose and sucrose in aqueous solutions of fruit juices," Analytica Chimica Acta, vol. 344, pp. 41-53 (1997).

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**EXAMINER SIGNATURE**

Examiner Signature	/MD M RAHMAN/	Date Considered	04/20/2018
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Receipt date: 05/12/2017

15/594,053 - GAU: 2886

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Filed

Approved for use through 07/31/2012. OMB 0651-0031

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	Attorney Docket Number	OMNI 0105 PUSP2

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Examiner Initial*	Cite No	Patent Number	Kind Code <sup>1</sup>	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	
	1	4063106		1977-12-13	Ashkin, et al.		
	2	4158750		1979-06-19	Sakoe, et al.		
	3	4221997		1980-09-09	Flemming		
	4	4275266		1981-06-23	Lasar		
	5	4374618		1983-02-22	Howard		
	6	4403605		1983-09-13	Tanikawa		
	7	4462080		1984-07-24	Johnstone, et al.		
	8	4516207		1985-05-07	Moriyama, et al.		



**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number		
Filing Date		
First Named Inventor	Mohammed N. ISLAM	
Art Unit		
Examiner Name	/MD M RAHMAN/	
Attorney Docket Number	OMNI 0105 PUSP2	

9	4523884		1985-06-18	Clement, et al.
10	4605080		1986-08-12	Lemelson
11	4641292		1987-02-03	Tunnell, et al.
12	4704696		1987-11-03	Reimer, et al.
13	4728974		1988-03-01	Nio, et al.
14	4762455		1988-08-09	Coughlan, et al.
15	4776016		1988-10-04	Hansen
16	4958910		1990-09-25	Taylor, et al.
17	4989253		1991-01-29	Liang, et al.
18	5078140		1992-01-07	Kwoh
19	5084880		1992-01-28	Esterowitz, et al.

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20	5086401		1992-02-04	Glassman, et al.
21	5134620		1992-07-28	Huber
22	5142930		1992-09-01	Allen, et al.
23	5180378		1993-01-19	Kung, et al.
24	5191628		1993-03-02	Byron
25	5218655		1993-06-08	Mizrahi
26	5230023		1993-07-20	Nakano
27	5267256		1993-11-30	Saruwatari, et al.
28	5267323		1993-11-30	Kimura
29	5300097		1994-04-05	Lerner, et al.
30	5303148		1994-04-12	Mattson, et al.

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31	5305427		1994-04-19	Nagata
32	5313306		1994-05-17	Kuban, et al.
33	5323404		1994-06-21	Grubb
34	5345538		1994-09-06	Narayannan, et al.
35	5408409		1995-04-18	Glassman, et al.
36	5544654		1996-08-13	Murphy, et al.
37	5572999		1996-11-12	Funda, et al.
38	5695493		1997-12-09	Nakajima, et al.
39	5696778		1997-12-09	MacPherson
40	5792204		1998-08-11	Snell
41	5812978		1998-09-22	Nolan

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42	5950629		1999-09-14	Taylor, et al.
43	5970457		1999-10-19	Brant, et al.
44	6014249		2000-01-11	Fermann, et al.
45	6185535		2001-02-06	Hedin, et al.
46	6200309		2001-03-13	Rice, et al.
47	6224542		2001-05-01	Chang, et al.
48	6246707		2001-06-12	Yin, et al.
49	6273858		2001-08-14	Fox, et al.
50	6278975		2001-08-21	Brant, et al.
51	6301273		2001-10-09	Sanders, et al.
52	6337462		2002-01-08	Smart

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53	6340806		2002-01-22	Smart, et al.
54	6350261		2002-02-26	Domankevitz, et al.
55	6374006		2002-04-16	Islam, et al.
56	6407853		2002-06-18	Samson, et al.
57	6436107		2002-08-20	Wang, et al.
58	6442430		2002-08-27	Ferek-Petric
59	6450172		2002-09-17	Hartlaub, et al.
60	6453201		2002-09-17	Daum, et al.
61	6458120		2002-10-01	Shen, et al.
62	6462500		2002-10-08	L'Hegarar, et al.
63	6463361		2002-10-08	Wang, et al.

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64	6567431		2003-05-20	Tabirian, et al.
65	6605080		2003-08-12	Altshuler, et al.
66	6625180		2003-09-23	Bufetov, et al.
67	6631025		2003-10-07	Islam, et al.
68	6659999		2003-12-09	Anderson, et al.
69	6760148		2004-07-06	Islam
70	6885498		2005-04-26	Islam
71	6885683		2005-04-26	Fermann, et al.
72	6943936		2005-09-13	Islam, et al.
73	7027467		2006-04-11	Baev, et al.
74	7060061		2006-06-13	Altshuler, et al.

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75	7167300		2007-01-23	Fermann, et al.
76	7259906		2007-08-21	Islam
77	7433116		2008-10-07	Islam

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**U.S.PATENT APPLICATION PUBLICATIONS**

Examiner Initial*	Cite No	Publication Number	Kind Code <sup>1</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	20020032468		2002-03-14	Hill, Michael R.S. ; et al.	
	2	20020082612		2002-06-27	Moll, Frederic H. ; et al.	
	3	20020128846		2002-09-12	Miller, Steven C.	
	4	20020178003		2002-11-28	Gehrke, James K. ; et al.	
	5	20040174914		2004-09-09	Fukatsu, Susumu	

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	Examiner Name	/MD M RAHMAN/	
	Attorney Docket Number	OMNI 0105 PUSP2	

Examiner Initial*	Cite No	Foreign Document Number <sup>3</sup>	Country Code <sup>2,i</sup>	Kind Code <sup>4</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T <sup>5</sup>
	1	EP1148666	EP		2001-10-24	Grant Andrew R et al.		
	2	WO01150959	WO		2001-07-19	SUHM		
	3	WO09715240	WO		1997-05-01	BRANT		
	4	WO97049340	WO		1997-12-31	WANG		

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**NON-PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>5</sup>
	1		

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Examiner Signature	/MD M RAHMAN/	Date Considered	04/20/2018
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<sup>1</sup> See Kind Codes of USPTO Patent Documents at [www.USPTO.GOV](http://www.USPTO.GOV) or MPEP 901.04. <sup>2</sup> Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>3</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>4</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>5</sup> Applicant is to place a check mark here if English language translation is attached.



<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number		
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	First Named Inventor	Mohammed N. ISLAM	
	Art Unit		
	Examiner Name	/MD M RAHMAN/	
	Attorney Docket Number	OMNI 0105 PUSP2	

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See attached certification statement.

Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

None

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A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/David S. Bir/	Date (YYYY-MM-DD)	2017-05-12
Name/Print	David S. Bir	Registration Number	38383


This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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<b>Search Notes</b>  	<b>Application/Control No.</b>  15594053	<b>Applicant(s)/Patent Under Reexamination</b>  ISLAM, MOHAMMED N.
	<b>Examiner</b>  MD M RAHMAN	<b>Art Unit</b>  2886

CPC- SEARCHED		
Symbol	Date	Examiner
G 01J 3/02 G 01J 3/28 G 01J 3/42, G 01N 21/31, G 01N 21/552	4/20/18	MR

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner


US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
356	300	4/20/18	MR

\* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

SEARCH NOTES		
Search Notes	Date	Examiner
INVENTOR SEARCH, US PG PUB AND PAT	4/20/18	MR
CONSULTED WITH BRAIN SIRCUS (TQAS)	4/20/18	MR

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
G 01J 3/02	G 01J 3/28 G 01J 3/42, G 01N 21/31, G 01N 21/552	4/20/18	MR

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<b>Index of Claims</b> 	<b>Application/Control No.</b> 15594053	<b>Applicant(s)/Patent Under Reexamination</b> ISLAM, MOHAMMED N.
	<b>Examiner</b> MD M RAHMAN	<b>Art Unit</b> 2886

✓	<b>Rejected</b>
=	<b>Allowed</b>

-	<b>Cancelled</b>
÷	<b>Restricted</b>

N	<b>Non-Elected</b>
I	<b>Interference</b>

A	<b>Appeal</b>
O	<b>Objected</b>

Claims renumbered in the same order as presented by applicant
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  T.D.
  R.1.47

CLAIM		DATE									
Final	Original	04/20/2018									
1	1	=									
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	3	-									
	4	-									
2	5	=									
4	6	=									
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7	9	=									
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	17	-									
11	18	=									
12	19	=									
13	20	=									
3	21	=									

Receipt date: 05/12/2017

15/594,053 - GAU: 2886

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Filed

Approved for use through 07/31/2012. OMB 0651-0031

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	Filing Date	
	First Named Inventor	Mohammed N. ISLAM
	Art Unit	
	Examiner Name	/MD M RAHMAN/
	Attorney Docket Number	OMNI 0105 PUSP2

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	1	8157730	B2	2012-04-17	LeBoeuf, et al.	
	2	8430310	B1	2013-04-30	Ho, et al.	
	3	8509882	B2	2013-08-13	Albert, et al.	
	4	8788002	B2	2014-07-22	LeBoeuf, et al.	
	5	8948832	B2	2015-02-03	Hong, et al.	

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	1	20080086318	A1	2008-04-10	Gilley, et al.	

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Attorney Docket Number		OMNI 0105 PUSP2	

2	20090287067	A1	2009-11-19	Dorogusker, et al.
3	20130281795	A1	2013-10-24	Varadan
4	20140081100	A1	2014-03-20	Muhsin, et al.
5	20150011851	A1	2015-01-08	Mehta, et al.

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	1	WO2013012938		A1	2013-01-24	Raskin, et al.		
	2	WO2015084376		A1	2015-06-11	Han, et al.		

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See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

**SIGNATURE**

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Signature	/David S. Bir/	Date (YYYY-MM-DD)	2017-05-12
Name/Print	David S. Bir	Registration Number	38383

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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
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Receipt date: 05/12/2017

15/594,053 - GAU: 2886

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Filed

Approved for use through 07/31/2012. OMB 0651-0031

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number	15/594,053 - GAU: 2886
	Filing Date	
	First Named Inventor	Mohammed N. ISLAM
	Art Unit	
	Examiner Name	/MD M RAHMAN/
	Attorney Docket Number	OMNI 0105 PUSP2

U.S.PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code <sup>1</sup>	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	6885683		2005-04-26	FERMANN ET AL.	
	2	6281471	B1	2001-08-28	SMART	
	3	6340806		2002-01-22	SMART ET AL.	
	4	6301271	B1	2001-10-09	SANDERS ET AL.	
	5	7294105	B1	2007-11-13	ISLAM	

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Examiner Initial*	Cite No	Publication Number	Kind Code <sup>1</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20100046067	A1	2010-02-25	FERMANN ET AL.	

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number		
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	Examiner Name	/MD M RAHMAN/	
	Attorney Docket Number	OMNI 0105 PUSP2	

	2	20080105665	A1	2008-05-08	KONDO	
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**FOREIGN PATENT DOCUMENTS**

Examiner Initial*	Cite No	Foreign Document Number <sup>3</sup>	Country Code <sup>2i</sup>	Kind Code <sup>4</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T <sup>5</sup>
	1							

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**NON-PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>5</sup>
	1	STEPANIAN, ROBERT H., "The Comparative Performance of Mobile Telemedical Systems based on the IS-54 and GSM Cellular Telephone Standards"; Journal of Telemedicine and Telecare 1999; pp 97-104	
	2	ARIS, ISHAK BIN, "An Internet-Based Blood Pressure Monitoring System for Patients"; Journal of Telemedicine and Telecare 2001; pp 51-53.	

If you wish to add additional non-patent literature document citation information please click the Add button.

**EXAMINER SIGNATURE**

Examiner Signature	/MD M RAHMAN/	Date Considered	04/20/2018
--------------------	---------------	-----------------	------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> See Kind Codes of USPTO Patent Documents at [www.USPTO.GOV](http://www.USPTO.GOV) or MPEP 901.04. <sup>2</sup> Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>3</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>4</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>5</sup> Applicant is to place a check mark here if English language translation is attached.

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**CERTIFICATION STATEMENT**

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That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

**OR**

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

**SIGNATURE**

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/David S. Bir/	Date (YYYY-MM-DD)	2017-05-12
Name/Print	David S. Bir	Registration Number	38383

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## Privacy Act Statement

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The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
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15/594,053 - GAU: 2886

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)  
Approved for use through 07/31/2012. OMB 0651-0031  
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	First Named Inventor	Mohammed N. ISLAM
	Art Unit	
	Examiner Name	/MD M RAHMAN/
	Attorney Docket Number	OMNI 0105 PUSP2

U.S.PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code <sup>1</sup>	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	6212310	B1	2001-04-03	Waarts, et al.	
	2	7890158	B2	2011-02-15	Rowe, et al.	
	3	8213007	B2	2012-07-03	Wang, et al.	
	4	7848605	B2	2010-12-07	Ridder, et al.	
	5	8158493	B2	2012-04-17	Shah, et al.	

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U.S.PATENT APPLICATION PUBLICATIONS						Remove
Examiner Initial*	Cite No	Publication Number	Kind Code <sup>1</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20060198397	A1	2006-09-07	Korolev, et al.	

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	Examiner Name	/MD M RAHMAN/	
	Attorney Docket Number	OMNI 0105 PUSP2	

2	20090105605	A1	2009-04-23	Abreu
3	20100160794	A1	2010-06-24	Banet, et al.
4	20110292376	A1	2011-12-01	Kukushkin, et al.

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**FOREIGN PATENT DOCUMENTS**

Examiner Initial*	Cite No	Foreign Document Number <sup>3</sup>	Country Code <sup>2</sup> i	Kind Code <sup>4</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T <sup>5</sup>
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**NON-PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>5</sup>
1			

If you wish to add additional non-patent literature document citation information please click the Add button.

**EXAMINER SIGNATURE**

Examiner Signature	/MD M RAHMAN/	Date Considered	04/20/2018
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number		
Filing Date		
First Named Inventor	Mohammed N. ISLAM	
Art Unit		
Examiner Name	/MD M RAHMAN/	
Attorney Docket Number	OMNI 0105 PUSP2	

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Signature	/David S. Bir/	Date (YYYY-MM-DD)	2017-05-12
Name/Print	David S. Bir	Registration Number	38383

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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
15/594,053 05/12/2017 Mohammed N. ISLAM OMNI 0105 PUSP2 1876

109543 7590 05/18/2018
Brooks, Kushman P.C./Cheetah Omni MedSci
1000 Town Center
Twenty Second Floor
Southfield, MI 48075

EXAMINER

RAHMAN, MD M

ART UNIT PAPER NUMBER

2886

NOTIFICATION DATE DELIVERY MODE

05/18/2018

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@brookskushman.com

<b>Corrected Notice of Allowability</b>	<b>Application No.</b> 15/594,053	<b>Applicant(s)</b> ISLAM, MOHAMMED N.	
	<b>Examiner</b> MD M. RAHMAN	<b>Art Unit</b> 2886	<b>AIA (First Inventor to File) Status</b> No

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to 04/19/18.  
 A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on \_\_\_\_\_.
2.  An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_\_; the restriction requirement and election have been incorporated into this action.
3.  The allowed claim(s) is/are 1, 5-9, 12-14 and 18-21. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see [http://www.uspto.gov/patents/init\\_events/pph/index.jsp](http://www.uspto.gov/patents/init_events/pph/index.jsp) or send an inquiry to PPHfeedback@uspto.gov.
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

**Certified copies:**

- a)  All    b)  Some    \*c)  None of the:
1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.  
 including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Examiner's Amendment/Comment                             |
| 2. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 6. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| 3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 7. <input type="checkbox"/> Other _____.   |
| 4. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____.                     |  |

/MD M RAHMAN/  
Examiner, Art Unit 2886

The present application is being examined under the pre-AIA first to invent provisions.

**Change in the title**

The title of this application has been corrected according to the preliminary amendment which filed on 04/19/18.

***Allowable Subject Matter***

Claims 1, 5-9, 12-14 and 18-21 are allowed.

The following is an examiner's statement of reasons for allowance:

As to claim 1, the prior arts alone or in combination fail to disclose the claimed limitations such as, "a remote device configured to receive over the wireless transmission link an output status comprising the at least a portion of the processed output signal, to process the received output status to generate processed data, and to store the processed data;

wherein the output signal is indicative of one or more physiological parameters, and the remote device is configured to store a history of at least a portion of the one or more physiological parameters over a specified period of time;

the light source configured to improve the signal-to-noise ratio of the output signal by increasing light intensity relative to an initial light intensity from at least one of the plurality of light emitting diodes and by increasing pulse rate relative to an initial pulse rate of at least one of the plurality of light emitting diodes;

wherein the detection system includes a plurality of spatially separated detectors,

wherein at least one analog to digital converter is coupled to the spatially separated detectors and is configured to generate at least two data signals, and the device is configured to further improve the signal-to-noise ratio by differencing the two data signals; and

wherein the detection system further comprises one or more spectral filters positioned in front of at least some of the plurality of spatially separated detectors” along with all other limitations of the claim.

As to claims 6 and 12, the prior arts alone or in combination fail to disclose the claimed limitations such as, “a detection system configured to receive at least a portion of the lens output beam reflected from the tissue and to generate an output signal having a signal-to-noise ratio, wherein the detection system is configured to be synchronized to the light source;

a remote device configured to receive over the wireless transmission link an output status comprising the at least a portion of the processed output signal, to process the received output status to generate processed data, and to store the processed data;

wherein the output signal is indicative of one or more of the physiological parameters, and the remote device is configured to store a history of at least a portion of the one or more physiological parameters over a specified period of time;

the wearable device configured to increase the signal-to-noise ratio by increasing light intensity of at least one of the plurality of semiconductor sources from an initial light intensity and by increasing a pulse rate from an initial pulse rate of at least one of the plurality of semiconductor sources; and

the detection system further configured to:

capture light while the LEDs are off and convert the captured light into a first signal, capture light while at least one of the LEDs is on and convert the captured light into a second signal, and increase the signal-to-noise ratio by differencing the first signal and the second signal” along with all other limitations of the claim.

Claims 5, 7-9, 13-14 and 18-21 are allowable due to their dependencies.

**The closest references, Islam (US PG Pub 2009/0204110) (cited in the IDS filed by the applicant), Islam et al. (US 6381391) (cited in the IDS filed by the applicant), Holman (US PG Pub 2007/0078348) (cited in the IDS filed by the applicant) and Waarts et al. (US 6212310 B1) (cited in the IDS filed by the applicant) alone or in combination disclose some features of the claimed invention but do not disclose the claimed invention.**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MD RAHMAN whose telephone number is (571)272-9175. The examiner can normally be reached on Mon-Thur, 10 am to 6.00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TARIFUR CHOWDHURY can be reached on 571-272-2287. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MD RAHMAN/  
Examiner, Art Unit 2886



## Bibliographic Data

Application No: 15/594,053

Foreign Priority claimed:  Yes  No

35 USC 119 (a-d) conditions met:  Yes  No

Met After Allowance

Verified and Acknowledged:

/MD M RAHMAN/

Examiner's Signature

Initials

Title:

SYSTEM CONFIGURED FOR MEASURING PHYSIOLOGICAL PARAMETERS

---

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
05/12/2017	356	2886	OMNI 0105 PUSP2
<b>RULE</b>			

### APPLICANTS

OMNI MEDSCI, INC., Ann Arbor, MI, UNITED STATES

### INVENTORS

Mohammed N. ISLAM Ann Arbor, MI, UNITED STATES

### CONTINUING DATA

This application is a CON of 14875709 10/06/2015 PAT 9651533

14875709 is a CON of 14108986 12/17/2013 PAT 9164032

14108986 has PRO of 61747487 12/31/2012

### FOREIGN APPLICATIONS

#### IF REQUIRED, FOREIGN LICENSE GRANTED\*\*

05/19/2017

\*\* SMALL ENTITY \*\*

### STATE OR COUNTRY

UNITED STATES

### ADDRESS

Brooks, Kushman P.C./Cheetah Omni MedSci

1000 Town Center

Twenty Second Floor

Southfield, MI 48075

UNITED STATES

### FILING FEE RECEIVED

\$730

**PART B - FEE(S) TRANSMITTAL**

Complete and send this form, together with applicable fee(s), to: **Mail Stop ISSUE FEE  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450**  
or **Fax (571)-273-2885**

**INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

109543      7590      05/14/2018  
**Brooks, Kushman P.C./Cheetah Omni MedSci**  
 1000 Town Center  
 Twenty Second Floor  
 Southfield, MI 48075

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

**Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/594,053	05/12/2017	Mohammed N. ISLAM	OMNI 0105 PUSP2	1876

**TITLE OF INVENTION: SHORT-WAVE INFRARED SUPER-CONTINUUM LASERS AND SIMILAR LIGHT SOURCES FOR DETECTING PHYSIOLOGICAL PARAMETERS**

APPLN. TYPE	ENTRY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$500	\$0	\$0	\$500	08/14/2018

EXAMINER	ART UNIT	CLASS-SUBCLASS
RAHMAN, MD M	2886	356-300000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
- Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**
2. For printing on the patent front page, list
- (1) The names of up to 3 registered patent attorneys or agents OR, alternatively, 1. Brooks Kushman P.C.
- (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2. \_\_\_\_\_
3. \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE      (B) RESIDENCE: (CITY and STATE OR COUNTRY)

OMNI MEDSCI, INC.      Ann Arbor, MI

Please check the appropriate assignee category or categories (will not be printed on the patent):     Individual     Corporation or other private group entity     Government

- 4a. The following fee(s) are submitted:
- Issue Fee
- Publication Fee (No small entity discount permitted)
- Advance Order - # of Copies \_\_\_\_\_
- 4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)
- A check is enclosed.
- Payment by credit card. Form PTO-2038 is attached.
- The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number 02-3978 (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)
- Applicant certifying micro entity status. See 37 CFR 1.29
- Applicant asserting small entity status. See 37 CFR 1.27
- Applicant changing to regular undiscounted fee status.
- NOTE:** Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
- NOTE:** If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
- NOTE:** Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

**NOTE:** This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /David S. Bir/      Date May 23, 2018

Typed or printed name David S. Bir      Registration No. 38,383

Electronic Patent Application Fee Transmittal				
<b>Application Number:</b>	15594053			
<b>Filing Date:</b>	12-May-2017			
<b>Title of Invention:</b>	SYSTEM CONFIGURED FOR MEASURING PHYSIOLOGICAL PARAMETERS			
<b>First Named Inventor/Applicant Name:</b>	Mohammed N. ISLAM			
<b>Filer:</b>	David S. Bir/Pamela Demos			
<b>Attorney Docket Number:</b>	OMNI 0105 PUSP2			
Filed as Small Entity				
<b>Filing Fees for Utility under 35 USC 111(a)</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				
UTILITY APPL ISSUE FEE	2501	1	500	500

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Extension-of-Time:</b>				
<b>Miscellaneous:</b>				
<b>Total in USD (\$)</b>				<b>500</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	32700643
<b>Application Number:</b>	15594053
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	1876
<b>Title of Invention:</b>	SYSTEM CONFIGURED FOR MEASURING PHYSIOLOGICAL PARAMETERS
<b>First Named Inventor/Applicant Name:</b>	Mohammed N. ISLAM
<b>Customer Number:</b>	109543
<b>Filer:</b>	David S. Bir/Pamela Demos
<b>Filer Authorized By:</b>	David S. Bir
<b>Attorney Docket Number:</b>	OMNI 0105 PUSP2
<b>Receipt Date:</b>	23-MAY-2018
<b>Filing Date:</b>	12-MAY-2017
<b>Time Stamp:</b>	16:09:50
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$500
RAM confirmation Number	052418INTEFSW00002601023978
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

<b>File Listing:</b>					
<b>Document Number</b>	<b>Document Description</b>	<b>File Name</b>	<b>File Size(Bytes)/ Message Digest</b>	<b>Multi Part /.zip</b>	<b>Pages (if appl.)</b>
1	Issue Fee Payment (PTO-85B)	Issue_Fee_Transmittal.pdf	981473	no	1
			65e35debedc33ca23971f2e948ecb7c6a5c4d16e		
<b>Warnings:</b>					
<b>Information:</b>					
2	Fee Worksheet (SB06)	fee-info.pdf	29937	no	2
			ac6521c0a00b555a45c78b5ea8bd1912c2130f18		
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>			1011410		
<p><b>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b>  If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 7 columns: APPLICATION NUMBER, FILING or 371(c) DATE, GRP ART UNIT, FIL FEE REC'D, ATTY.DOCKET.NO, TOT CLAIMS, IND CLAIMS. Row 1: 15/594,053, 05/12/2017, 2886, 730, OMNI 0105 PUSP2, 20, 3

CONFIRMATION NO. 1876
CORRECTED FILING RECEIPT

109543
Brooks, Kushman P.C./Cheetah Omni MedSci
1000 Town Center
Twenty Second Floor
Southfield, MI 48075



Date Mailed: 06/04/2018

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections

Inventor(s) Mohammed N. ISLAM, Ann Arbor, MI;
Applicant(s) OMNI MEDSCI, INC., Ann Arbor, MI;

Power of Attorney: The patent practitioners associated with Customer Number 109543

Domestic Priority data as claimed by applicant
This application is a CON of 14/875,709 10/06/2015 PAT 9651533
which is a CON of 14/108,986 12/17/2013 PAT 9164032
which claims benefit of 61/747,487 12/31/2012

Foreign Applications for which priority is claimed (You may be eligible to benefit from the Patent Prosecution Highway program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 05/19/2017

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/594,053**

**Projected Publication Date:** Not Applicable

**Non-Publication Request:** No

**Early Publication Request:** No

**\*\* SMALL ENTITY \*\***

**Title**

SYSTEM CONFIGURED FOR MEASURING PHYSIOLOGICAL PARAMETERS

**Preliminary Class**

356

**Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications:** No

## **PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES**

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).



**LICENSE FOR FOREIGN FILING UNDER**  
**Title 35, United States Code, Section 184**  
**Title 37, Code of Federal Regulations, 5.11 & 5.15**

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This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

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**REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL  
 (Submitted Only via EFS-Web)**

Application Number	15594053	Filing Date	2017-05-12	Docket Number (if applicable)	OMNI 0105 PUSP2	Art Unit	2886
First Named Inventor	Mohammed N. ISLAM			Examiner Name	MD M Rahman		

**This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.**  
 Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

**SUBMISSION REQUIRED UNDER 37 CFR 1.114**

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

Consider the arguments in the Appeal Brief or Reply Brief previously filed on \_\_\_\_\_

Other \_\_\_\_\_

Enclosed

Amendment/Reply

Information Disclosure Statement (IDS)

Affidavit(s)/ Declaration(s)

Other QPIDS Request (Certification and Request for consideration of an IDS Filed After Payment of Issue Fee), and Petition to Withdraw from Issue After Payment of Issue Fee including petition fee.

**MISCELLANEOUS**

Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months \_\_\_\_\_  
 (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

Other \_\_\_\_\_

**FEES**

**The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.**  
 The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 023978

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED**

Patent Practitioner Signature  
 Applicant Signature

Doc code: RCEX

Doc description: Request for Continued Examination (RCE)

PTO/SB/30EFS (07-09)

Approved for use through 07/31/2012. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Signature of Registered U.S. Patent Practitioner			
Signature	David S. Bir/	Date (YYYY-MM-DD)	2018-07-30
Name	David S. Bir	Registration Number	38383

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

## Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (02-18)

Approved for use through 11/30/2020. OMB 0651-0031

U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number	15594053
	Filing Date	2017-05-12
	First Named Inventor	Mohammed N. ISLAM
	Art Unit	2886
	Examiner Name	MD M Rahman
	Attorney Docket Number	OMNI 0105 PUSP2

U.S.PATENTS							Remove
Examiner Initial*	Cite No	Patent Number	Kind Code <sup>1</sup>	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	
	1	6795300	A	1998-08-18	Bryars		
	2	6731967	B1	2004-05-04	Turcott		
	3	7648463	B1	2010-01-19	Elhag et al.		
	4	8172761	B1	2012-05-08	Rulkov et al.		
	5	8315682	B2	2012-11-20	Such et al.		
	6	8954135	B2	2015-02-10	Yuen et al.		
	7	9241676	B2	2016-01-26	Lisogurski et al.		
If you wish to add additional U.S. Patent citation information please click the Add button.							Add
<b>U.S.PATENT APPLICATION PUBLICATIONS</b>							Remove

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number	15594053
Filing Date	2017-05-12
First Named Inventor	Mohammed N. ISLAM
Art Unit	2886
Examiner Name	MD M Rahman
Attorney Docket Number	OMNI 0105 PUSP2

Examiner Initial*	Cite No	Publication Number	Kind Code <sup>1</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	20050049468	A1	2005-03-03	Carlson et al.	

If you wish to add additional U.S. Published Application citation information please click the Add button.

**FOREIGN PATENT DOCUMENTS**

Examiner Initial*	Cite No	Foreign Document Number <sup>3</sup>	Country Code <sup>2</sup> i	Kind Code <sup>4</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T <sup>5</sup>
	1							

If you wish to add additional Foreign Patent Document citation information please click the Add button.

**NON-PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>5</sup>
	1	J.G. WEBSTER; Design Of Pulse Oximeters; Medical Science Series; Taylor & Francis Group; CRC Press; October 23, 1997; 260 pps	
	2	H. HARRY ASADA ET AL.; Mobile Monitoring With Wearable Photoplethysmographic Biosensors; IEEE Engineering In Medicine And Biology Magazine, June 2003; 13 pps	
	3	UNITED STATES DISTRICT COURT EASTERN DISTRICT OF TEXAS MARSHALL DIVISION; Defendant And Counter Claimant Apple Inc.'s Amended Answer, Affirmative Defenses, And Counterclaims To Complaint Of Plaintiff And Counter Defendant Omni Medsci, Inc.; Document 38; July 19, 2018; 32 pps	

If you wish to add additional non-patent literature document citation information please click the Add button.

**EXAMINER SIGNATURE**

Examiner Signature	<input type="text"/>	Date Considered	<input type="text"/>
--------------------	----------------------	-----------------	----------------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number	15594053
Filing Date	2017-05-12
First Named Inventor	Mohammed N. ISLAM
Art Unit	2886
Examiner Name	MD M Rahman
Attorney Docket Number	OMNI 0105 PUSP2

<sup>1</sup> See Kind Codes of USPTO Patent Documents at [www.USPTO.GOV](http://www.USPTO.GOV) or MPEP 901.04. <sup>2</sup> Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>3</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>4</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>5</sup> Applicant is to place a check mark here if English language translation is attached.

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number	15594053		
Filing Date	2017-05-12		
First Named Inventor	Mohammed N. ISLAM		
Art Unit	2886		
Examiner Name	MD M Rahman		
Attorney Docket Number	OMNI 0105 PUSP2		

**CERTIFICATION STATEMENT**

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

**OR**

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

**SIGNATURE**

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/David S. Bir/	Date (YYYY-MM-DD)	2018-07-30
Name/Print	David S. Bir	Registration Number	38383

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**



## Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Petition Request	<b>PETITION TO WITHDRAW AN APPLICATION FROM ISSUE AFTER PAYMENT OF THE ISSUE FEE UNDER 37 CFR 1.313(c)</b>
Application Number	15594053
Filing Date	12-May-2017
First Named Inventor	Mohammed ISLAM
Art Unit	2886
Examiner Name	MD RAHMAN
Attorney Docket Number	OMNI 0105 PUSP2
Title	SYSTEM CONFIGURED FOR MEASURING PHYSIOLOGICAL PARAMETERS

An application may be withdrawn from issue for further action upon petition by the applicant. To request that the Office withdraw an application from issue, applicant must file a petition under this section including the fee set forth in § 1.17(h) and a showing of good and sufficient reasons why withdrawal of the application from issue is necessary.

APPLICANT HEREBY PETITIONS TO WITHDRAW THIS APPLICATION FROM ISSUE UNDER 37 CFR 1.313(c).

A grantable petition requires the following items:

- (1) Petition fee; and
- (2) One of the following reasons:
  - (a) Unpatentability of one or more claims, which must be accompanied by an unequivocal statement that one or more claims are unpatentable, an amendment to such claim or claims, and an explanation as to how the amendment causes such claim or claims to be patentable;
  - (b) Consideration of a request for continued examination in compliance with § 1.114 (for a utility or plant application only); or
  - (c) Express abandonment of the application. Such express abandonment may be in favor of a continuing application, but not a CPA under 37 CFR 1.53(d).

Petition Fee
<input checked="" type="radio"/> Small Entity
<input type="radio"/> Micro Entity
<input type="radio"/> Regular Undiscounted
Reason for withdrawal from issue

- One or more claims are unpatentable
- Consideration of a request for continued examination (RCE) (List of Required Documents and Fees)
- Applicant hereby expressly abandons the instant application (any attorney/agent signing for this reason must have power of attorney pursuant to 37 CFR 1.32(b)).

RCE request, submission, and fee.

I certify, in accordance with 37 CFR 1.4(d)(4) that :

The RCE request ,submission, and fee have already been filed in the above-identified application on

Are attached.

**THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES**

I certify, in accordance with 37 CFR 1.4(d)(4) that I am:

- An attorney or agent registered to practice before the Patent and Trademark Office who has been given power of attorney in this application.
- An attorney or agent registered to practice before the Patent and Trademark Office, acting in a representative capacity.
- A sole inventor
- A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application
- A joint inventor; all of whom are signing this e-petition

Signature	/David S. Bir/
Name	David S. Bir
Registration Number	38383

Electronic Patent Application Fee Transmittal				
<b>Application Number:</b>	15594053			
<b>Filing Date:</b>	12-May-2017			
<b>Title of Invention:</b>	SYSTEM CONFIGURED FOR MEASURING PHYSIOLOGICAL PARAMETERS			
<b>First Named Inventor/Applicant Name:</b>	Mohammed N. ISLAM			
<b>Filer:</b>	David S. Bir			
<b>Attorney Docket Number:</b>	OMNI 0105 PUSP2			
Filed as Small Entity				
<b>Filing Fees for Utility under 35 USC 111(a)</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
PETITION FEE-37CFR 1.17(H) (GROUP II)	2464	1	70	70
RCE- 1ST REQUEST	2801	1	650	650
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Post-Allowance-and-Post-Issuance:</b>				
<b>Extension-of-Time:</b>				
<b>Miscellaneous:</b>				
<b>Total in USD (\$)</b>				<b>720</b>



## UNITED STATES PATENT AND TRADEMARK OFFICE

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Commissioner for Patents  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

Decision Date: July 31, 2018

In re Application of:

Mohammed ISLAM

DECISION ON PETITION

UNDER CFR 1.313(c)(2)

Application No: 15594053

Filed: 12-May-2017

Attorney Docket No: OMNI 0105 PUSP2

This is an electronic decision on the petition under 37 CFR 1.313(c)(2), filed July 31, 2018, to withdraw the above-identified application from issue after payment of the issue fee.

The petition is **GRANTED**.

The above-identified application is withdrawn from issue for consideration of a submission under 37 CFR 1.114 (request for continued examination). See 37 CFR 1.313(c)(2).

**Petitioner is advised that the issue fee paid in this application cannot be refunded. If, however, this application is again allowed, petitioner may request that it be applied towards the issue fee required by the new Notice of Allowance.**

Telephone inquiries concerning this decision should be directed to the Patent Electronic Business Center (EBC) at 866-217-9197.

This application file is being referred to Technology Center AU 2886 for processing of the request for continuing examination under 37 CFR 1.114.

Office of Petitions

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	33318045
<b>Application Number:</b>	15594053
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	1876
<b>Title of Invention:</b>	SYSTEM CONFIGURED FOR MEASURING PHYSIOLOGICAL PARAMETERS
<b>First Named Inventor/Applicant Name:</b>	Mohammed N. ISLAM
<b>Customer Number:</b>	109543
<b>Filer:</b>	David S. Bir
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	OMNI 0105 PUSP2
<b>Receipt Date:</b>	31-JUL-2018
<b>Filing Date:</b>	12-MAY-2017
<b>Time Stamp:</b>	12:11:00
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$720
RAM confirmation Number	073118INTEFSW00010592023978
Deposit Account	023978
Authorized User	David Bir

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.16 (National application filing, search, and examination fees)

37 CFR 1.17 (Patent application and reexamination processing fees)

<b>File Listing:</b>					
<b>Document Number</b>	<b>Document Description</b>	<b>File Name</b>	<b>File Size(Bytes)/ Message Digest</b>	<b>Multi Part /.zip</b>	<b>Pages (if appl.)</b>
1	Request for Continued Examination (RCE)	RCE.PDF	823643	no	3
			066744f3fb4ecec48d60a7c5ed5cd30f0dacc19d		
<b>Warnings:</b>					
<b>Information:</b>					
2	Quick Path Information Disclosure Statement	sb0009_QPIDS_PilotProgramRequest.PDF	130760	no	2
			61298fa04e1a7c777d4f02371be17588dcd0a9c9		
<b>Warnings:</b>					
<b>Information:</b>					
3	Information Disclosure Statement (IDS) Form (SB08)	updated_IDS.PDF	1155358	no	5
			4aca7558972e023ef8c70c7c710df95e468aa8f5		
<b>Warnings:</b>					
<b>Information:</b>					
4	Non Patent Literature	038_Amended_Answer_to_Co mplaint.pdf	18351608	no	32
			87e1fca91bf2ef010a2d8a7c0745065934b9667a		
<b>Warnings:</b>					
<b>Information:</b>					
5	Non Patent Literature	Asada_Mobile_Monitoring_wit h_Wearable_PPG_Biosensors. pdf	14555887	no	13
			333fb42c6c66ad91d29244e773a05097d40197b4		
<b>Warnings:</b>					
<b>Information:</b>					
6	Petition automatically granted by EFS	petition-request.pdf	31475	no	2
			146353790ab77909121d4e42260547e3bfa4f65c		
<b>Warnings:</b>					
<b>Information:</b>					



7	Fee Worksheet (SB06)	fee-info.pdf	31928  7bc0c433e8b77518dcec1b3b49b1455ac1d93391	no	2
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>				35080659	
<p><b>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b>  <b>If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</b></p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  <b>If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</b></p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  <b>If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</b></p>					

Document code: WFEE

United States Patent and Trademark Office  
Sales Receipt for Accounting Date: 08/01/2018

KVESTAL SALE #00000004 Mailroom Dt: 07/31/2018 023978 15594053  
01 FC : 1806 240.00 DA



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UNITED STATES DEPARTMENT OF COMMERCE  
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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/594,053	05/12/2017	Mohammed N. ISLAM	OMNI 0105 PUSP2	1876

109543                      7590                      08/31/2018  
Brooks, Kushman P.C./Cheetah Omni MedSci  
1000 Town Center  
Twenty Second Floor  
Southfield, MI 48075

EXAMINER

RAHMAN, MD M

ART UNIT                      PAPER NUMBER

2886

NOTIFICATION DATE                      DELIVERY MODE

08/31/2018

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@brookskushman.com

<b>Corrected Notice of Allowability</b>	<b>Application No.</b> 15/594,053	<b>Applicant(s)</b> ISLAM, MOHAMMED N.	
	<b>Examiner</b> MD M. RAHMAN	<b>Art Unit</b> 2886	<b>AIA (First Inventor to File) Status</b> No

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to 07/31/18.  
 A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on \_\_\_\_\_.
2.  An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_\_; the restriction requirement and election have been incorporated into this action.
3.  The allowed claim(s) is/are 1, 5-9, 12-14 and 18-21. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see [http://www.uspto.gov/patents/init\\_events/pph/index.jsp](http://www.uspto.gov/patents/init_events/pph/index.jsp) or send an inquiry to PPHfeedback@uspto.gov.
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

**Certified copies:**

- a)  All    b)  Some    \*c)  None of the:
1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.  
 including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Examiner's Amendment/Comment                  |
| 2. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date <u>7/31/18</u> | 6. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| 3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                  | 7. <input type="checkbox"/> Other _____.                                  |
| 4. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____.                                      |   |

/MD M RAHMAN/  
Examiner, Art Unit 2886

Receipt date: 07/31/2018

15/594,053 - GAU: 2886

Doc code: IDS

PTO/SB/08a (02-18)

Doc description: Information Disclosure Statement (IDS) Filed

Approved for use through 11/30/2020. OMB 0651-0031  
U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number	15594053
	Filing Date	2017-05-12
	First Named Inventor	Mohammed N. ISLAM
	Art Unit	2886
	Examiner Name	MD M Rahman
	Attorney Docket Number	OMNI 0105 PUSP2

U.S.PATENTS							Remove
Examiner Initial*	Cite No	Patent Number	Kind Code <sup>1</sup>	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	
	1	6795300	A	1998-08-18	Bryars		
	2	6731967	B1	2004-05-04	Turcott		
	3	7648463	B1	2010-01-19	Elhag et al.		
	4	8172761	B1	2012-05-08	Rulkov et al.		
	5	8315682	B2	2012-11-20	Such et al.		
	6	8954135	B2	2015-02-10	Yuen et al.		
	7	9241676	B2	2016-01-26	Lisogurski et al.		
If you wish to add additional U.S. Patent citation information please click the Add button.							Add
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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number		15594053
	Filing Date		2017-05-12
	First Named Inventor	Mohammed N. ISLAM	
	Art Unit	2886	
	Examiner Name	MD M Rahman	
Attorney Docket Number		OMNI 0105 PUSP2	

Examiner Initial*	Cite No	Publication Number	Kind Code <sup>1</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	20050049468	A1	2005-03-03	Carlson et al.	

If you wish to add additional U.S. Published Application citation information please click the Add button.

**FOREIGN PATENT DOCUMENTS**

Examiner Initial*	Cite No	Foreign Document Number <sup>3</sup>	Country Code <sup>2</sup>	Kind Code <sup>4</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T <sup>5</sup>
	1							

If you wish to add additional Foreign Patent Document citation information please click the Add button.

**NON-PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>5</sup>
	1	J.G. WEBSTER; Design Of Pulse Oximeters; Medical Science Series; Taylor & Francis Group; CRC Press; October 23, 1997; 260 pps	
	2	H. HARRY ASADA ET AL.; Mobile Monitoring With Wearable Photoplethysmographic Biosensors; IEEE Engineering In Medicine And Biology Magazine, June 2003; 13 pps	
	3	UNITED STATES DISTRICT COURT EASTERN DISTRICT OF TEXAS MARSHALL DIVISION; Defendant And Counter Claimant Apple Inc.'s Amended Answer, Affirmative Defenses, And Counterclaims To Complaint Of Plaintiff And Counter Defendant Omni Medsci, Inc.; Document 38; July 19, 2018; 32 pps	

If you wish to add additional non-patent literature document citation information please click the Add button.

**EXAMINER SIGNATURE**

Examiner Signature	/MD M RAHMAN/	Date Considered	08/01/2018
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Receipt date: 07/31/2018

15/594,053 - GAU: 2886

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number	15594053
Filing Date	2017-05-12
First Named Inventor	Mohammed N. ISLAM
Art Unit	2886
Examiner Name	MD M Rahman
Attorney Docket Number	OMNI 0105 PUSP2

<sup>1</sup> See Kind Codes of USPTO Patent Documents at [www.USPTO.GOV](http://www.USPTO.GOV) or MPEP 901.04. <sup>2</sup> Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>3</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>4</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>5</sup> Applicant is to place a check mark here if English language translation is attached.

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number		15594053
	Filing Date		2017-05-12
	First Named Inventor	Mohammed N. ISLAM	
	Art Unit		2886
	Examiner Name	MD M Rahman	
	Attorney Docket Number		OMNI 0105 PUSP2

**CERTIFICATION STATEMENT**

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

**OR**

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

**SIGNATURE**

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/David S. Bir/	Date (YYYY-MM-DD)	2018-07-30
Name/Print	David S. Bir	Registration Number	38383

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## Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

<b>Electronic Acknowledgement Receipt</b>	
<b>EFS ID:</b>	33318045
<b>Application Number:</b>	15594053
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	1876
<b>Title of Invention:</b>	SYSTEM CONFIGURED FOR MEASURING PHYSIOLOGICAL PARAMETERS
<b>First Named Inventor/Applicant Name:</b>	Mohammed N. ISLAM
<b>Customer Number:</b>	109543
<b>Filer:</b>	David S. Bir
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	OMNI 0105 PUSP2
<b>Receipt Date:</b>	31-JUL-2018
<b>Filing Date:</b>	12-MAY-2017
<b>Time Stamp:</b>	12:11:00
<b>Application Type:</b>	Utility under 35 USC 111(a)

**Payment information:**

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$ 720
RAM confirmation Number	073118INTEFSW00010592023978
Deposit Account	023978
Authorized User	David Bir
<p>The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:</p> <p>37 CFR 1.16 (National application filing, search, and examination fees)</p> <p>37 CFR 1.17 (Patent application and reexamination processing fees)</p>	

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	15594053			
<b>Filing Date:</b>	12-May-2017			
<b>Title of Invention:</b>	SYSTEM CONFIGURED FOR MEASURING PHYSIOLOGICAL PARAMETERS			
<b>First Named Inventor/Applicant Name:</b>	Mohammed N. ISLAM			
<b>Filer:</b>	David S. Bir			
<b>Attorney Docket Number:</b>	OMNI 0105 PUSP2			
Filed as Small Entity				
<b>Filing Fees for Utility under 35 USC 111(a)</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
PETITION FEE-37CFR 1.17(H) (GROUP II)	2464	1	70	70
RCE- 1ST REQUEST	2801	1	650	650
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
Adjustment date: 09/04/2018 SDIRETA1				
07/31/2018 INTEFSW 00010592 023978 15594053				
<b>Petition:</b>				
02 FC:2801 650.00 CR				
<b>Patent-Appeals-and-Interference:</b>				

**REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL  
 (Submitted Only via EFS-Web)**

Application Number	15594053	Filing Date	2017-05-12	Docket Number (if applicable)	OMNI 0105 PUSP2	Art Unit	2886
First Named Inventor	Mohammed N. ISLAM			Examiner Name	MD M Rahman		

**This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.**  
 Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

**SUBMISSION REQUIRED UNDER 37 CFR 1.114**

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

Consider the arguments in the Appeal Brief or Reply Brief previously filed on \_\_\_\_\_

Other \_\_\_\_\_

Enclosed

Amendment/Reply

Information Disclosure Statement (IDS)

Affidavit(s)/ Declaration(s)

Other QPIDS Request (Certification and Request for consideration of an IDS Filed After Payment of Issue Fee), and Petition to Withdraw from Issue After Payment of Issue Fee including petition fee.

**MISCELLANEOUS**

Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months \_\_\_\_\_  
 (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

Other \_\_\_\_\_

**FEES**

**The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.**  
 The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 023978

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED**

Patent Practitioner Signature  
 Applicant Signature

Doc code: RCEX

Doc description: Request for Continued Examination (RCE)

PTO/SB/30EFS (07-09)

Approved for use through 07/31/2012. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Signature of Registered U.S. Patent Practitioner			
Signature	David S. Bir/	Date (YYYY-MM-DD)	2018-09-11
Name	David S. Bir	Registration Number	38383

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number	15594053
	Filing Date	2017-05-12
	First Named Inventor	Mohammed N. ISLAM
	Art Unit	2886
	Examiner Name	MD M Rahman
	Attorney Docket Number	OMNI 0105 PUSP2

**U.S.PATENTS** Remove

Examiner Initial*	Cite No	Patent Number	Kind Code <sup>1</sup>	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
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Examiner Initial*	Cite No	Publication Number	Kind Code <sup>1</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

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**FOREIGN PATENT DOCUMENTS** Remove

Examiner Initial*	Cite No	Foreign Document Number <sup>3</sup>	Country Code <sup>2,i</sup>	Kind Code <sup>4</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T <sup>5</sup>
	1							

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**NON-PATENT LITERATURE DOCUMENTS** Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>5</sup>

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
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Application Number	15594053
Filing Date	2017-05-12
First Named Inventor	Mohammed N. ISLAM
Art Unit	2886
Examiner Name	MD M Rahman
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1	LI et al, A Wireless Reflective Pulse Oximeter with Digital Baseline Control for Unfiltered Photoplethysmograms, (June 2012) IEEE Transactions on Biomedical Circuits and Systems, Vol. 6, No. 3, 10 pages.
2	HUMPHREYS et al., Noncontact Simultaneous Dual Wavelength Photoplethysmography: A Further Step Toward Noncontact Pulse Oximetry, (2007) Review of Scientific Instruments 78, 044304, American Institute of Physics, 6 pages.
3	MENDELSON et al., A Wearable Reflectance Pulse Oximeter for Remote Physiological Monitoring, (Aug./Sept. 2006) Proceedings of the 28th IEEE EMBS Annual International Conference New York City, NY, 4 pages.
4	UNITED STATES DISTRICT COURT EASTERN DISTRICT OF TEXAS MARSHALL DIVISION; Omni Medsci, Inc. vs. Apple Inc.; Civil Action No. 2:18-cv-00134 Jury Trial Demanded; Defendant's Invalidity Contentions; August 28, 2018; 33 pps

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**EXAMINER SIGNATURE**

Examiner Signature	<input type="text"/>	Date Considered	<input type="text"/>
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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See attached certification statement.

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Signature	/David S. Bir/	Date (YYYY-MM-DD)	2018-09-11
Name/Print	David S. Bir	Registration Number	38383

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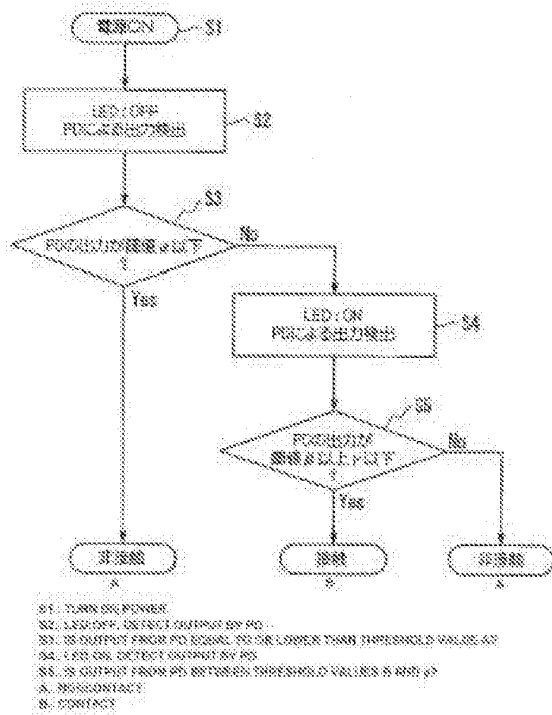
Espacenet

**Bibliographic data: JP2005270544 (A) — 2005-10-06**

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**BIOLOGICAL INFORMATION MEASURING DEVICE****Inventor(s):** MAEKAWA KAZUYA; NAKAMURA TAKASHI; MORIYA KOICHI;  
MIYAHARA SHINICHIRO ± (MAEKAWA KAZUYA, ; NAKAMURA  
TAKASHI, ; MORIYA KOICHI, ; MIYAHARA SHINICHIRO)**Applicant(s):** SEIKO INSTR INC ± (SEIKO INSTRUMENTS INC)**Classification:** - **international:** A61B5/024; A61B5/0245; (IPC1-7): A61B5/0245  
- **cooperative:** A61B5/02427; A61B5/02438**Application number:** JP20040091943 20040326 Global Dossier**Priority number(s):** JP20040091943 20040326**Also published as:** JP4476664 (B2) WO2005092179 (A1)**Abstract of JP2005270544 (A)**

**PROBLEM TO BE SOLVED:** To provide a biological information measuring device which attains to miniaturization by a simple constitution and prevents incorrect detection even when exterior light enters. ;**SOLUTION:** The biological information measuring device 1 is equipped with a light emitting part 4 in which a detection part detects whether or not a biosensor part 6 is brought into contact with the surface of a living body emits light onto the living body, a cover glass 23 which is arranged on the lower face of a body 2, lets the light emitted from the light emitting part 4 penetrate through and reflect, and lets the light backscattered at the living body penetrate through, a light receiving part 5 for receiving the light penetrated through the cover glass 23, and a judging part 7a for judging whether or not the living body is in contact with the biosensor part 6 based on the reception signal received by the light receiving part 5. ;**COPYRIGHT:** (C)2006,JPO&NCIP



(18) 日本国特許庁(JP)

(12) 公開特許公報(A)

(11) 特許出願公開番号

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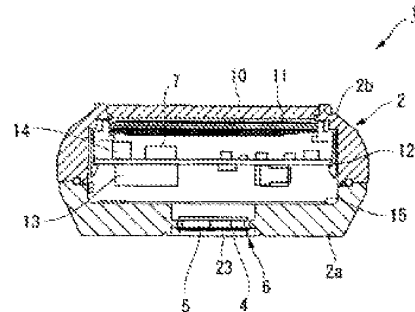
(54) 【発明の名称】 生体情報計測装置

(57) 【要約】

【課題】 簡易な構成で小型化を図るとともに、外光が入ったとしても誤検出することがない生体情報計測装置を提供すること。

【解決手段】 生体センサ部6が生体の表面に接触したか否かを検出する検出部が、生体に光を照射する光発光部4と、本体2の下面に配されて、光発光部4により照射した光を透過及び反射させるとともに、生体において後方散乱した光を透過させるカバーガラス23と、カバーガラス23を透過した光を受光する光受光部5と、該光受光部5により受光された受光信号に基づいて生体と生体センサ部6とが接触しているか否かを判断する判断部7aとを備える生体情報計測装置1を提供する。

【選択図】 図6



## 【特許請求の範囲】

## 【請求項1】

本体と、

該本体に設けられると共に生体に向けて光を照射し前記生体からの後方散乱光の光量に応じた生体情報信号を生成する生体センサ部と、

前記本体に設けられると共に前記生体情報信号に基づいて生体情報を演算する生体情報演算部と、

前記本体の下面側に配され、前記生体センサ部が前記生体の表面に接触したか否かを検出する検出部とを備え、

該検出部が、前記生体に光を照射する光発光部と、

前記本体の下面に配されて、前記光発光部により照射した光を透過及び反射させるとともに、前記生体において後方散乱した光を透過させるカバーガラスと、

前記カバーガラスを透過した光を受光する光受光部と、

該光受光部により受光された受光信号に基づいて前記生体と前記生体センサ部とが接触しているか否かを判断する判断部とを備えることを特徴とする生体情報計測装置。

## 【請求項2】

前記光受光部が、前記カバーガラスを透過した前記生体からの後方散乱光を受光すると共に後方散乱光の光量に応じた生体情報信号を生成することを特徴とする請求項1に記載の生体情報計測装置。

## 【請求項3】

前記カバーガラスに、前記光発光部と前記光受光部との間に配され前記カバーガラス内を伝搬する光の一部を反射させる反射面を備えることを特徴とする請求項2に記載の生体情報計測装置。

## 【請求項4】

一端が前記カバーガラスに、他端が前記光受光部の受光面にそれぞれ近接して配設されたバンドル状の光ファイバを備えることを特徴とする請求項2に記載の生体情報計測装置。

## 【請求項5】

前記カバーガラスの前記光受光部の対向面に、前記生体からの後方散乱光を集光させる集光部を備えることを特徴とする請求項1または請求項2に記載の生体情報計測装置。

## 【発明の詳細な説明】

## 【技術分野】

## 【0001】

本発明は、手首（腕）に装着した状態で脈拍等の生体情報を測定することができる生体情報計測装置に関するものである。

## 【背景技術】

## 【0002】

近年の健康管理への関心の高まりにより、手首（腕）等に装着したまま脈拍等の様々な生体情報を計測することができる生体情報計測装置が各種提供されている（例えば、特許文献1参照）。

## 【0003】

この特許文献1に記載の脈拍計（生体情報計測装置）は、皮膚接触側に2つの電極を備えている。そして、この2つの電極がともに皮膚に触れると、皮膚を通して微小電流が流れ、両電極間の電圧が低下するため、脈拍センサが皮膚に接触しているものと判断する。したがって、この2つの電極の電位差によって皮膚との接触の有無を検出することができる。

## 【0004】

また、発光ダイオード（光発光部）及び受光素子（光受光部）により脈拍測定システムを有する脈拍測定器（生体情報計測装置）も提案されている（例えば、特許文献2参照）。この特許文献2に記載の脈拍測定器は、明瞭測定用の受光素子を配置し、この受光素子

の出力に応じて接触の有無を検出するものである。

【特許文献1】特開2003-70757号公報（段落番号0021-0029、図2等）

【特許文献2】特開昭60-246736号公報

【発明の開示】

【発明が解決しようとする課題】

【0005】

しかしながら、上述した特許文献1に記載の生体情報計測装置は、電極がある程度大きい場合は精度良く生体の接触を検出することが可能であるが、電極が小さい場合は誤検出が多く、例えば、腕時計型のような小型の端末で用いることが難しいという問題がある。また、特許文献2に記載の生体情報計測装置は、単に受光素子からの出力から明暗を判断し、接触の有無を判断しているため、外光の程度によっては誤検出してしまのおそれがある。

【0006】

本発明は上述した事情に鑑みてなされたものであって、簡易な構成で小型化を図るとともに、外光が入ったとしても誤検出することがない生体情報計測装置を提供することを目的とする。

【課題を解決するための手段】

【0007】

本発明は、前記課題を解決するために以下の手段を提供する。

【0008】

本発明の生体情報計測装置は、本体と、該本体に設けられると共に生体に向けて光を照射し前記生体からの後方散乱光の光量に応じた生体情報信号を生成する生体センサ部と、前記本体に設けられると共に前記生体情報信号に基づいて生体情報を演算する生体情報演算部と、前記本体の下面側に配され、前記生体センサ部が前記生体の表面に接触したか否かを検出する検出部とを備え、該検出部が、前記生体に光を照射する光発光部と、前記本体の下面に配されて、前記光発光部により照射した光を透過及び反射させるとともに、前記生体において後方散乱した光を透過させるカバーガラスと、前記カバーガラスを透過する光を受光する光受光部と、該光受光部により受光された受光信号に基づいて前記生体と前記生体センサ部とが接触しているか否かを判断する判断部とを備えることを特徴とする。

【0009】

本発明に係る生体情報計測装置においては、光発光部から生体に向けて光を照射する。照射された光はカバーガラス表面での反射やカバーガラス内での伝搬、生体での後方散乱などにより、光受光部により受光される。検出部に備えられた判断部は、光発光部が発光している状態及び発光していない状態で、光受光部により受光された受光信号に基づいて生体表面と生体センサ部とが接触しているか否かを判断する。判断部により生体表面と生体センサ部とが接触していると判断、すなわち、本体を手首（腕等）に装着していると判断し、生体センサ部により、生体に向けて光を照射し生体からの後方散乱光の光量に応じた生体情報信号を生成する。さらに、生体情報検出部において、生体情報信号を所定の演算をして脈拍等の生体情報の算出を行う。また、光受光部に外光が入ったとしても、生体表面と生体センサ部との接触を誤検出することがなくなる。

【0010】

また、本発明の生体情報計測装置は、前記光受光部が、前記カバーガラスを透過した前記生体からの後方散乱光を受光すると共に後方散乱光の光量に応じた生体情報信号を生成することが好ましい。

【0011】

本発明に係る生体情報計測装置においては、光受光部において、受光された光に基づいて生体表面と生体センサ部との接触と、生体情報信号の生成との両方を行うため、部品点数の少量化を図ることができ、さらに、生体情報計測装置全体の小型化を図ることができる。

## 【0012】

また、本発明の生体情報計測装置は、前記カバーガラスに、前記光発光部と前記光受光部との間に配され前記カバーガラス内を伝搬する光の一部を反射させる反射面を備えることが好ましい。

## 【0013】

本発明に係る生体情報計測装置においては、光照射部により照射された光のうちカバーガラス内部を伝搬した光を、反射面により生体表面側に反射させることになる。このため、生体情報を測定する際、生体情報を含んでいないカバーガラス内を伝搬する光を遮断することができるため、精度よく生体情報を測定することが可能になる。

## 【0014】

また、本発明の生体情報計測装置は、一端が前記カバーガラスに、他端が前記光受光部の受光面にそれぞれ近接して配設されたバンドル状の光ファイバを備えることが好ましい。

## 【0015】

本発明に係る生体情報計測装置においては、光ファイバが配されているため、生体の表皮などの表面部分を通ってきた光が光ファイバの外周面で反射されることになる。生体の表皮などの表面部分のみを通ってきた光は生体情報をあまり含んでいないため、この光を遮断することにより、光ファイバに入射して光ファイバ内を伝搬し光受光部に導かれる光の大部分は真皮部分以下の生体の深部を通ってきた光、すなわち生体情報を多く含んだ光となる。

## 【0016】

また、本発明の生体情報計測装置は、前記カバーガラスの前記光受光部の対向面に、前記生体からの後方散乱光を集光させる集光部を備えることが好ましい。

## 【0017】

本発明に係る生体情報計測装置においては、光受光部により照射され生体において後方散乱した光が、集光部によって光受光部の受光面に効率良く集光されることになる。したがって、脈拍信号等の生体情報信号を生成する際、光受光部の面積を小さくすることができるため、生体情報計測装置全体の小型化を図ることが可能になる。

## 【発明の効果】

## 【0018】

本発明に係る生体情報計測装置によれば、光発光部の発光状態を変えた際の光受光部によって受光された光に基づいて接触の有無を検知しているため、簡易な構成で生体との接触を検知することができる。したがって、外光が光受光部に入る場合においても、正確に生体との接触を認識することができるため、高精度に生体情報の算出を行うことが可能となる。

## 【発明を実施するための最良の形態】

## 【0019】

以下、本発明に係る生体情報計測装置の一実施形態を、図1から図11を参照して説明する。

## 【0020】

本実施形態の生体情報計測装置1は、図1から図8に示すように、腕時計型であって手首(腕)Aに装着した状態で、生体情報である脈拍数を算出するものである。

## 【0021】

この生体情報計測装置1は、各種の電気部品及び電子部品を内蔵したハウジング(本体)2と、このハウジング2の下面2aを生体表面B側に向けた状態でハウジング2を手首Aに装着する固定手段3と、ハウジング2に設けられると共に生体表面(生体)Bに向けて光を照射するLED(Light Emitting Diode)4と生体からの後方散乱光を受光するPD(Photo-Diode)5とを有する生体センサ部6と、ハウジング2に設けられると共に生体センサ部6により受光した光量に応じた脈拍信号(生体情報信号)を生成し生成された脈拍信号を演算し脈拍数を算出するデータ処理部(生体情報演算部)7とを備えている。



## 【0022】

生体センサ部6は、生体センサ部（ハウジング2の下面2a側）が生体表面Bに接触したか否かを検出する検出部を兼ねている。すなわち、生体センサ部6が、生体表面Bに接触したか否かを検出すると共に脈拍信号を生成するための生体からの光の検出を行う機能を有するLED4とPD5とを備えていることになる。

## 【0023】

また、生体情報計測装置1は、図7に示すように、ハウジング2の下面2a側に配されて、LED4により照射した光を透過及び反射させるとともに、生体において後方散乱した光を透過させるカバーガラス23を備えている。また、PD5がこのカバーガラス23を伝搬する光及びカバーガラス23を透過した生体からの後方散乱光を受光するようになっている。

## 【0024】

また、データ処理部7には、PD5により受光された受光信号に基づいて生体と生体センサ部6とが接触しているか否かを判断する判断部7aとを備えている。

## 【0025】

上記ハウジング2は、プラスチックやアルミニウム等の金属材料からなり、所定の厚みをもって、例えば、上面視略長方形形状に形成されている。ハウジング2の上面2bの中央部分には、略正方形のガラス板10が嵌め込まれており、該ガラス板10の内側には演算された上記脈拍数やその他各種の情報を表示する表示部11が配されている。

## 【0026】

また、ハウジング2内には、図5及び図6に示すように、メイン基板12が設けられており、該メイン基板12に上記データ処理部7、上記表示部11、充電可能な充電電池13、脈拍数を記録するメモリ14、サブ基板15及びその他各種の電子部品が実装又は配線等により電気的に接続されている。

## 【0027】

上記データ処理部7は、CPU等のIC部品を含むものであり、PD5により生成された脈拍信号を一旦アンプ等により増幅した後、高速フーリエ変換処理（FFT処理）等の所定処理を行い、その処理結果を解析することにより脈拍数を算出する機能を有している。また、データ処理部7は、算出した脈拍数をメモリ14に記録すると共に、後述する各ボタン20からの入力に基づいて表示部11に表示させるようになっている。更に、データ処理部7は、他の構成部品を総合的に制御する機能も有している。

## 【0028】

上記表示部11は、例えば、LCD（Liquid Crystal Display）等の液晶表示器であり、上述した脈拍数以外に、例えば、図示しない水晶振動子によりカウントされた時刻を表示する時刻表示機能やその他の各種情報を表示する機能を有している。例えば、時刻、日付、曜日や充電電池13の残電力量等を表示できるようになっている。

## 【0029】

また、ハウジング2には、図1及び図2に示すように、複数のボタン20、例えば、ハウジング2の上面2bであって表示部11の下側に配された3つのボタン20及びハウジング2の側面に配された1つのボタン20が設けられている。これら各ボタン20を押下することで、各種操作ができるようになっている。例えば、脈拍の計測開始、計測停止や、脈拍数と時刻との表示切替や、メモリ14内に記録されている脈拍数データを外部の機器にデータ送信する等の操作ができるようになっている。

## 【0030】

更に、ハウジング2の側面には、上記充電電池13に充電器等の外部から電力を供給して充電させる外部接続端子（充電手段）21が設けられている。なお、外部接続端子21を覆うようにカバー等を取り付けて、外部接続端子21を保護しても構わない。こうすることで、外部接続端子21を水滴や埃等から保護することが可能となり、より好適である。また、外部接続端子21に限らず、充電器及びハウジング2内にそれぞれ電力を供給する

ためのトランス等を設け、非接触状態で充電池13の充電を行うように構成しても構わない。

【0031】

また、PD5により生成された脈拍信号は、フレキシブル基板24、サブ基板15及びメイン基板12を介して、上記データ処理部7に送られるようになっている。また、カバーガラス23内を伝播してPD5により受光された光は、判断部7aに送られるようになっている。

【0032】

判断部7aは、PD5により検出された受光信号を電圧として受けて、この電圧値とあらかじめ設定されている閾値電圧 $\alpha$ Vとを常に比較している。LED4がOFF状態において、検出された受光信号が閾値電圧 $\alpha$ V以下であればLED4及びPD5が生体表面Bと非接触状態であると判断するようになっている。一方、PD5により検出された受光信号が閾値電圧 $\alpha$ V以上であれば、LED4をON状態にする。そして、PD5により検出された受光信号が閾値電圧 $\beta$ V以上であればLED4及びPD5が生体表面Bに非接触状態であると判断するようになっている。一方、PD5により検出された受光信号が閾値電圧 $\beta$ V以下であればLED4及びPD5が生体表面Bと接触状態であると判断するようになっている。すなわち、データ処理部7は、この検出結果に基づいて、LED4から光を照射するようにLED4の作動を制御するように設定されている。なお、この場合だけに限らず、例えば、生体表面Bに接触していないことが検出されたときに、FFT処理を行わないように設定しても構わない。

【0033】

上記固定手段3は、ハウジング2に基端側が取り付けられて手首Aに装着可能な第1のバンド30及び第2のバンド31を有している。第1のバンド30及び第2のバンド31は、ハウジング2の長手方向に、該ハウジング2を挟んで対向するように設けられている。また、両バンド30、31は、伸縮自在な弾性材料により形成されている。

【0034】

上記第1のバンド30には、先端にバックル30a及びタング30bが取り付けられている。また、第2のバンド31には、上記タング30bが挿入される挿入孔31aが該第2のバンド31の長手方向に沿って複数形成されている。これにより、使用者の手首Aの太さに応じて第1のバンド30及び第2のバンド31の長さを調整することができるようになっている。

【0035】

このように構成された生体情報計測装置1により、手首Aに装着した状態で脈拍数を算出する場合について説明する。

【0036】

まず、図8のフローチャート図に示すように、ボタン20を押下し、脈拍の計測モードに切り替えることによって、PD5の電源がON状態になる(ステップS1)。ここで、まず、LED4をOFF状態のまま、PD5により受光される受光信号の電圧を検出する(ステップS2)。PD5により受光された光が電圧としてデータ処理部7の判断部7aに出力される。この場合において、判断部7aは、検出された電圧値と閾値電圧 $\alpha$ Vとを常に比較しており(ステップS3)、検出された電圧値が閾値電圧 $\alpha$ 以上である場合(ステップS3「NO」)、LED4をON状態にする(ステップS4)。再び、データ処理部7の判断部7aは、検出された電圧値と閾値電圧 $\beta$ V及び $\gamma$ Vとを常に比較しており(ステップS5)、検出された電圧値が閾値電圧「 $\beta$ 以上 $\gamma$ 以下」となった場合(ステップS5「YES」)、LED4及びPD5が生体表面Bに接触していることを判断する。

【0037】

一方、LED4がOFF状態において、PD5により検出された電圧値が閾値電圧 $\alpha$ 以下であれば(ステップS3「YES」)、LED4及びPD5が生体表面Bと非接触であると判断する。また、LED4がON状態において、PD5により検出された電圧値が閾値電圧「 $\beta$ 以上 $\gamma$ 以下」でない場合(ステップS5「NO」)、LED4及びPD5が生

体表面Bと非接触であると判断する。すなわち、データ処理部7は、LED4及びPD5が確実に生体表面Bに接触しているかの検出を行う。

【0038】

本実施例では、データ処理部は常に検出された電圧値と閾値電圧を比較しているが、例えば脈拍を計測する前にも比較するものや、脈拍を計測する前後に比較するものであっても構わない。

【0039】

判断部7aにより、図2及び図3に示すように、使用者の手首Aを巻回するよう両バンド30、31を巻き、手首Aの大きさに応じて第1のバンド30のタンク30bを第2のバンド31の挿入孔31aに挿入し、ハウジング2を手首Aに装着していると判断すると、データ処理部7は、LED4から生体に向けて光を照射させる。照射された光は、生体内で脂肪や筋といった組織や血液により吸収および散乱され、照射された光の一部が後方散乱光としてPD5で検出される。検出される光は、脈動による血液量の変化に伴い変動する。PD5は、この後方散乱光を受光すると共に受光量の変化に応じた脈拍信号(生体情報信号)を生成して、データ処理部7に出力する。つまり、手首A(生体)内部の動脈及び細動脈内の血流変動に応じて、LED4から照射された光の後方散乱光の光量変動するので、PD5は、動脈の脈動、即ち、脈波に応じた後方散乱光の受光が行える。これにより、PD5は、脈拍信号の生成が行える。

【0040】

データ処理部7は、送られてきた脈拍信号を増幅した後に、FFT処理等の所定処理をした後、解析を行なって脈拍数を算出する。そして、データ処理部7は、算出した脈拍数をメモリ14に記録すると共に各ボタン20操作に基づいて表示部11に表示させる。

【0041】

使用者は、必要時に各ボタン20を押下することで、容易に算出された脈拍数を表示部11に表示させて確認が行えるので、使用に関して簡便である。また、使用者は、各ボタン20の操作により、脈拍数以外のその他の情報、例えば、時刻や充電電池13の残電力等についても表示部11により確認することができるので使い易い。

【0042】

また、上述したように、使用者は、ハウジング2を両バンド30、31により所定の方で締め付けて手首Aに装着しているため、長時間装着したとしても圧迫感を感じることはないため、不快に感じることがない。

【0043】

LED4及びPD5は、フレキシブル基板24の弾性によって、ハウジング2の下面2a側に向けて押圧されて生体表面Bに出来るだけ近接していることから、脈拍数を高精度に算出することができる。

【0044】

また、充電電池13に電力を充電する場合には、例えば、充電器に接続されている充電コード等を外部接続端子21に接続することで充電を行うことができ、通常の電池を別個に用意する必要はない。従って、維持経費の削減を図ることができる。なお、ハウジング2内に音声出力するブザー等の音声出力手段を設けて、充電電池13の充電量が“0”に近くなるまで減少した場合に、音声出力させて充電時期(充電タイミング)を知らせるように構成しても構わない。

【0045】

以上説明したように、本実施形態の生体情報計測装置1によれば、LED4の発光状態を変えた際のPD5によって受光された光に基づいて、LED4及びPD5が生体表面Bに接触しているか否かを検知しているため、簡易な構成で生体表面Bとの接触を検知することができる。したがって、外光がPD5に入る場合においても、正確に生体表面Bとの接触を認識することができるため、高精度に生体情報の検出を行うことが可能となる。

【0046】

なお、本発明の技術範囲は上記実施の形態に限定されるものではなく、本発明の趣旨を

逸脱しない範囲において種々の変更を加えることが可能である。

【0047】

例えば、図9に示すように、カバーガラス23に、LED4とPD5との間に配されカバーガラス23内を伝搬する光の一部を反射させる反射面23aを設けても良い。この構成の場合には、LED4により照射された光のうちカバーガラス23内部を伝搬する光を、反射面23aにより生体表面B側に反射させることになる。このため、生体情報を測定する際、ノイズ光となるカバーガラス23内を伝搬する光を遮断することができるため、脈拍信号を生成する際のSN比を向上することが可能になる。

【0048】

あるいは、図10に示すように、PD5とカバーガラス23とが離間して配設され、一端40aがカバーガラス23に、他端40bがPD5の受光面5aにそれぞれ近接しては配設されたバンドル状の光ファイバ40を備えていても良い。この構成の場合には、PD5とカバーガラス23との隙間部に光ファイバ40が配されているため、生体表面Bの表皮などの表面部分を通ってきた光が光ファイバ40の外周面で反射される。生体表面Bの表皮などの表面部分のみを通ってきた光は生体情報をあまり含んでいないため、この光を遮断することにより、光ファイバ40に入射して光ファイバ40内を伝搬しPD5に導かれる光の大部分は真皮部分以下の生体の深部を通ってきた光、すなわち生体情報を多く含んだ光となる。

【0049】

さらに、図11に示すように、カバーガラス23のPD5の対向面に、生体からの後方散乱光を集光させる凹部(集光部)41が形成されていても良い。この構成の場合には、PD5により照射され生体において後方散乱した光が、凹部41によってPD5の受光面5aに効率良く集光されることになる。したがって、PD5により脈拍信号を生成する際、PD5の受光面積を小さくすることができるため、生体情報計測装置全体の小型化を図ることが可能になる。なお、集光部としてはPD5の集光面5aに光が集光すれば良いため、凸形状であっても良い。

【0050】

また、さらに、LED4とPD5とが生体表面Bとの接触の検知に用いられると共に、脈拍信号を生成するための生体からの後方散乱光の受光とを兼ねる構成としたが、これに代えて、図12に示すように、もう一对のLED51とPD52とを有する検出部53と、LED4、PD5とLED51、PD52とを遮断する光遮蔽板54とを設けている生体情報計測装置50であっても良い。この構成の場合には、LED4とPD5とが生体表面Bとの接触の検知を行い、LED51とPD52とが脈拍信号を生成するための生体からの後方散乱光の受光を行うため、脈拍信号を生成するのに必要な後方散乱光をPD52により受光する。

【0051】

また、LED4とPD5との間隔に制約を設けることで、LED4より発せられた光がカバーガラス23の表面で反射しPD5に入射することがないようにすることが可能である。カバーガラスの材料として屈折率1.5のアクリルを用いたときのLED4とPD5との位置関係の例を図13および表1に示す。

【0052】

【表1】

データ	X	Y	Z <sub>1</sub>	Z <sub>2</sub>	Z <sub>3</sub>
a	0.1	0.5	0.7	2.211083	2.911083
b	0.5	0.5	3.5	2.211083	5.711083
c	1	0.5	7	2.211083	9.211083
d	0.1	1	0.7	4.422166	5.122166
e	0.5	1	3.5	4.422166	7.922166
f	1	1	7	4.422166	11.42217

PD5は受光面5aがパッケージ5bの上面よりも一段下がった構造をしている。LED4とPD5とは面に配されており、ここで、これらとカバーガラス23との距離をXとし、カバーガラス23の厚さをYとしたとき、LED4で発せられた光のうちカバーガラス23の下面23bでの反射光が受光面5aに入射しないための距離Z<sub>1</sub>およびカバーガラス23内部で一度反射した光が受光面5aに入射しないための距離Z<sub>3</sub>はX、Yによって異なる。X、Yが長くなるとZ<sub>1</sub>、Z<sub>3</sub>も長くなり、逆にX、Yが短くなるとZ<sub>1</sub>、Z<sub>3</sub>は短くなる。このように、どの領域で反射した光を遮断するかにより、上記表1に示した設計値に設定することも可能である。

【0053】

また、上記実施形態においては、生体情報として脈拍数を例にして説明したが、脈拍数に限らず、生体情報であれば構わない。

【0054】

また、ハウジングに、他の電子機器との間で無線通信可能な無線通信手段等の機能を付加しても良い。こうすることで、Bluetooth等の無線通信により、メモリに記録した脈拍数を外部の電子機器にデータ送信したり、各種情報をメモリに入手させることができる。

【実施例】

【0055】

上記一実施形態に係る生体情報計測装置1を用いたときのPD5により検出された出力結果について説明する。

【0056】

また、本実施形態においては、LED4がOFF状態における電圧閾値 $\alpha$ は1.9Vであり、LED4がON状態における電圧閾値 $\beta$ 及び電圧閾値 $\gamma$ はそれぞれ0.4V、1.8Vとする。ここで用いるPD5は、入射する光強度が増加するにしたがって、PD5により出力される電圧値が減少するものとして説明する。すなわち、測定電圧が $\alpha$ 以下であるということは1.9V以下であり、測定電圧が $\beta$ 以上 $\gamma$ 以下であるということは0.4V以上1.8V以下であることを示す。

【0057】

図14に示すように、状態1では、外光がない暗い状態で生体情報計測装置1が手首Aに装着されていない状態を示す。まず、LED4がOFF状態であるときには、外光及びLED4光がないため、PD5に光が入射しないのでPD5からの出力電圧（測定値）は約2Vとなる。次いで、LED4がON状態にすると、外光はないが、LED4により照

射され、カバーガラス23表面で反射した光および内部を伝搬した光がPD5に入射するので、PD5からの出力電圧(測定値)は1.8Vを少し超えた値となる。

【0058】

次に、状態2では、外光がない暗い状態で生体情報計測装置1が手首Aに装着されている状態を示す。まず、LED4がOFF状態であるときには、外光及びLED4光がないため、PD5に光が入射しないのでPD5からの出力電圧(測定値)は約2Vとなる。次いで、LED4をON状態にすると、外光はないが、LED4により照射され、カバーガラス23内を伝搬した光及び生体内で後方散乱した光がPD5に入射するので、PD5からの出力電圧(測定値)は約1.4Vとなる。

【0059】

次に、状態3では、外光の強度が約600Lxで生体情報計測装置1が装着されていない状態を示す。

【0060】

まず、LED4がOFF状態であるときには、外光及びLED4光がないが、外光があるため、PD5からの出力電圧(測定値)は約0.12Vとなる。次いで、LED4がON状態にすると、外光及びLED4により照射され、カバーガラス23内を伝搬した光がPD5に入射するので、PD5からの出力電圧(測定値)は約0.11Vとなる。これらの結果は外光の強度や生体表面の状態、LED4とPD5の距離などで若干異なるが、これらの結果よりLED4がOFF状態であるとき、PD5の測定値が1.9Vを下回っていれば、PD5に外光が入射しているものとしてLED4及びPD5と生体表面Bとが非接触状態であると判断できる。また、LED4がOFF状態でPD5の測定値が1.9Vを上回っている場合で、LED4をON状態としPD5の測定値が1.8Vを上回っている場合は、PD5に生体からの後方散乱光が入射していないものとしてLED4及びPD5と生体表面Bとが非接触状態であると判断し、LED4をON状態としPD5の測定値が0.4Vを下回っている場合はPD5に生体以外の物体からの反射光が入射しているものとしてLED4及びPD5と生体表面Bとが非接触状態であると判断できる。

【0061】

本実施例では閾値をそれぞれ1.9V、1.8V、0.4Vとしているが閾値の設定値はこの限りではない。

【図面の簡単な説明】

【0062】

【図1】本発明に係る生体情報計測装置の一実施形態を示す正面図である。

【図2】図1に示す生体情報計測装置の背面図である。

【図3】図1に示す生体情報計測装置を手首に装着した状態を示す側面図であり、図2に示す方向とは逆方向から見た図である。

【図4】図1に示す生体情報計測装置を斜め上方から見た状態を示す斜視図である。

【図5】図3に示す生体情報計測装置の断面矢視C-C図である。

【図6】図1に示す生体情報計測装置の断面矢視D-D図である。

【図7】図1に示す生体情報計測装置の生体センサ部を示す断面図である。

【図8】図5に示す生体情報計測装置のデータ処理部で行われる接触検知を示すフローチャート図である。

【図9】図7に示す生体情報計測装置の生体センサ部の他の変形例を示す断面図である。

【図10】図7に示す生体情報計測装置の生体センサ部の他の変形例を示す断面図である。

【図11】図7に示す生体情報計測装置の生体センサ部の他の変形例を示す断面図である。

【図12】図1に示す生体情報計測装置の他の変形例を示す平面図である。

【図13】図7に示す生体情報計測装置のLEDとPDとの位置関係を示す断面図である。

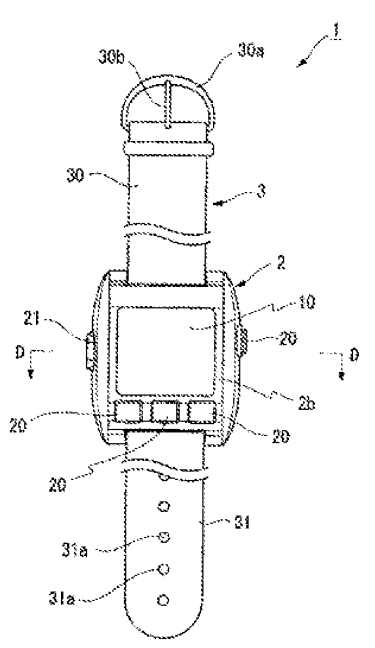
【図14】本発明における実施例において、生体センサ部と生体との接触状態によりPDにより出力される電圧値を示すグラフである。

【符号の説明】

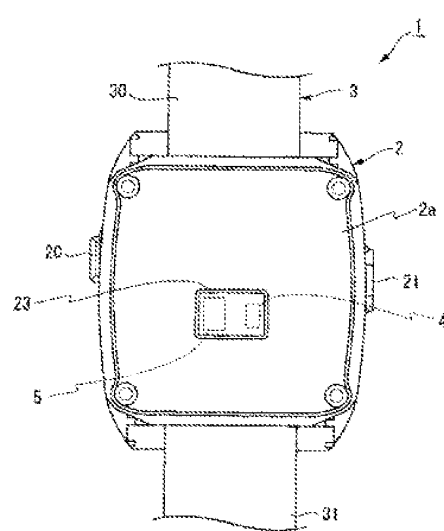
【0063】

- B 生体表面（生体）
- 1, 50 生体情報計測装置
- 2 ハウジング（本体）
- 2a 本体の下面
- 4 LED（光発光部）
- 5 PD（光受光部）
- 7 データ処理部（生体情報検出部）
- 7a 判断部
- 8 生体センサ部
- 23 カバーガラス
- 23a 反射面
- 40 光ファイバ
- 40a 光ファイバの一端
- 40b 光ファイバの他端
- 41 凹部（集光部）

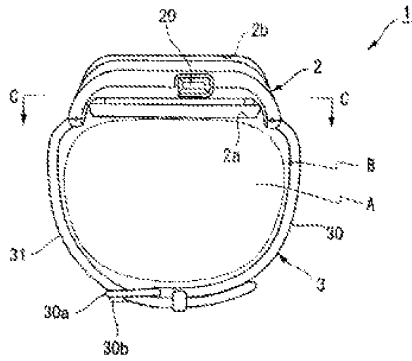
【図1】



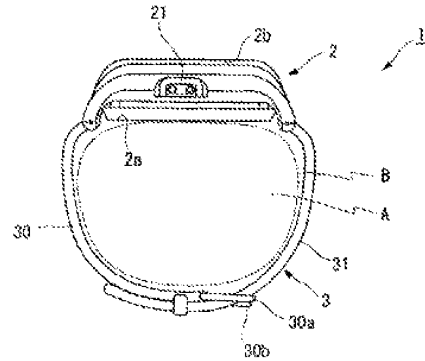
【図2】



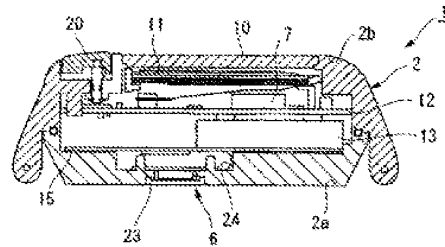
【図3】



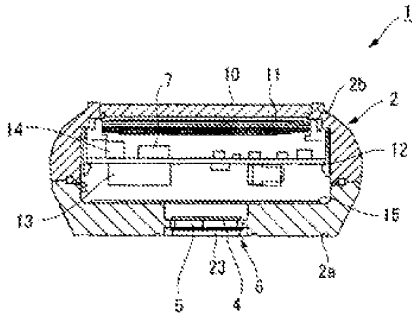
【図4】



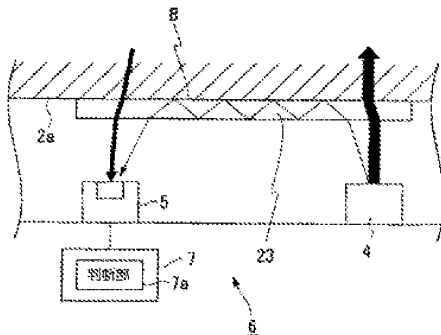
【図5】



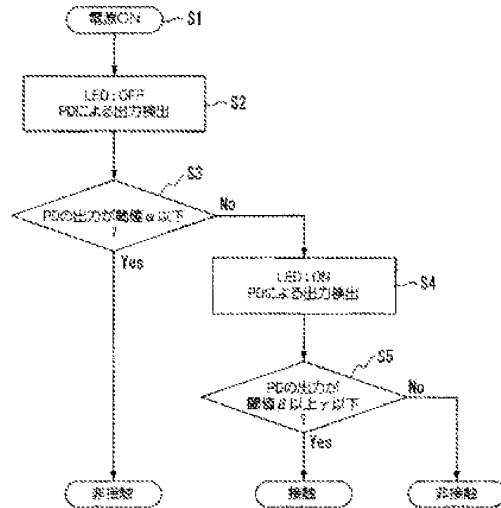
【図6】



【図7】

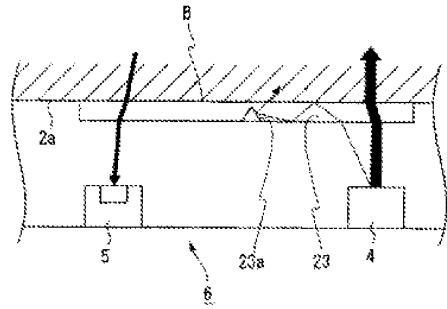


【図8】

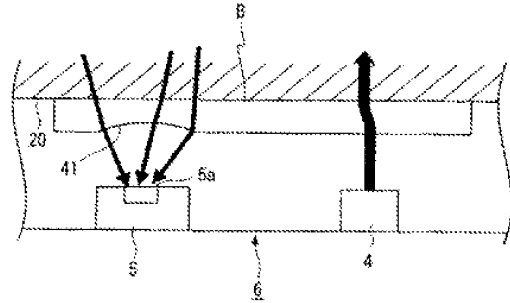




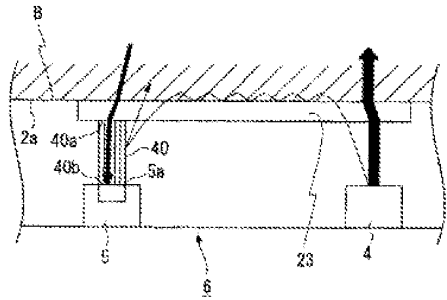
【図9】



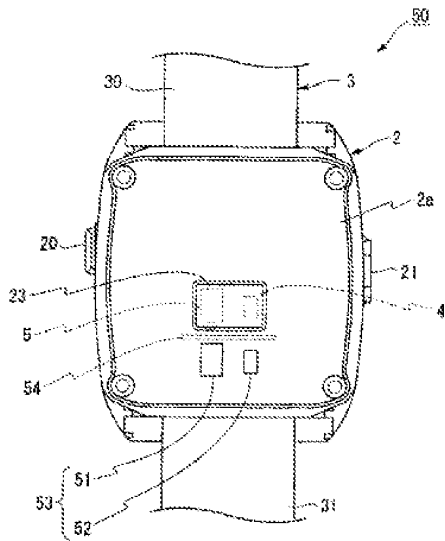
【図11】



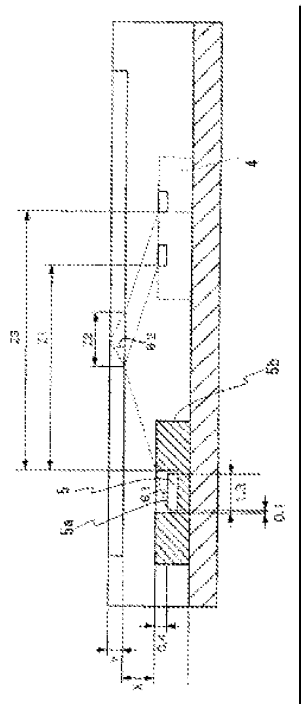
【図10】



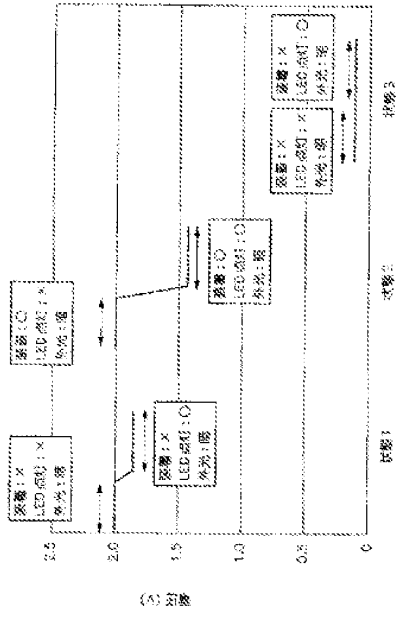
【図12】



【図13】



【図14】



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Fターム(参考) 4C017 AA10 AB02 AC28 CC01 EE01 FF05

Doc Code: PET.AUTO Document Description: Petition automatically granted by EFS-Web		PTO/SB/140 U.S. Patent and Trademark Office Department of Commerce			
Electronic Petition Request	<b>PETITION TO WITHDRAW AN APPLICATION FROM ISSUE AFTER PAYMENT OF THE ISSUE FEE UNDER 37 CFR 1.313(c)</b>				
Application Number	15594053				
Filing Date	12-May-2017				
First Named Inventor	Mohammed ISLAM				
Art Unit	2886				
Examiner Name	MD RAHMAN				
Attorney Docket Number	OMNI 0105 PUSP2				
Title	SYSTEM CONFIGURED FOR MEASURING PHYSIOLOGICAL PARAMETERS				
<p>An application may be withdrawn from issue for further action upon petition by the applicant. To request that the Office withdraw an application from issue, applicant must file a petition under this section including the fee set forth in § 1.17(h) and a showing of good and sufficient reasons why withdrawal of the application from issue is necessary.</p> <p>APPLICANT HEREBY PETITIONS TO WITHDRAW THIS APPLICATION FROM ISSUE UNDER 37 CFR 1.313(c).</p> <p>A grantable petition requires the following items:  (1) Petition fee; and  (2) One of the following reasons:  (a) Unpatentability of one or more claims, which must be accompanied by an unequivocal statement that one or more claims are unpatentable, an amendment to such claim or claims, and an explanation as to how the amendment causes such claim or claims to be patentable;  (b) Consideration of a request for continued examination in compliance with § 1.114 (for a utility or plant application only); or  (c) Express abandonment of the application. Such express abandonment may be in favor of a continuing application, but not a CPA under 37 CFR 1.53(d).</p>					
<b>Petition Fee</b> <table border="1" style="width: 100%;"> <tr> <td><input checked="" type="radio"/> Small Entity</td> </tr> <tr> <td><input type="radio"/> Micro Entity</td> </tr> <tr> <td><input type="radio"/> Regular Undiscounted</td> </tr> </table>			<input checked="" type="radio"/> Small Entity	<input type="radio"/> Micro Entity	<input type="radio"/> Regular Undiscounted
<input checked="" type="radio"/> Small Entity					
<input type="radio"/> Micro Entity					
<input type="radio"/> Regular Undiscounted					
Reason for withdrawal from issue					

- One or more claims are unpatentable
- Consideration of a request for continued examination (RCE) (List of Required Documents and Fees)
- Applicant hereby expressly abandons the instant application (any attorney/agent signing for this reason must have power of attorney pursuant to 37 CFR 1.32(b)).

RCE request, submission, and fee.

I certify, in accordance with 37 CFR 1.4(d)(4) that :

The RCE request ,submission, and fee have already been filed in the above-identified application on

Are attached.

**THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES**

I certify, in accordance with 37 CFR 1.4(d)(4) that I am:

- An attorney or agent registered to practice before the Patent and Trademark Office who has been given power of attorney in this application.
- An attorney or agent registered to practice before the Patent and Trademark Office, acting in a representative capacity.
- A sole inventor
- A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application
- A joint inventor; all of whom are signing this e-petition

Signature	/David S. Bir/
Name	David S. Bir
Registration Number	38383

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number	15594053
	Filing Date	2017-05-12
	First Named Inventor	Mohammed N. ISLAM
	Art Unit	2886
	Examiner Name	MD M Rahman
	Attorney Docket Number	OMNI 0105 PUSP2

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	1	5368224	A	1994-11-29	Richardson et al.		
	2	5746206	A	1998-05-05	Mannheimer		
	3	5795300	A	1998-08-18	Bryars		
	4	5919134	A	1999-07-06	Diab		
	5	6031603	A	2000-02-29	Fine et al		
	6	6325978	B1	2001-12-04	Labuda et al.		
	7	6701170	B2	2004-03-02	Stetson		
	8	6708048	B1	2004-03-16	Chance		

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Art Unit	2886	
Examiner Name	MD M Rahman	
Attorney Docket Number	OMNI 0105 PUSP2	

9	6731967	B1	2004-05-04	Turcott
10	6916096	B2	2005-07-12	Eberl et al.
11	7184148	B2	2007-02-27	Alphonse
12	7332784	B2	2008-02-19	Mills et al.
13	7468036	B1	2008-12-23	Rulkov et al.
14	7648463	B1	2010-01-19	Elhag et al.
15	8172761	B1	2012-05-08	Rulkov et al.
16	8180591	B2	2012-05-15	Yuen et al.
17	8310336	B2	2012-11-13	Muhsin et al.
18	8315682	B2	2012-11-20	Such et al.
19	8463576	B2	2013-06-11	Yuen et al.

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20	8475367	B1	2013-07-02	Yuen et al.
21	8755871	B2	2014-06-17	Weng et al.
22	8945017	B2	2015-02-03	Venkatraman et al.
23	8954135	B2	2015-02-10	Yuen et al.
24	9142117	B2	2015-09-22	Muhsin et al.
25	9179876	B2	2015-11-10	Ochs et al.
26	9192329	B2	2015-11-24	Al-Ali
27	9241676	B2	2016-01-26	Lisogurski et al.
28	9596990	B2	2017-03-21	Park et al.
29	9651533	B2	2017-05-16	Islam
30	9675250	B2	2017-06-13	Tverskoy



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31	9757040	B2	2017-09-12	Islam
32	9820658	B2	2017-11-21	Tran
33	9861286	B1	2018-01-09	Islam
34	9885698	B2	2018-02-06	Islam
35	RE44875	E	2014-04-29	Kiani et al.

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	1	20050049468	A1	2005-03-03	Carlson et al.	
	2	20050209516	A1	2005-09-22	Fraden	
	3	20110237911	A1	2011-09-29	Lamego et al.	
	4	20120203077	A1	2012-08-09	He et al.	

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5	20120310062	A1	2012-12-06	Li et al.
6	20130303921	A1	2013-11-14	CHU et al.

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	1	2005270544	JP	A	2005-10-06	Seiko Instruments Inc.		

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**NON-PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>5</sup>
	1	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit A), 66 pps	
	2	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit B), 73 pps	
	3	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit C), 85 pps	
	4	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit D), 38 pps	

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Examiner Name	MD M Rahman	
Attorney Docket Number	OMNI 0105 PUSP2	

5	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit E), 120 pps
6	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit F), 40 pps
7	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit G), 66 pps
8	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit H), 74 pps
9	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit I), 102 pps
10	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit J), 64 pps
11	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit K), 77 pps
12	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit L), 64 pps
13	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit M), 119 pps
14	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit N), 50 pps
15	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit O), 63 pps

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17	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit Q), 69 pps
18	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit R), 61 pps
19	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit S), 50 pps
20	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit T), 174 pps
21	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit U), 334 pps
22	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit V), 137 pps
23	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit W), 384 pps
24	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit X), 291 pps
25	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit Y), 120 pps
26	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit Z), 53 pps

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27	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit AA), 75 pps
28	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit BB), 65 pps
29	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit CC), 320 pps
30	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit DD), 240 pps
31	RHEE et al., Artifact-Resistant Power-Efficient Design of Finger-Ring Plethysmographic Sensors, IEEE Transactions on Biomedical Engineering (July 2001), Vol. 48, No. 7, Cambridge, MA, 11 pages.
32	BRANCHE et al., Signal Quality and Power Consumption of a New Prototype Reflectance Pulse Oximeter Sensor, Proceedings of the IEEE 31st Annual Northeast Bioengineering Conference (2005), Hoboken, NJ, 2 pages.
33	PELÁEZ, LED Power Reduction Trade-Offs for Ambulatory Pulse Oximetry, Conference Proceedings of the 29th Annual International Conference of the IEEE EMBS (August 2007) Lyon, France, 4 pages.
34	LUO et al., A Non-Invasive Dual-Channel Oximeter Based on Near-Infrared Spectroscopy (NIRS), Biophotonics Lab, Center of Advanced Research in Photonics (2007), The Chinese University of Hong Kong, China, 2 pages.
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37	SCHREINER et al., Blood Oxygen Level Measurement with a Chest-Based Pulse Oximetry Prototype System, Computing in Cardiology (2010) NIBEC, University of Ulster, Newtownabbey, Northern Ireland, 4 pages.

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Attorney Docket Number	OMNI 0105 PUSP2

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39	KURYLYAK et al., Smartphone-Based Photoplethysmogram Measurement, Department of Electronics, Computer and System Sciences, (2012) River Publishers, University of Calabria, Italy, 30 pages.
40	PATTERSON et al., Ratiometric Artifact Reduction in Low Power Reflective Photoplethysmography, (August 2011) IEEE Transactions on Biomedical Circuits and Systems, Vol. 5, No. 4, 9 pages.
41	CAI et al., Implementation of a Wireless Pulse Oximeter Based on Wrist Band Sensor, College of Biological Science and Medical Engineering Southeast University, (2010) 3rd International Conference on Biomedical Engineering and Informatics, Nanjing, China, 4 pages.
42	YAMAHA, BODiBEAT, Body, Music, In Sync., BF-1 Quick Guide, Player/Heart Rate Monitor: Quick Manual, 120 pages.
43	GE HEALTHCARE, GE Ohmeda TuffSat Oximeter for Clinicians on the go, (2012), A General Electric Co., www.gehealthcare.com, GE, Finland, 4 pages.
44	WANG et al., Multichannel Reflective PPG Earpiece Sensor with Passive Motion Cancellation, (December 2007) IEEE Transactions on Biomedical Circuits and Systems, Vol. 1, No. 4, 7 pages.
45	WEBSTER, Design of Pulse Oximeters, Medical Science Series (1997), Department of Electrical and Computer Engineering, University of Wisconsin- Madison, Institute of Physics Publishing, Bristol and Philadelphia, 267 pages.
46	TAOS, INC., Infrared Light-to-Voltage Optical Sensors, (2006) Texas Advanced Optoelectronic Solutions Inc., The Lumenology Company, TX, 14 pages.
47	JUNG et al., Design of A Low-Power Consumption Wearable Reflectance Pulse Oximetry for Ubiquitous Healthcare System, International Conference on Control, Automation and Systems (October 2008), in COEX, Seoul, Korea, 4 pages.
48	EMBEDDED-LAB, Introducing Easy Pulse: A DIY Photoplethysmographic Sensor for Measuring Hearth Rate, posted on www.Embedded-Lab.com September 12, 2012, by R-B, 10 pages.

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	Filing Date		2017-05-12
	First Named Inventor	Mohammed N. ISLAM	
	Art Unit		2886
	Examiner Name	MD M Rahman	
	Attorney Docket Number		OMNI 0105 PUSP2

49	ASARE et al., Analysis of Multi-Spectral Photoplethysmograph Biosensors, Proc. SPIE 8801, Novel Biophotonic Techniques and Applications II, 880106 (June 2013), European Conferences on Biomedical Optics, Munich, Germany, 7 pages.
50	MORÓN et al, A Wireless Monitoring System for Pulse-Oximetry Sensors, (2005) Electronic Technology Department, University of Málaga, Spain, 6 pages.

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**EXAMINER SIGNATURE**

Examiner Signature	<input type="text"/>	Date Considered	<input type="text"/>
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> See Kind Codes of USPTO Patent Documents at [www.USPTO.GOV](http://www.USPTO.GOV) or MPEP 901.04. <sup>2</sup> Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>3</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>4</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>5</sup> Applicant is to place a check mark here if English language translation is attached.

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Art Unit	2886		
Examiner Name	MD M Rahman		
Attorney Docket Number	OMNI 0105 PUSP2		

**CERTIFICATION STATEMENT**

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

**OR**

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

**SIGNATURE**

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/David S. Bir/	Date (YYYY-MM-DD)	2018-09-11
Name/Print	David S. Bir	Registration Number	38383

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**



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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal				
<b>Application Number:</b>	15594053			
<b>Filing Date:</b>	12-May-2017			
<b>Title of Invention:</b>	SYSTEM CONFIGURED FOR MEASURING PHYSIOLOGICAL PARAMETERS			
<b>First Named Inventor/Applicant Name:</b>	Mohammed N. ISLAM			
<b>Filer:</b>	David S. Bir/Pamela Demos			
<b>Attorney Docket Number:</b>	OMNI 0105 PUSP2			
Filed as Small Entity				
<b>Filing Fees for Utility under 35 USC 111(a)</b>				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Basic Filing:</b>				
PETITION FEE-37CFR 1.17(H) (GROUP II)	2464	1	70	70
RCE- 2ND AND SUBSEQUENT REQUEST	2820	1	950	950
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Post-Allowance-and-Post-Issuance:</b>				
<b>Extension-of-Time:</b>				
<b>Miscellaneous:</b>				
			<b>Total in USD (\$)</b>	<b>1020</b>



## UNITED STATES PATENT AND TRADEMARK OFFICE

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Commissioner for Patents  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

Decision Date: September 11, 2018

In re Application of:

Mohammed ISLAM

DECISION ON PETITION

UNDER CFR 1.313(c)(2)

Application No: 15594053

Filed: 12-May-2017

Attorney Docket No: OMNI 0105 PUSP2

This is an electronic decision on the petition under 37 CFR 1.313(c)(2), filed September 11, 2018, to withdraw the above-identified application from issue after payment of the issue fee.

The petition is **GRANTED**.

The above-identified application is withdrawn from issue for consideration of a submission under 37 CFR 1.114 (request for continued examination). See 37 CFR 1.313(c)(2).

**Petitioner is advised that the issue fee paid in this application cannot be refunded. If, however, this application is again allowed, petitioner may request that it be applied towards the issue fee required by the new Notice of Allowance.**

Telephone inquiries concerning this decision should be directed to the Patent Electronic Business Center (EBC) at 866-217-9197.

This application file is being referred to Technology Center AU 2886 for processing of the request for continuing examination under 37 CFR 1.114.

Office of Petitions

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	33684067
<b>Application Number:</b>	15594053
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	1876
<b>Title of Invention:</b>	SYSTEM CONFIGURED FOR MEASURING PHYSIOLOGICAL PARAMETERS
<b>First Named Inventor/Applicant Name:</b>	Mohammed N. ISLAM
<b>Customer Number:</b>	109543
<b>Filer:</b>	David S. Bir/Pamela Demos
<b>Filer Authorized By:</b>	David S. Bir
<b>Attorney Docket Number:</b>	OMNI 0105 PUSP2
<b>Receipt Date:</b>	11-SEP-2018
<b>Filing Date:</b>	12-MAY-2017
<b>Time Stamp:</b>	18:21:26
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$ 1020
RAM confirmation Number	091218INTEFSW00005302023978
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

<b>File Listing:</b>					
<b>Document Number</b>	<b>Document Description</b>	<b>File Name</b>	<b>File Size(Bytes)/ Message Digest</b>	<b>Multi Part /.zip</b>	<b>Pages (if appl.)</b>
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<b>Warnings:</b>					
<b>Information:</b>					
A U.S. Patent Number Citation or a U.S. Publication Number Citation is required in the Information Disclosure Statement (IDS) form for autoloading of data into USPTO systems. You may remove the form to add the required data in order to correct the Informational Message if you are citing U.S. References. If you chose not to include U.S. References, the image of the form will be processed and be made available within the Image File Wrapper (IFW) system. However, no data will be extracted from this form. Any additional data such as Foreign Patent Documents or Non Patent Literature will be manually reviewed and keyed into USPTO systems.					
3	Non Patent Literature	2018_08_28_Defs_Invalidity_Contentions.pdf	20409846	no	33
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<b>Total Files Size (in bytes):</b>				333909169	

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**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	33690658
<b>Application Number:</b>	15594053
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	1876
<b>Title of Invention:</b>	SYSTEM CONFIGURED FOR MEASURING PHYSIOLOGICAL PARAMETERS
<b>First Named Inventor/Applicant Name:</b>	Mohammed N. ISLAM
<b>Customer Number:</b>	109543
<b>Filer:</b>	David S. Bir/Pamela Demos
<b>Filer Authorized By:</b>	David S. Bir
<b>Attorney Docket Number:</b>	OMNI 0105 PUSP2
<b>Receipt Date:</b>	11-SEP-2018
<b>Filing Date:</b>	12-MAY-2017
<b>Time Stamp:</b>	18:29:25
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Non Patent Literature	NPL_1.PDF	25175809  0e34caf22791175777c2c4845e40db3ce5e7ce50	no	133

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2	Non Patent Literature	NPL_2.PDF	13158619	no	68
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<b>Total Files Size (in bytes):</b>				53437514	
<p><b>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b>  If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					

Document code: WFEE

United States Patent and Trademark Office  
Sales Receipt for Accounting Date: 09/12/2018

KVESTAL SALE #00000002 Mailroom Dt: 09/11/2018 023978 15594053  
01 FC : 1806 240.00 DA



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www.uspto.gov

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
15/594,053 05/12/2017 Mohammed N. ISLAM OMNI 0105 PUSP2 1876

109543 7590 09/17/2018
Brooks, Kushman P.C./Cheetah Omni MedSci
1000 Town Center
Twenty Second Floor
Southfield, MI 48075

EXAMINER

RAHMAN, MD M

ART UNIT PAPER NUMBER

2886

NOTIFICATION DATE DELIVERY MODE

09/17/2018

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@brookskushman.com

<b>Corrected Notice of Allowability</b>	<b>Application No.</b> 15/594,053	<b>Applicant(s)</b> ISLAM, MOHAMMED N.	
	<b>Examiner</b> MD M. RAHMAN	<b>Art Unit</b> 2886	<b>AIA (First Inventor to File) Status</b> No

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to 9/11/18.  
 A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on \_\_\_\_\_.
2.  An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_\_; the restriction requirement and election have been incorporated into this action.
3.  The allowed claim(s) is/are 1, 5-9, 12-14 and 18-21. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see [http://www.uspto.gov/patents/init\\_events/pph/index.jsp](http://www.uspto.gov/patents/init_events/pph/index.jsp) or send an inquiry to PPHfeedback@uspto.gov.
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

**Certified copies:**

- a)  All    b)  Some    \*c)  None of the:
1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.  
 including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Examiner's Amendment/Comment                  |
| 2. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____ | 6. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| 3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material         | 7. <input type="checkbox"/> Other _____.                                  |
| 4. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____.                             |   |

/MD M RAHMAN/  
Primary Examiner, Art Unit 2886

Receipt date: 09/11/2018

15/594,053 - GAU: 2886

Doc code: IDS

PTO/SB/08a (02-18)

Doc description: Information Disclosure Statement (IDS) Filed

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number	15594053
	Filing Date	2017-05-12
	First Named Inventor	Mohammed N. ISLAM
	Art Unit	2886
	Examiner Name	MD M Rahman
	Attorney Docket Number	OMNI 0105 PUSP2

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Examiner Initial*	Cite No	Patent Number	Kind Code <sup>1</sup>	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	
	1	5368224	A	1994-11-29	Richardson et al.		
	2	5746206	A	1998-05-05	Mannheimer		
	3	5795300	A	1998-08-18	Bryars		
	4	5919134	A	1999-07-06	Diab		
	5	6031603	A	2000-02-29	Fine et al		
	6	6325978	B1	2001-12-04	Labuda et al.		
	7	6701170	B2	2004-03-02	Stetson		
	8	6708048	B1	2004-03-16	Chance		

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9	6731967	B1	2004-05-04	Turcott
10	6916096	B2	2005-07-12	Eberl et al.
11	7184148	B2	2007-02-27	Alphonse
12	7332784	B2	2008-02-19	Mills et al.
13	7468036	B1	2008-12-23	Rulkov et al.
14	7648463	B1	2010-01-19	Elhag et al.
15	8172761	B1	2012-05-08	Rulkov et al.
16	8180591	B2	2012-05-15	Yuen et al.
17	8310336	B2	2012-11-13	Muhsin et al.
18	8315682	B2	2012-11-20	Such et al.
19	8463576	B2	2013-06-11	Yuen et al.

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20	8475367	B1	2013-07-02	Yuen et al.
21	8755871	B2	2014-06-17	Weng et al.
22	8945017	B2	2015-02-03	Venkatraman et al.
23	8954135	B2	2015-02-10	Yuen et al.
24	9142117	B2	2015-09-22	Muhsin et al.
25	9179876	B2	2015-11-10	Ochs et al.
26	9192329	B2	2015-11-24	Al-Ali
27	9241676	B2	2016-01-26	Lisogurski et al.
28	9596990	B2	2017-03-21	Park et al.
29	9651533	B2	2017-05-16	Islam
30	9675250	B2	2017-06-13	Tverskoy

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31	9757040	B2	2017-09-12	Islam
32	9820658	B2	2017-11-21	Tran
33	9861286	B1	2018-01-09	Islam
34	9885698	B2	2018-02-06	Islam
35	RE44875	E	2014-04-29	Kiani et al.

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**U.S.PATENT APPLICATION PUBLICATIONS**

Examiner Initial*	Cite No	Publication Number	Kind Code <sup>1</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	20050049468	A1	2005-03-03	Carlson et al.	
	2	20050209516	A1	2005-09-22	Fraden	
	3	20110237911	A1	2011-09-29	Lamego et al.	
	4	20120203077	A1	2012-08-09	He et al.	



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5	20120310062	A1	2012-12-06	Li et al.
6	20130303921	A1	2013-11-14	CHU et al.

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**FOREIGN PATENT DOCUMENTS**

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	1	2005270544	JP	A	2005-10-06	Seiko Instruments Inc.		

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**NON-PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>5</sup>
	1	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit A), 66 pps	
	2	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit B), 73 pps	
	3	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit C), 85 pps	
	4	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit D), 38 pps	

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	Attorney Docket Number		OMNI 0105 PUSP2

5	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit E), 120 pps
6	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit F), 40 pps
7	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit G), 66 pps
8	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit H), 74 pps
9	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit I), 102 pps
10	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit J), 64 pps
11	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit K), 77 pps
12	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit L), 64 pps
13	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit M), 119 pps
14	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit N), 50 pps
15	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit O), 63 pps

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16	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit P), 78 pps
17	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit Q), 69 pps
18	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit R), 61 pps
19	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit S), 50 pps
20	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit T), 174 pps
21	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit U), 334 pps
22	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit V), 137 pps
23	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit W), 384 pps
24	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit X), 291 pps
25	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit Y), 120 pps
26	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit Z), 53 pps

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27	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit AA), 75 pps
28	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit BB), 65 pps
29	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit CC), 320 pps
30	OMNI MEDSCI, INC. V. APPLE INC.; Case No. 2:18-cv-134-RWS (E.D. Tex.); Defendant's Invalidation Contentions, August 28, 2018 (Exhibit DD), 240 pps
31	RHEE et al., Artifact-Resistant Power-Efficient Design of Finger-Ring Plethysmographic Sensors, IEEE Transactions on Biomedical Engineering (July 2001), Vol. 48, No. 7, Cambridge, MA, 11 pages.
32	BRANCHE et al., Signal Quality and Power Consumption of a New Prototype Reflectance Pulse Oximeter Sensor, Proceedings of the IEEE 31st Annual Northeast Bioengineering Conference (2005), Hoboken, NJ, 2 pages.
33	PELÁEZ, LED Power Reduction Trade-Offs for Ambulatory Pulse Oximetry, Conference Proceedings of the 29th Annual International Conference of the IEEE EMBS (August 2007) Lyon, France, 4 pages.
34	LUO et al., A Non-Invasive Dual-Channel Oximeter Based on Near-Infrared Spectroscopy (NIRS), Biophotonics Lab, Center of Advanced Research in Photonics (2007), The Chinese University of Hong Kong, China, 2 pages.
35	ASADA et al., The MIT Ring: History, Technology, and Challenges of Wearable Health Monitoring, MIT Industrial Liaison Program (2010) R&D Conference, MA, 72 pages.
36	ASADA et al., Mobile Monitoring with Wearable Photoplethysmographic Biosensors, Technical and Clinical Aspects of a Ring Sensor for Ambulatory, Telemetric, Continuous Health Monitoring in the Field, in the Hospital, and in the Home, IEEE Engineering in Medicine and Biology Magazine, (May/June 2003) 13 pages.
37	SCHREINER et al., Blood Oxygen Level Measurement with a Chest-Based Pulse Oximetry Prototype System, Computing in Cardiology (2010) NIBEC, University of Ulster, Newtownabbey, Northern Ireland, 4 pages.

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38	GE HEALTHCARE, TuffSat User's Guide and Service Manual Electromagnetic Compatibility (EMC), (March 2005) Helsinki, Finland, 43 pages.
39	KURYLYAK et al., Smartphone-Based Photoplethysmogram Measurement, Department of Electronics, Computer and System Sciences, (2012) River Publishers, University of Calabria, Italy, 30 pages.
40	PATTERSON et al., Ratiometric Artifact Reduction in Low Power Reflective Photoplethysmography, (August 2011) IEEE Transactions on Biomedical Circuits and Systems, Vol. 5, No. 4, 9 pages.
41	CAI et al., Implementation of a Wireless Pulse Oximeter Based on Wrist Band Sensor, College of Biological Science and Medical Engineering Southeast University, (2010) 3rd International Conference on Biomedical Engineering and Informatics, Nanjing, China, 4 pages.
42	YAMAHA, BODiBEAT, Body, Music, In Sync., BF-1 Quick Guide, Player/Heart Rate Monitor: Quick Manual, 120 pages.
43	GE HEALTHCARE, GE Ohmeda TuffSat Oximeter for Clinicians on the go, (2012), A General Electric Co., www.gehealthcare.com, GE, Finland, 4 pages.
44	WANG et al., Multichannel Reflective PPG Earpiece Sensor with Passive Motion Cancellation, (December 2007) IEEE Transactions on Biomedical Circuits and Systems, Vol. 1, No. 4, 7 pages.
45	WEBSTER, Design of Pulse Oximeters, Medical Science Series (1997), Department of Electrical and Computer Engineering, University of Wisconsin- Madison, Institute of Physics Publishing, Bristol and Philadelphia, 267 pages.
46	TAOS, INC., Infrared Light-to-Voltage Optical Sensors, (2006) Texas Advanced Optoelectronic Solutions Inc., The Lumenology Company, TX, 14 pages.
47	JUNG et al., Design of A Low-Power Consumption Wearable Reflectance Pulse Oximetry for Ubiquitous Healthcare System, International Conference on Control, Automation and Systems (October 2008), in COEX, Seoul, Korea, 4 pages.
48	EMBEDDED-LAB, Introducing Easy Pulse: A DIY Photoplethysmographic Sensor for Measuring Hearth Rate, posted on www.Embedded-Lab.com September 12, 2012, by R-B, 10 pages.

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50		MORÓN et al, A Wireless Monitoring System for Pulse-Oximetry Sensors, (2005) Electronic Technology Department, University of Málaga, Spain, 6 pages.

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**EXAMINER SIGNATURE**

Examiner Signature	/MD M RAHMAN/	Date Considered	09/12/2018
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. <sup>2</sup> Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>3</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>4</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>5</sup> Applicant is to place a check mark here if English language translation is attached.

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	Examiner Name	MD M Rahman	
	Attorney Docket Number		OMNI 0105 PUSP2

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Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

**OR**

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See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

**SIGNATURE**

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/David S. Bir/	Date (YYYY-MM-DD)	2018-09-11
Name/Print	David S. Bir	Registration Number	38383

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.



Receipt date: 09/11/2018

15/594,053 - GAU: 2886

Doc code: IDS

PTO/SB/08a (02-18)

Doc description: Information Disclosure Statement (IDS) Filed

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	Attorney Docket Number	OMNI 0105 PUSP2

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number		15594053
	Filing Date		2017-05-12
	First Named Inventor	Mohammed N. ISLAM	
	Art Unit		2886
	Examiner Name	MD M Rahman	
	Attorney Docket Number		OMNI 0105 PUSP2

1	LI et al, A Wireless Reflective Pulse Oximeter with Digital Baseline Control for Unfiltered Photoplethysmograms, (June 2012) IEEE Transactions on Biomedical Circuits and Systems, Vol. 6, No. 3, 10 pages.
2	HUMPHREYS et al., Noncontact Simultaneous Dual Wavelength Photoplethysmography: A Further Step Toward Noncontact Pulse Oximetry, (2007) Review of Scientific Instruments 78, 044304, American Institute of Physics, 6 pages.
3	MENDELSON et al., A Wearable Reflectance Pulse Oximeter for Remote Physiological Monitoring, (Aug./Sept. 2006) Proceedings of the 28th IEEE EMBS Annual International Conference New York City, NY, 4 pages.
4	UNITED STATES DISTRICT COURT EASTERN DISTRICT OF TEXAS MARSHALL DIVISION; Omni Medsci, Inc. vs. Apple Inc.; Civil Action No. 2:18-cv-00134 Jury Trial Demanded; Defendant's Invalidity Contentions; August 28, 2018; 33 pps

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**EXAMINER SIGNATURE**

Examiner Signature	/MD M RAHMAN/	Date Considered	09/12/2018
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> See Kind Codes of USPTO Patent Documents at [www.USPTO.GOV](http://www.USPTO.GOV) or MPEP 901.04. <sup>2</sup> Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>3</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>4</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>5</sup> Applicant is to place a check mark here if English language translation is attached.

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number		15594053
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	Examiner Name	MD M Rahman	
	Attorney Docket Number		OMNI 0105 PUSP2

**CERTIFICATION STATEMENT**

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

**OR**

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

**SIGNATURE**

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/David S. Bir/	Date (YYYY-MM-DD)	2018-09-11
Name/Print	David S. Bir	Registration Number	38383

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

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3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

<b>Electronic Acknowledgement Receipt</b>	
<b>EFS ID:</b>	33684067
<b>Application Number:</b>	15594053
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	1876
<b>Title of Invention:</b>	SYSTEM CONFIGURED FOR MEASURING PHYSIOLOGICAL PARAMETERS
<b>First Named Inventor/Applicant Name:</b>	Mohammed N. ISLAM
<b>Customer Number:</b>	109543
<b>Filer:</b>	David S. Bir/Pamela Demos
<b>Filer Authorized By:</b>	David S. Bir
<b>Attorney Docket Number:</b>	OMNI 0105 PUSP2
<b>Receipt Date:</b>	11-SEP-2018
<b>Filing Date:</b>	12-MAY-2017
<b>Time Stamp:</b>	18:21:26
<b>Application Type:</b>	Utility under 35 USC 111(a)

**Payment information:**

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$1020
RAM confirmation Number	091218INTEFSW00005302023978
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	15594053			
<b>Filing Date:</b>	12-May-2017			
<b>Title of Invention:</b>	SYSTEM CONFIGURED FOR MEASURING PHYSIOLOGICAL PARAMETERS			
<b>First Named Inventor/Applicant Name:</b>	Mohammed N. ISLAM			
<b>Filer:</b>	David S. Bir/Pamela Demos			
<b>Attorney Docket Number:</b>	OMNI 0105 PUSP2			
Filed as Small Entity				
<b>Filing Fees for Utility under 35 USC 111(a)</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
PETITION FEE-37CFR 1.17(H) (GROUP II)	2464	1	70	70
RCE- 2ND AND SUBSEQUENT REQUEST	2820	1	950	950
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				

Adjustment date: 09/19/2018 SDIRETA1  
 09/12/2018 INTEFSW 00005302 023978 15594053  
 02 FC:2820 950.00 CR



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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/594,053	10/23/2018	10105059	OMNI 0105 PUSP2	1876

109543      7590      10/03/2018  
Brooks, Kushman P.C./Cheetah Omni MedSci  
1000 Town Center  
Twenty Second Floor  
Southfield, MI 48075

**ISSUE NOTIFICATION**

The projected patent number and issue date are specified above.

**Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)**  
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Mohammed N. ISLAM, Ann Arbor, MI;  
OMNI MEDSCI, INC., Ann Arbor, MI;

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**REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL  
 (Submitted Only via EFS-Web)**

Application Number	15594053	Filing Date	2017-05-12	Docket Number (if applicable)	OMNI 0105 PUSP2	Art Unit	2886
First Named Inventor	Mohammed N. ISLAM			Examiner Name	MD M Rahman		

**This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.**  
 Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

**SUBMISSION REQUIRED UNDER 37 CFR 1.114**

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

Consider the arguments in the Appeal Brief or Reply Brief previously filed on \_\_\_\_\_

Other \_\_\_\_\_

Enclosed

Amendment/Reply

Information Disclosure Statement (IDS)

Affidavit(s)/ Declaration(s)

Other \_\_\_\_\_

**MISCELLANEOUS**

Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months \_\_\_\_\_  
 (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

Other \_\_\_\_\_

**FEES**

**The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.**  
 The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 023978

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED**

Patent Practitioner Signature  
 Applicant Signature



Doc code: RCEX

Doc description: Request for Continued Examination (RCE)

PTO/SB/30EFS (07-09)

Approved for use through 07/31/2012. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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Signature of Registered U.S. Patent Practitioner			
Signature	David S. Bir/	Date (YYYY-MM-DD)	2018-10-21
Name	David S. Bir	Registration Number	38383

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1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

**Remarks**

Applicant has amended various claims and added new dependent claims to more particularly point out the claimed subject matter. In particular, Claims 1, 5, 6, 9, 12, and 13 have been amended and Claims 22-28 have been added. Claims 1, 5-9, 12-14, and 18-28 are pending, with claims 1, 6, and 12 being independent. No new subject matter has been added.

Consideration of the application as amended is respectfully requested. The Examiner is requested to telephone the undersigned to discuss prompt resolution of any issues that may advance prosecution to allowance.

The RCE fee has been paid. No additional fee is believed be due as a result of filing this paper. However, please charge any fees or credit any overpayments as a result of the filing of this paper to Deposit Account No. 02-3978.

Respectfully submitted,

**Mohammed N. ISLAM**

By: /David S. Bir/

David S. Bir

Reg. No. 38,383

Attorney/Agent for Applicant

Date: October 21, 2018

**BROOKS KUSHMAN P.C.**  
1000 Town Center, 22nd Floor  
Southfield, MI 48075-1238  
Phone: 248-358-4400  
Fax: 248-358-3351

## **Amendments to the Claims:**

*This listing of claims will replace all prior versions, and listings, of claims in the application:*

1. (Currently Amended) A system comprising:

a light source comprising a plurality of light emitting diodes, each of the light emitting diodes configured to generate an output optical beam having one or more optical wavelengths, wherein at least a portion of the one or more optical wavelengths is a near-infrared wavelength between 700 nanometers and 2500 nanometers;

a lens positioned to receive at least a portion of at least one of the output optical beams and to deliver a lens output beam to tissue;

~~a reflective surface positioned to receive and redirect at least a portion of light reflected from the tissue;~~

a detection system located to receive at least a portion of the lens output beam reflected from the tissue and configured to generate an output signal based on the received portion of the lens output beam reflected from the tissue, the output signal having a signal-to-noise ratio, wherein the detection system is further configured to be synchronized to the light source;

a personal device comprising a wireless receiver, a wireless transmitter, a display, a microphone, a speaker, one or more buttons or knobs, a microprocessor, and a touch screen, the personal device configured to receive and process at least a portion of the output signal, wherein the personal device is configured to store and display the processed output signal, and wherein at least a portion of the processed output signal is configured to be transmitted over a wireless transmission link; and

a remote device configured to receive over the wireless transmission link an output status comprising the at least a portion of the processed output signal, to process the received output status to generate processed data, and to store the processed data;

wherein the output signal is indicative of one or more physiological parameters, and the remote device is configured to store a history of at least a portion of the one or more physiological parameters over a specified period of time;

the light source configured to improve the signal-to-noise ratio of the output signal by increasing light intensity relative to an initial light intensity from at least one of the plurality of

light emitting diodes and by increasing pulse rate relative to an initial pulse rate of at least one of the plurality of light emitting diodes;

wherein the detection system includes a plurality of spatially separated detectors, wherein at least one analog to digital converter is coupled to at least one of the spatially separated detectors and is configured to generate at least two data signals, and the ~~system device~~ is configured to further improve the signal-to-noise ratio by differencing two of the at least two data signals; and

wherein the detection system further comprises one or more spectral filters positioned in front of at least some of the plurality of spatially separated detectors.

2. - 4. (Canceled)

5. (Currently Amended) The system of Claim 1 wherein the detection system is further configured to:

~~detect~~capture light while the light emitting diodes are off and generate a corresponding~~convert the captured light into a~~ first signal;

~~detect~~capture light while at least one of the light emitting diodes is on and generate a corresponding~~convert the captured light into a~~ second signal; and

further improve the signal-to-noise ratio of the output signal~~portion of the lens output beam reflected from the tissue~~ by differencing the first signal and the second signal.

6. (Currently Amended) A system for measuring one or more physiological parameters comprising:

a light source comprising a plurality of semiconductor sources that are light emitting diodes, each of the light emitting diodes configured to generate an output optical beam having one or more optical wavelengths, wherein at least a portion of the one or more optical wavelengths is a near-infrared wavelength between 700 nanometers and 2500 nanometers;

a lens configured to receive a portion of at least one of the output optical beams and to deliver a lens output beam to tissue;

a detection system configured to receive at least a portion of the lens output beam reflected from the tissue and to generate an output signal having a signal-to-noise ratio, wherein the detection system is configured to be synchronized to the light source;

a personal device comprising a wireless receiver, a wireless transmitter, a display, a microphone, a speaker, one or more buttons or knobs, a microprocessor and a touch screen, the personal device configured to receive and process at least a portion of the output signal, wherein the personal device is configured to store and display the processed output signal, and wherein at least a portion of the processed output signal is configured to be transmitted over a wireless transmission link;

a remote device configured to receive over the wireless transmission link an output status comprising the at least a portion of the processed output signal, to process the received output status to generate processed data, and to store the processed data;

wherein the output signal is indicative of one or more of the physiological parameters, and the remote device is configured to store a history of at least a portion of the one or more physiological parameters over a specified period of time;

the ~~system~~~~wearable device~~ configured to increase the signal-to-noise ratio by increasing light intensity of at least one of the plurality of semiconductor sources from an initial light intensity and by increasing a pulse rate of at least one of the plurality of semiconductor sources from an initial pulse rate of at least one of the plurality of semiconductor sources; and

the detection system further configured to:

~~generate a first signal responsive to capture light received while the light emitting diodes LEDs are off and convert the captured light into a first signal,~~

~~generate a second signal responsive to capture light received while at least one of the light emitting diodes LEDs is on and convert the captured light into a second signal, and~~

increase the signal-to-noise ratio by differencing the first signal and the second signal.

7. (Previously Presented) The system of Claim 6, wherein the detection system is located at a distance from a first one of the light emitting diodes and at a different distance from a second one of the light emitting diodes such that the detection system receives a third signal from the first light emitting diode and a fourth signal from the second light emitting diode.

8. (Previously Presented) The system of Claim 7, wherein the output signal is generated in part by comparing the third and fourth signals.

9. (Currently Amended) The system of Claim 6, further comprising a reflective surface configured to reflect ~~receive and redirect~~ at least a portion of light reflected from the tissue.

10. - 11. (Canceled)

12. (Currently Amended) A system comprising:

a light source comprising a plurality of semiconductor sources that are light emitting diodes, each of the light emitting diodes configured to generate an output optical beam having one or more optical wavelengths, wherein at least a portion of the one or more optical wavelengths is a near-infrared wavelength between 700 nanometers and 2500 nanometers;

a lens configured to receive at least a portion of at least one of the output optical beams and to deliver a lens output beam to tissue;

a reflective surface configured to receive and redirect at least a portion of light reflected from the tissue; ~~and~~

a detection system configured to receive at least a portion of the lens output beam reflected from the tissue and to generate an output signal having a signal-to-noise ratio, wherein the detection system is configured to be synchronized to the light source;

a personal device comprising a wireless receiver, a wireless transmitter, a display, a microphone, a speaker, one or more buttons or knobs, a microprocessor and a touch screen, the personal device configured to receive and process at least a portion of the output signal, wherein the personal device is configured to store and display the processed output signal, and wherein at least a portion of the processed output signal is configured to be transmitted over a wireless transmission link; and

a remote device configured to receive over the wireless transmission link an output status comprising the at least a portion of the processed output signal, to process the received output status to generate processed data, and to store the processed data;

wherein the output signal represents one or more physiological parameters, and the remote device is configured to store a history of at least a portion of the one or more physiological parameters over a specified period of time;

the ~~system~~ device configured to improve the signal-to-noise ratio by increasing light intensity from at least one of the light emitting diodes relative to an initial light intensity and by increasing a pulse rate of at least one of the light emitting diodes relative to an initial pulse rate; and

the detection system further configured to:

~~generate a first signal corresponding to~~ capture light detected while the light emitting diodes are off ~~and convert the captured light into a first signal,~~

~~generate a second signal corresponding to~~ capture light detected while at least one of the light emitting diodes is on ~~and convert the captured light into a second signal,~~ and

increase the signal-to-noise ratio by differencing the first signal and the second signal.

13. (Currently Amended) The system of Claim 12, wherein the detection system comprises at least one detector is located at a distance from a first one of the light emitting diodes and at a different distance from a second one of the light emitting diodes such that the at least one detector ~~detection system receives~~ generates a third signal from light from the first light emitting diode and a fourth signal from light from the second light emitting diode.

14. (Previously Presented) The system of Claim 13, wherein the output signal is generated in part by comparing the third and fourth signals.

15. - 17. (Canceled)

18. (Previously Presented) The system of Claim 12, wherein the remote device is further configured to transmit at least a portion of the processed data to one or more other locations, wherein the one or more other locations is selected from the group consisting of the personal device, a doctor, a healthcare provider, a cloud-based server, and one or more designated



recipients, and wherein the remote device is configured to transmit information related to a time and a position associated with the at least a portion of the processed data.

19. (Previously Presented) The system of Claim 12, wherein at least one of the light emitting diodes emits light having a bandwidth between 20 nanometers and 40 nanometers.

20. (Previously Presented) The system of Claim 12, further comprising one or more spectral filters positioned in front of one or more receivers of the detection system.

21. (Previously Presented) The system of Claim 1 wherein the output signal is generated by using a Fourier transform.

22. (New) The system of Claim 1 further comprising a reflective surface positioned to reflect at least a portion of light reflected from the tissue.

23. (New) The system of Claim 22, wherein the spatially separated detectors include at least one detector located at a distance from a first one of the light emitting diodes and at a different distance from a second one of the light emitting diodes, and is configured to generate a third signal responsive to light from the first light emitting diode and a fourth signal responsive to light from the second light emitting diode.

24. (New) The system of Claim 23, wherein the output signal is generated in part by comparing the third and fourth signals.

25. (New) The system of Claim 6 wherein the detection system comprises a plurality of spatially separated detectors.

26. (New) The system of claim 25 wherein at least one of the spatially separated detectors is located at a distance from a first one of the light emitting diodes and at a different distance from a second one of the light emitting diodes, and is configured to generate a third signal responsive to light from the first light emitting diode and a fourth signal responsive to light from the second light emitting diode.

27. (New) The system of claim 26 wherein the output signal is generated in part by comparing the third and fourth signals.

28. (New) The system of claim 27 further comprising a reflective surface positioned to reflect at least a portion of light reflected from the tissue.

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of:

Mohammed N. ISLAM

Serial No.: 15/594,053

Filed: May 12, 2017

For: SYSTEM CONFIGURED FOR MEASURING  
PHYSIOLOGICAL PARAMETERS (AS AMENDED)

Group Art Unit: 2884

Examiner: MD Rahman

Attorney Docket No.: OMNI0105PUSP2

**AMENDMENT FILED WITH RCE UNDER 37 C.F.R. § 1.114**

Commissioner for Patents  
U.S. Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450

Commissioner:

This amendment is being filed with a Request For Continued Examination. Please amend the above-identified application as shown below and reconsider and reexamine the application as amended.

Electronic Patent Application Fee Transmittal				
<b>Application Number:</b>	15594053			
<b>Filing Date:</b>	12-May-2017			
<b>Title of Invention:</b>	SYSTEM CONFIGURED FOR MEASURING PHYSIOLOGICAL PARAMETERS			
<b>First Named Inventor/Applicant Name:</b>	Mohammed N. ISLAM			
<b>Filer:</b>	David S. Bir			
<b>Attorney Docket Number:</b>	OMNI 0105 PUSP2			
Filed as Small Entity				
<b>Filing Fees for Utility under 35 USC 111(a)</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
PETITION FEE-37CFR 1.17(H) (GROUP II)	2464	1	70	70
RCE- 2ND AND SUBSEQUENT REQUEST	2820	1	950	950
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Post-Allowance-and-Post-Issuance:</b>				
<b>Extension-of-Time:</b>				
<b>Miscellaneous:</b>				
<b>Total in USD (\$)</b>				<b>1020</b>



## UNITED STATES PATENT AND TRADEMARK OFFICE

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Commissioner for Patents  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

Decision Date: October 21, 2018

In re Application of:

Mohammed ISLAM

DECISION ON PETITION

UNDER CFR 1.313(c)(2)

Application No: 15594053

Filed: 12-May-2017

Attorney Docket No: OMNI 0105 PUSP2

This is an electronic decision on the petition under 37 CFR 1.313(c)(2), filed October 21, 2018, to withdraw the above-identified application from issue after payment of the issue fee.

The petition is **GRANTED**.

The above-identified application is withdrawn from issue for consideration of a submission under 37 CFR 1.114 (request for continued examination). See 37 CFR 1.313(c)(2).

**Petitioner is advised that the issue fee paid in this application cannot be refunded. If, however, this application is again allowed, petitioner may request that it be applied towards the issue fee required by the new Notice of Allowance.**

Telephone inquiries concerning this decision should be directed to the Patent Electronic Business Center (EBC) at 866-217-9197.

This application file is being referred to Technology Center AU 2886 for processing of the request for continuing examination under 37 CFR 1.114.

Office of Petitions

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	34069097
<b>Application Number:</b>	15594053
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	1876
<b>Title of Invention:</b>	SYSTEM CONFIGURED FOR MEASURING PHYSIOLOGICAL PARAMETERS
<b>First Named Inventor/Applicant Name:</b>	Mohammed N. ISLAM
<b>Customer Number:</b>	109543
<b>Filer:</b>	David S. Bir
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	OMNI 0105 PUSP2
<b>Receipt Date:</b>	21-OCT-2018
<b>Filing Date:</b>	12-MAY-2017
<b>Time Stamp:</b>	23:29:20
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$ 1020
RAM confirmation Number	102218INTEFSW00007501023978
Deposit Account	023978
Authorized User	David Bir

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.16 (National application filing, search, and examination fees)

37 CFR 1.17 (Patent application and reexamination processing fees)

<b>File Listing:</b>					
<b>Document Number</b>	<b>Document Description</b>	<b>File Name</b>	<b>File Size(Bytes)/ Message Digest</b>	<b>Multi Part /.zip</b>	<b>Pages (if appl.)</b>
1	Petition automatically granted by EFS	petition-request.pdf	31474	no	2
			6a90064594c6175b9cc8438823b871e9a07f678f		
<b>Warnings:</b>					
<b>Information:</b>					
2	Request for Continued Examination (RCE)	RCE.PDF	841920	no	3
			e8bc452e67dabf05040796e32439eef1fe3f492d		
<b>Warnings:</b>					
<b>Information:</b>					
3		RCE-Amend.pdf	54210	yes	9
			5d06c921f1150cedc8cf3456eb793f80fcea0a2f5		
	<b>Multipart Description/PDF files in .zip description</b>				
	<b>Document Description</b>		<b>Start</b>	<b>End</b>	
	Applicant Arguments/Remarks Made in an Amendment		9	9	
	Claims		2	8	
	Amendment Submitted/Entered with Filing of CPA/RCE		1	1	
<b>Warnings:</b>					
<b>Information:</b>					
4	Fee Worksheet (SB06)	fee-info.pdf	31901	no	2
			9de4e60fa6aadfb290a5e5f3a6f5efc364b86893		
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>			959505		



**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

Electronic Petition Request	<b>PETITION TO WITHDRAW AN APPLICATION FROM ISSUE AFTER PAYMENT OF THE ISSUE FEE UNDER 37 CFR 1.313(c)</b>
Application Number	15594053
Filing Date	12-May-2017
First Named Inventor	Mohammed ISLAM
Art Unit	2886
Examiner Name	MD RAHMAN
Attorney Docket Number	OMNI 0105 PUSP2
Title	SYSTEM CONFIGURED FOR MEASURING PHYSIOLOGICAL PARAMETERS

An application may be withdrawn from issue for further action upon petition by the applicant. To request that the Office withdraw an application from issue, applicant must file a petition under this section including the fee set forth in § 1.17(h) and a showing of good and sufficient reasons why withdrawal of the application from issue is necessary.

APPLICANT HEREBY PETITIONS TO WITHDRAW THIS APPLICATION FROM ISSUE UNDER 37 CFR 1.313(c).

A grantable petition requires the following items:

- (1) Petition fee; and
- (2) One of the following reasons:
  - (a) Unpatentability of one or more claims, which must be accompanied by an unequivocal statement that one or more claims are unpatentable, an amendment to such claim or claims, and an explanation as to how the amendment causes such claim or claims to be patentable;
  - (b) Consideration of a request for continued examination in compliance with § 1.114 (for a utility or plant application only); or
  - (c) Express abandonment of the application. Such express abandonment may be in favor of a continuing application, but not a CPA under 37 CFR 1.53(d).

Petition Fee
<input checked="" type="radio"/> Small Entity
<input type="radio"/> Micro Entity
<input type="radio"/> Regular Undiscounted
Reason for withdrawal from issue

- One or more claims are unpatentable
- Consideration of a request for continued examination (RCE) (List of Required Documents and Fees)
- Applicant hereby expressly abandons the instant application (any attorney/agent signing for this reason must have power of attorney pursuant to 37 CFR 1.32(b)).

RCE request, submission, and fee.

I certify, in accordance with 37 CFR 1.4(d)(4) that :

The RCE request ,submission, and fee have already been filed in the above-identified application on

Are attached.

**THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES**

I certify, in accordance with 37 CFR 1.4(d)(4) that I am:

- An attorney or agent registered to practice before the Patent and Trademark Office who has been given power of attorney in this application.
- An attorney or agent registered to practice before the Patent and Trademark Office, acting in a representative capacity.
- A sole inventor
- A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application
- A joint inventor; all of whom are signing this e-petition

Signature	/David S. Bir/
Name	David S. Bir
Registration Number	38383

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>PATENT APPLICATION FEE DETERMINATION RECORD</b> Substitute for Form PTO-875	Application or Docket Number 15/594,053	Filing Date 05/12/2017	<input type="checkbox"/> To be Mailed
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ENTITY:    LARGE    SMALL    MICRO

**APPLICATION AS FILED - PART I**

	(Column 1)	(Column 2)	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 = *		x \$40 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 = *		x \$210 =	
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

**APPLICATION AS AMENDED - PART II**

	(Column 1)		(Column 2)	(Column 3)	RATE (\$)	ADDITIONAL FEE (\$)
<b>AMENDMENT</b>	10/21/2018		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	
	Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	x \$ 50 = 0
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0	x \$ 230 = 0
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
TOTAL ADD'L FEE						0

	(Column 1)		(Column 2)	(Column 3)	RATE (\$)	ADDITIONAL FEE (\$)
<b>AMENDMENT</b>			CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	
	Total (37 CFR 1.16(i))	*	Minus	**	=	x \$ 0 =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x \$ 0 =
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
TOTAL ADD'L FEE						

\* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

SLIE

\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

KAREN L VESTAL

\*\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

109543 7590 11/09/2018
Brooks, Kushman P.C./Cheetah Omni MedSci
1000 Town Center
Twenty Second Floor
Southfield, MI 48075

EXAMINER

RAHMAN, MD M

ART UNIT PAPER NUMBER

2886

DATE MAILED: 11/09/2018

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
15/594,053 05/12/2017 Mohammed N. ISLAM OMNI 0105 PUSP2 1876

TITLE OF INVENTION: SYSTEM CONFIGURED FOR MEASURING PHYSIOLOGICAL PARAMETERS

Table with 7 columns: APPLN. TYPE, ENTITY STATUS, ISSUE FEE DUE, PUBLICATION FEE DUE, PREV. PAID ISSUE FEE, TOTAL FEE(S) DUE, DATE DUE
nonprovisional SMALL \$500 \$0.00 \$500.00 \$0 02/11/2019

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

**PART B - FEE(S) TRANSMITTAL**

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE  
 Commissioner for Patents  
 P.O. Box 1450  
 Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

**INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

109543 7590 11/09/2018  
 Brooks, Kushman P.C./Cheetah Omni MedSci  
 1000 Town Center  
 Twenty Second Floor  
 Southfield, MI 48075

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

**Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/594,053	05/12/2017	Mohammed N. ISLAM	OMNI 0105 PUSP2	1876

TITLE OF INVENTION: SYSTEM CONFIGURED FOR MEASURING PHYSIOLOGICAL PARAMETERS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$500	\$0.00	\$500.00	\$0	02/11/2019

EXAMINER	ART UNIT	CLASS-SUBCLASS
RAHMAN, MD M	2886	356-300000

<p>1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).</p> <p><input type="checkbox"/> Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.</p> <p><input type="checkbox"/> "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. <b>Use of a Customer Number is required.</b></p>	<p>2. For printing on the patent front page, list</p> <p>(1) The names of up to 3 registered patent attorneys or agents OR, alternatively, _____ 1</p> <p>(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. _____ 2</p> <p>_____ 3</p>
---	---

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE \_\_\_\_\_ (B) RESIDENCE: (CITY and STATE OR COUNTRY) \_\_\_\_\_

Please check the appropriate assignee category or categories (will not be printed on the patent):  Individual  Corporation or other private group entity  Government

4a. Fees submitted:  Issue Fee  Publication Fee (if required)  Advance Order - # of Copies \_\_\_\_\_

4b. Method of Payment: (Please first reapply any previously paid fee shown above)

Electronic Payment via EFS-Web  Enclosed check  Non-electronic payment by credit card (Attach form PTO-2038)

The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. \_\_\_\_\_

5. Change in Entity Status (from status indicated above)

Applicant certifying micro entity status. See 37 CFR 1.29 **NOTE:** Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

Applicant asserting small entity status. See 37 CFR 1.27 **NOTE:** If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

Applicant changing to regular undiscounted fee status. **NOTE:** Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_ Registration No. \_\_\_\_\_



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO., EXAMINER, ART UNIT, PAPER NUMBER. Includes application details for Mohammed N. ISLAM and examiner RAHMAN, MD M.

DATE MAILED: 11/09/2018

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

## OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

### Privacy Act Statement

**The Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b) (2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.



<b>Notice of Allowability</b>	<b>Application No.</b> 15/594,053	<b>Applicant(s)</b> ISLAM, Mohammed N.	
	<b>Examiner</b> MD M RAHMAN	<b>Art Unit</b> 2886	<b>AIA Status</b> No

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to 10/21/18.  
 A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on \_\_\_\_\_.
2.  An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_\_; the restriction requirement and election have been incorporated into this action.
3.  The allowed claim(s) is/are 1,5-9,12-14 and 18-28. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see [http://www.uspto.gov/patents/init\\_events/pph/index.jsp](http://www.uspto.gov/patents/init_events/pph/index.jsp) or send an inquiry to [PPHfeedback@uspto.gov](mailto:PPHfeedback@uspto.gov).
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

**Certified copies:**

- a)  All      b)  Some      \*c)  None of the:
1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5.  CORRECTED DRAWINGS (as "replacement sheets") must be submitted.  
 including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.  
**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Examiner's Amendment/Comment                             |
| 2. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____.          | 6. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| 3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material _____. | 7. <input type="checkbox"/> Other _____.   |
| 4. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____.                            |  |

/MD M RAHMAN/  
Primary Examiner, Art Unit 2886

***Notice of Pre-AIA or AIA Status***

The present application is being examined under the pre-AIA first to invent provisions.

***Allowable Subject Matter***

Claims 1, 5-9, 12-14 and 18-28 are allowed.

The following is an examiner's statement of reasons for allowance:

As to claim 1, the prior arts alone or in combination fail to disclose the claimed limitations such as, "a remote device configured to receive over the wireless transmission link an output status comprising the at least a portion of the processed output signal, to process the received output status to generate processed data, and to store the processed data;

wherein the output signal is indicative of one or more physiological parameters, and the remote device is configured to store a history of at least a portion of the one or more physiological parameters over a specified period of time;

the light source configured to improve the signal-to-noise ratio of the output signal by increasing light intensity relative to an initial light intensity from at least one of the plurality of light emitting diodes and by increasing pulse rate relative to an initial pulse rate of at least one of the plurality of light emitting diodes;

wherein the detection system includes a plurality of spatially separated detectors, wherein at least one analog to digital converter is coupled to the spatially separated detectors and is configured to generate at least two data signals, and the

device is configured to further improve the signal-to-noise ratio by differencing the two data signals; and

wherein the detection system further comprises one or more spectral filters positioned in front of at least some of the plurality of spatially separated detectors” along with all other limitations of the claim.

As to claims 6 and 12, the prior arts alone or in combination fail to disclose the claimed limitations such as, “a detection system configured to receive at least a portion of the lens output beam reflected from the tissue and to generate an output signal having a signal-to-noise ratio, wherein the detection system is configured to be synchronized to the light source;

a remote device configured to receive over the wireless transmission link an output status comprising the at least a portion of the processed output signal, to process the received output status to generate processed data, and to store the processed data;

wherein the output signal is indicative of one or more of the physiological parameters, and the remote device is configured to store a history of at least a portion of the one or more physiological parameters over a specified period of time;

the wearable device configured to increase the signal-to-noise ratio by increasing light intensity of at least one of the plurality of semiconductor sources from an initial light intensity and by increasing a pulse rate from an initial pulse rate of at least one of the plurality of semiconductor sources; and

the detection system further configured to:

generate a first signal corresponding to light detected while the light

emitting diodes are off, generate a second signal corresponding to light detected while at least one of the light emitting diodes is on, and increase the signal-to-noise ratio by differencing the first signal and the second signal” along with all other limitations of the claim.

Claims 5, 7-9, 13-14 and 18-28 are allowable due to their dependencies.


**The closest references, Islam (US PG Pub 2009/0204110) (cited in the IDS filed by the applicant), Islam et al. (US 6381391) (cited in the IDS filed by the applicant), Holman (US PG Pub 2007/0078348) (cited in the IDS filed by the applicant) and Waarts et al. (US 6212310 B1) (cited in the IDS filed by the applicant) alone or in combination disclose some features of the claimed invention but do not disclose the claimed invention.**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MD M RAHMAN whose telephone number is (571)272-9175. The examiner can normally be reached on Mon-Thur.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TARIFUR CHOWDHURY can be reached on 571-272-2287. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MD M RAHMAN/  
Primary Examiner, Art Unit 2886

<b>Search Notes</b> 	<b>Application/Control No.</b> 15/594,053	<b>Applicant(s)/Patent Under Reexamination</b> ISLAM, Mohammed N.
	<b>Examiner</b> MD M RAHMAN	<b>Art Unit</b> 2886

<b>CPC - Searched*</b>		
<b>Symbol</b>	<b>Date</b>	<b>Examiner</b>
G 01J 3/02 G 01J 3/28 G 01J 3/42, G 01N 21/31, G 01N 21/552	10/28/2018	MR

<b>CPC Combination Sets - Searched*</b>		
<b>Symbol</b>	<b>Date</b>	<b>Examiner</b>


<b>US Classification - Searched*</b>			
<b>Class</b>	<b>Subclass</b>	<b>Date</b>	<b>Examiner</b>
356	300	10/28/2018	MR

\* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

<b>Search Notes</b>		
<b>Search Notes</b>	<b>Date</b>	<b>Examiner</b>
INVENTOR SEARCH, US PG PUB AND PAT	4/20/18	MR
CONSULTED WITH BRAIN SIRCUS (TQAS)	4/20/18	MR


<b>Interference Search</b>			
<b>US Class/CPC Symbol</b>	<b>US Subclass/CPC Group</b>	<b>Date</b>	<b>Examiner</b>
G 01J 3/02	G 01J 3/28 G 01J 3/42, G 01N 21/31, G 01N 21/552	10/28/2018	MR

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<b>Issue Classification</b> 	<b>Application/Control No.</b> 15/594,053	<b>Applicant(s)/Patent Under Reexamination</b> ISLAM, Mohammed N.
	<b>Examiner</b> MD M RAHMAN	<b>Art Unit</b> 2886

CPC				Type	Version	
Symbol						
A61B	/	5	/	0088	F	2013-01-01
G16H	/	40	/	67	I	2018-01-01
A61B	/	5	/	0086	I	2013-01-01
A61B	/	5	/	0022	I	2013-01-01
A61B	/	5	/	0013	I	2013-01-01
A61B	/	5	/	14532	I	2013-01-01
A61B	/	5	/	4547	I	2013-01-01
A61B	/	5	/	14546	I	2013-01-01
G01J	/	3	/	14	I	2013-01-01
A61B	/	5	/	1455	I	2013-01-01
A61B	/	5	/	0075	I	2013-01-01
G01N	/	33	/	15	I	2013-01-01
G01N	/	33	/	49	I	2013-01-01
G01J	/	3	/	108	I	2013-01-01
G01J	/	3	/	28	I	2013-01-01
G01N	/	33	/	442	I	2013-01-01
G01N	/	33	/	02	I	2013-01-01
G01N	/	21	/	3563	I	2013-01-01
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A61B	/	5	/	7257	I	2013-01-01
G01J	/	3	/	0218	I	2013-01-01
A61B	/	5	/	6801	I	2013-01-01
G01N	/	33	/	025	I	2013-01-01
A61B	/	5	/	742	I	2013-01-01
A61B	/	5	/	7405	I	2013-01-01
G06F	/	19	/	00	I	2013-01-01
G01J	/	3	/	453	I	2013-01-01

NONE	<b>Total Claims Allowed:</b>	
(Assistant Examiner)	(Date)	20
/MD M RAHMAN/ Primary Examiner, Art Unit 2886	28 October 2018	O.G. Print Claim(s)
(Primary Examiner)	(Date)	1
		O.G. Print Figure
		21


<b>Issue Classification</b> 	<b>Application/Control No.</b> 15/594,053	<b>Applicant(s)/Patent Under Reexamination</b> ISLAM, Mohammed N.
	<b>Examiner</b> MD M RAHMAN	<b>Art Unit</b> 2886

CPC				Type	Version	
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A61B	/	2576	/	02	A	2013-01-01
A61B	/	2562	/	0238	A	2013-01-01
G01J	/	3	/	1838	A	2013-01-01
G01J	/	2003	/	2826	A	2013-01-01
H01S	/	3	/	302	A	2013-01-01
G01N	/	2201	/	061	A	2013-01-01
G01N	/	2201	/	12	A	2013-01-01
G01J	/	2003	/	104	A	2013-01-01
G01N	/	2201	/	062	A	2013-01-01
G01N	/	2021	/	399	A	2013-01-01
G01M	/	3	/	38	A	2013-01-01
G01N	/	2201	/	08	A	2013-01-01
G01N	/	21	/	85	A	2013-01-01
G01N	/	21	/	9508	A	2013-01-01
H01S	/	3	/	06758	A	2013-01-01
H01S	/	3	/	0092	A	2013-01-01
G01N	/	2201	/	129	A	2013-01-01
G01J	/	2003	/	1208	A	2013-01-01
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G01N	/	2201	/	06113	A	2013-01-01

CPC Combination Sets				
Symbol	Type	Set	Ranking	Version
/	/	/		

NONE	<b>Total Claims Allowed:</b>	
(Assistant Examiner)	(Date)	20
/MD M RAHMAN/ Primary Examiner, Art Unit 2886	28 October 2018	O.G. Print Claim(s)
(Primary Examiner)	(Date)	1
		O.G. Print Figure
		21



<b>Issue Classification</b> 	<b>Application/Control No.</b> 15/594,053	<b>Applicant(s)/Patent Under Reexamination</b> ISLAM, Mohammed N.
	<b>Examiner</b> MD M RAHMAN	<b>Art Unit</b> 2886


<b>INTERNATIONAL CLASSIFICATION</b>			
<b>CLAIMED</b>			
G01J		3	00

<b>NON-CLAIMED</b>			

<b>US ORIGINAL CLASSIFICATION</b>	
<b>CLASS</b>	<b>SUBCLASS</b>
356	300

<b>CROSS REFERENCES(S)</b>						
<b>CLASS</b>	<b>SUBCLASS (ONE SUBCLASS PER BLOCK)</b>					


NONE		<b>Total Claims Allowed:</b>	
(Assistant Examiner)	(Date)	20	
/MD M RAHMAN/ Primary Examiner, Art Unit 2886	28 October 2018	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	21

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	<b>Examiner</b> MD M RAHMAN	<b>Art Unit</b> 2886

Claims renumbered in the same order as presented by applicant
  CPA
  T.D.
  R.1.47

CLAIMS															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1		10	19	19	14	28								
	2		11	20	20										
	3	15	12	3	21										
	4	16	13	4	22										
2	5	17	14	5	23										
7	6		15	6	24										
8	7		16	11	25										
9	8		17	12	26										
10	9	18	18	13	27										

NONE			<b>Total Claims Allowed:</b>
(Assistant Examiner)	(Date)		20
/MD M RAHMAN/ Primary Examiner, Art Unit 2886	28 October 2018	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	21

<b><i>Index of Claims</i></b> 	<b>Application/Control No.</b> 15/594,053	<b>Applicant(s)/Patent Under Reexamination</b> ISLAM, Mohammed N.
	<b>Examiner</b> MD M RAHMAN	<b>Art Unit</b> 2886

✓	<b>Rejected</b>
=	<b>Allowed</b>

-	<b>Cancelled</b>
÷	<b>Restricted</b>

N	<b>Non-Elected</b>
I	<b>Interference</b>

A	<b>Appeal</b>
O	<b>Objected</b>

CLAIMS										
<input type="checkbox"/> Claims renumbered in the same order as presented by applicant <input type="checkbox"/> CPA <input checked="" type="checkbox"/> T.D. <input type="checkbox"/> R.1.47										
CLAIM			DATE							
Final	Original	04/20/2018								
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	3	-								
	4	-								
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13	27	=								
14	28	=								

**EAST Search History**

**EAST Search History (Prior Art)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	0	"14717896"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/21 18:43
S2	2	"20150338580"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/21 18:51
S3	3	"20050168751"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/21 18:59
S4	0	"2015320318"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/21 22:23
S5	2	"20150320318"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/21 22:24
S6	4223	optical with inner with measur\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/21 22:34
S7	190	S6 and ((target object sample ) with probe)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/21 22:34
S8	80	S7 and (interferen\$3 and fiber)	US-PGPUB;	OR	OFF	2016/06/21

EAST Search History

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			22:35
S9	10	S8 and ((detect\$3 sensor) and rotat\$3 and displac\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/21 22:36
S10	5420	catheter and probe and fiber and interference	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/21 22:36
S11	2203	S10 and ((target object sample ) with probe)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/21 22:36
S12	1830	S10 and ((target object sample ) with probe and human)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/21 22:37
S13	260	S12 and ((detect\$3 sensor) and rotat\$3 and displac\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/21 22:37
S14	20	S13 and (rotation with shaft same motor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/21 22:37
S15	0	S14 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/21 22:40
S16	41	S13 and (rotation with shaft and motor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2016/06/21 22:41

EAST Search History

			IBM_TDB			
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S18	1	"20100105980"	DERWENT	OR	OFF	2016/06/22 10:43
S19	7	"20100105980"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 10:43
S20	211	optical adj imaging adj probe	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 10:47
S21	18	S20 and ((detect\$3 sensor) and rotat\$3 and displac\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 10:47
S22	6	"20090079993"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 10:50
S23	4223	optical with inner with measur\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 13:04
S24	281	S23 and (fiber with tube)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 13:04
S25	41	S24 and ((prism mirror) with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 13:04
S26	13	S25 and ((rotation rotating) with fiber with (prism mirror))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2016/06/22 13:05

EAST Search History

			IBM_TDB			
S27	110	NAMIKI adj SEIMITSU adj HOUSEKI adj KABUSHIKI adj KAISHA	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 13:07
S28	0	S27 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 13:07
S29	7	S27 and ((rotation rotating) with fiber with (prism mirror))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 13:08
S30	4	S27 and (probe with imaging)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 13:10
S31	2	"20110164255"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 14:01
S32	3	"20130308117"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 14:02
S33	1576	displace\$4 with detect\$3 with measur\$3 with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 16:37
S34	0	S33 and (probe with imaging)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 16:37
S35	16	S33 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2016/06/22 16:37

EAST Search History

			EPO; JPO; DERWENT; IBM_TDB			
S36	2453	detect\$3 with measur\$3 with amount with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 16:43
S37	15	S36 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 16:43
S38	13	(rotation near2 detector) and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 16:45
S39	44283	(detect\$3 sensor) with measur\$3 with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 16:48
S40	106	S39 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 16:48
S41	1458	(detect\$3 sensor) with measur\$3 with rotation near3 amount	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 16:51
S42	6	S41 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 16:51
S43	2339	advantage near3 rotation with detect\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 17:04
S44	0	S43 and (optical with inner with measur\$3)	US-PGPUB; USPAT;	OR	OFF	2016/06/22 17:04



EAST Search History

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S45	5	S43 and ( inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 17:04
S46	1407	rotation with shaft and ( dynamic with pressure with bearing same groove)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 18:16
S47	49	S46 and ( inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 18:17
S48	3199	dynamic adj pressure with bearing with dynamic with groove	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 18:33
S49	60	S48 and ( inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 18:33
S50	1370	dynamic adj pressure with bearing with dynamic near2 groove	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 18:38
S51	19	S50 and ( inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 18:38
S52	10	S50 and (probe and measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 20:01

EAST Search History

S53	1080321	rotation with shaft	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 20:16
S54	21271	rotation with shaft near3 hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 20:16
S55	21	S54 and ((prism mirror) with rotation same fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/22 20:17
S56	1706090	fiber with fixation with non\$1 rotatably	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 10:24
S57	550394	fiber with fixation with non\$1 rotatably same rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 10:24
S58	61	S57 and optical with inner with measur\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 10:24
S59	61	S57 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 10:25
S60	2	"20150219436"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 10:46
S61	33736	rotation with shaft with hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2016/06/23 10:47

			DERWENT; IBM_TDB			
S62	62	S61 and (fiber with rotatable)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 10:47
S63	382	S61 and (fiber with rotat\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 10:47
S64	0	S63 and (actuator with slide with axis)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 10:48
S65	10	S63 and (actuator with axis)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 10:48
S66	0	S63 and (actuator with press with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 10:48
S67	56	(actuator with press with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 10:49
S68	3	S67 and (rotation with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 10:49
S69	115	direct with actuator with fiber	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 10:51
S70	0	S69 and (rotation with shaft with hollow)	US-PGPUB; USPAT; USOCR;	OR	OFF	2016/06/23 10:51

EAST Search History

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S71	0	S69 and (rotation with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 10:52
S72	86707	rotation with hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 10:57
S73	66	S72 and (motor near3 hollow with back)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 10:57
S74	8	S73 and actuator	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 10:57
S75	0	S73 and (fiber and (mirror prism))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 11:07
S76	651	S72 and (fiber and (mirror prism))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 11:08
S77	111	S76 and (motor with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 11:08
S78	708	direct with actuator with slid\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 14:04
S79	3	S78 and (fiber with hollow)	US-PGPUB;	OR	OFF	2016/06/23

EAST Search History

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			14:04
S80	93293	actuator with slid\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 14:04
S81	171	S80 and (fiber with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 14:05
S82	0	S81 and (simultaneously with lightZZ)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 14:05
S83	2	S81 and (simultaneously with light)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 14:05
S84	8	S81 and (press and pulls)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 14:07
S85	1	S81 and (slide with axial)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 14:24
S86	3841	S80 and (slide with axial)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 14:32
S87	9	S86 and (fiber same hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2016/06/23 14:32

EAST Search History

			IBM_TDB			
S88	12299165	G 01B 9/02 G 01D 5/266 G 01D 5/38, G 01B 11/002, G 01B 11/026	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 14:52
S89	1243	S88 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/06/23 14:52
S90	294	(("ISLAM") near3 ("Mohammed")).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/07/01 17:22
S91	1776	356/300.CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/07/01 17:23
S92	75098	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/07/02 11:10
S93	127	(("ISLAM") near3 ("Mohammed")).INV.	US-PGPUB	OR	OFF	2016/07/02 11:35
S94	1	S92 AND S93 AND (blood pulp)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/07/02 11:36
S95	25	S93 AND (blood pulp)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/07/02 11:36
S96	8	S93 AND (semiconductor and fiber and short adj wave and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/07/02 11:39
S97	42	(semiconductor and fiber and short adj wave and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2016/07/02 11:41

EAST Search History

			DERWENT; IBM_TDB			
S98	12	S97 and (broadened with spectrum )	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/07/02 11:41
S99	12	S97 and (broadened with spectrum and infrared)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/07/02 11:44
S100	18	S97 and (spectroscopy and infrared)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/07/02 11:44
S101	0	S100 and ((detect\$3 sensor receiver) with hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/07/02 11:45
S102	0	((detect\$3 sensor receiver) with hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/07/02 11:46
S103	35	((detect\$3 sensor receiver) and hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/07/02 11:46
S104	0	S103 and (fiber with fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/07/02 11:47
S105	0	S103 and (fiber and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/07/02 11:47
S106	0	nonlinear with element with nanometer with effect	US-PGPUB; USPAT; USOCR;	OR	OFF	2016/07/02 11:48

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S107	178	interface with sample with spectroscopy	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/07/02 11:49
S108	11	S107 and (amplifier)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/07/02 11:53
S109	407	(fiber with fused with silica).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/07/02 11:57
S126	5873	("5180378"   "5458122"   "5617871"   "6246896"   "6340806"   "6443890"   "6611643"   "6847336"   "7167300"   "20060223032"   "20100331637"   "4063106"   "4275266"   "4462080"   "4728974"   "5142930"   "5323404"   "5950629"   "6278975"   "6350261"   "6442430"   "6453201"   "6534012"   "6788965"   "6816241"   "8198589"   "7356364"   "20020082612"   "20020115914"   "20020178003"   "20080105665"   "5696778"   "5718234"   "6043927"   "6281471"   "6603910"   "6659947"   "6802811"   "4704696"   "4776016"   "4958910"   "5086401"   "5267323"   "6115673"   "6200309"   "6246707"   "6301273"   "6337462"   "6567431"   "6587702"   "6625180"   "6631025"   "6659999"   "6760148"   "7133710"   "7433116"   "20110282167"   "20060245461"   "20060268393"   "5084880"   "5687734"   "20030022126"   "4158750"   "4516207"   "5303148"   "5313306"   "5792204"   "5970457"   "6340806"   "6436107"   "6512936"   "7010336"   "7299080"   "7519406"   "7697966"   "7787924"   "8145286"   "20030152307"   "9207121")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/07/26 15:07
S127	0	S126 and ((detect\$3 sensor receiver) and hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR;	OR	OFF	2016/07/26 15:08



EAST Search History

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S128	0	S126 and ((rotation rotating) with fiber with (prism mirror))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/07/26 15:14
S129	3	S126 AND (semiconductor and fiber and short adj wave and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/07/26 15:14
S130	6	"8180422"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/08/08 11:37
S131	3	"14717896"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S132	3	"20150338580"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S133	3	"20050168751"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S134	1	"2015320318"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S135	3	"20150320318"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S136	4813	optical with inner with measur\$3	US-PGPUB;	OR	OFF	2017/10/30

EAST Search History

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			15:47
S137	226	S136 and ((target object sample ) with probe)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S138	88	S137 and (interferen\$3 and fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S139	10	S138 and ((detect\$3 sensor) and rotat\$3 and displac\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S140	6074	catheter and probe and fiber and interference	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S141	2430	S140 and ((target object sample ) with probe)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S142	2002	S140 and ((target object sample ) with probe and human)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S143	284	S142 and ((detect\$3 sensor) and rotat\$3 and displac\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S144	25	S143 and (rotation with shaft same motor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2017/10/30 15:47

EAST Search History

			IBM_TDB			
S145	0	S144 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S146	46	S143 and (rotation with shaft and motor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S147	1	"20150338580"	DERWENT	OR	OFF	2017/10/30 15:47
S148	1	"20100105980"	DERWENT	OR	OFF	2017/10/30 15:47
S149	7	"20100105980"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S150	265	optical adj imaging adj probe	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S151	24	S150 and ((detect\$3 sensor) and rotat\$3 and displac\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S152	6	"20090079993"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S153	4813	optical with inner with measur\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S154	328	S153 and (fiber with tube)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2017/10/30 15:47

EAST Search History

			IBM_TDB			
S155	50	S154 and ((prism mirror) with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S156	15	S155 and ((rotation rotating) with fiber with (prism mirror))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S157	126	NAMIKI adj SEIMITSU adj HOUSEKI adj KABUSHIKI adj KAISHA	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S158	3	S157 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S159	13	S157 and ((rotation rotating) with fiber with (prism mirror))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S160	12	S157 and (probe with imaging)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S161	2	"20110164255"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S162	3	"20130308117"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S163	1778	displace\$4 with detect\$3 with measur\$3 with rotation	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2017/10/30 15:47

EAST Search History

			EPO; JPO; DERWENT; IBM_TDB			
S164	3	S163 and (probe with imaging)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S165	19	S163 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S166	2774	detect\$3 with measur\$3 with amount with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S167	19	S166 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S168	15	(rotation near2 detector) and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S169	50891	(detect\$3 sensor) with measur\$3 with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S170	120	S169 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S171	1640	(detect\$3 sensor) with measur\$3 with rotation near3 amount	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S172	10	S171 and (optical with inner with measur\$3)	US-PGPUB; USPAT;	OR	OFF	2017/10/30 15:47

EAST Search History

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S173	2510	advantage near3 rotation with detect\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S174	0	S173 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S175	5	S173 and ( inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S176	1450	rotation with shaft and ( dynamic with pressure with bearing same groove)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S177	54	S176 and ( inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S178	3378	dynamic adj pressure with bearing with dynamic with groove	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S179	65	S178 and ( inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S180	1451	dynamic adj pressure with bearing with dynamic near2 groove	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47

EAST Search History

S181	23	S180 and ( inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S182	12	S180 and (probe and measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S183	1191539	rotation with shaft	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S184	23131	rotation with shaft near3 hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S185	25	S184 and ((prism mirror) with rotation same fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S186	1868963	fiber with fixation with non\$1 rotatably	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S187	590355	fiber with fixation with non\$1 rotatably same rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S188	70	S187 and optical with inner with measur\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S189	70	S187 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2017/10/30 15:47

EAST Search History

			DERWENT; IBM_TDB			
S190	2	"20150219436"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S191	36800	rotation with shaft with hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S192	68	S191 and (fiber with rotatable)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S193	410	S191 and (fiber with rotat\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S194	2	S193 and (actuator with slide with axis)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S195	12	S193 and (actuator with axis)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S196	0	S193 and (actuator with press with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S197	64	(actuator with press with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:47
S198	4	S197 and (rotation with hollow)	US-PGPUB; USPAT; USOCR;	OR	OFF	2017/10/30 15:48



EAST Search History

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S199	135	direct with actuator with fiber	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S200	2	S199 and (rotation with shaft with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S201	3	S199 and (rotation with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S202	94804	rotation with hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S203	84	S202 and (motor near3 hollow with back)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S204	11	S203 and actuator	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S205	2	S203 and (fiber and (mirror prism))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S206	729	S202 and (fiber and (mirror prism))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S207	132	S206 and (motor with hollow)	US-PGPUB;	OR	OFF	2017/10/30

EAST Search History

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			15:48
S208	771	direct with actuator with slid\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S209	5	S208 and (fiber with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S210	101659	actuator with slid\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S211	210	S210 and (fiber with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S212	0	S211 and (simultaneously with lightZZ)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S213	5	S211 and (simultaneously with light)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S214	11	S211 and (press and pulls)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S215	1	S211 and (slide with axial)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2017/10/30 15:48

EAST Search History

			IBM_TDB			
S216	4220	S210 and (slide with axial)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S217	9	S216 and (fiber same hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S218	13518101	G 01B 9/02 G 01D 5/266 G 01D 5/38, G 01B 11/002, G 01B 11/026	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S219	1451	S218 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S220	324	((("ISLAM") near3 ("Mohammed"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/10/30 15:48
S221	1880	356/300.CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S222	87111	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S223	139	((("ISLAM") near3 ("Mohammed"))).INV.	US-PGPUB	OR	OFF	2017/10/30 15:48
S224	3	S222 AND S223 AND (blood pulp)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S225	31	S223 AND (blood pulp)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2017/10/30 15:48

			DERWENT; IBM_TDB			
S226	12	S223 AND (semiconductor and fiber and short adj wave and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S227	61	(semiconductor and fiber and short adj wave and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S228	22	S227 and (broadened with spectrum )	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S229	22	S227 and (broadened with spectrum and infrared)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S230	28	S227 and (spectroscopy and infrared)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S231	0	S230 and ((detect\$3 sensor receiver) with hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S232	0	((detect\$3 sensor receiver) with hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S233	37	((detect\$3 sensor receiver) and hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S234	0	S233 and (fiber with fused with silica)	US-PGPUB; USPAT; USOCR;	OR	OFF	2017/10/30 15:48

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S235	0	S233 and (fiber and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S236	0	nonlinear with element with nanometer with effect	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S237	206	interface with sample with spectroscopy	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S238	15	S237 and (amplifier)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S239	447	(fiber with fused with silica).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S240	6640	("5180378"   "5458122"   "5617871"   "6246896"   "6340806"   "6443890"   "6611643"   "6847336"   "7167300"   "20060223032"   "20100331637"   "4063106"   "4275266"   "4462080"   "4728974"   "5142930"   "5323404"   "5950629"   "6278975"   "6350261"   "6442430"   "6453201"   "6534012"   "6788965"   "6816241"   "8198589"   "7356364"   "20020082612"   "20020115914"   "20020178003"   "20080105665"   "5696778"   "5718234"   "6043927"   "6281471"   "6603910"   "6659947"   "6802811"   "4704696"   "4776016"   "4958910"   "5086401"   "5267323"   "6115673"   "6200309"   "6246707"   "6301273"   "6337462"   "6567431"   "6587702"   "6625180"   "6631025"   "6659999"   "6760148"   "7133710")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48

		"7433116"   "20110282167"   "20060245461"   "20060268393"   "5084880"   "5687734"   "20030022126"   "4158750"   "4516207"   "5303148"   "5313306" "5792204"   "5970457"   "6340806"   "6436107"   "6512936" "7010336"   "7299080"   "7519406"   "7697966"   "7787924" "8145286"   "20030152307"   "9207121")				
S241	0	S240 and ((detect\$3 sensor receiver) and hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S242	0	S240 and ((rotation rotating) with fiber with (prism mirror))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S243	9	S240 AND (semiconductor and fiber and short adj wave and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S244	24	"8180422"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/30 15:48
S261	3	"20150215529"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/10/31 10:11
S262	4	"14717896"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S263	3	"20150338580"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S264	3	"20050168751"	US-PGPUB;	OR	OFF	2018/04/06

EAST Search History

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			15:14
S265	1	"2015320318"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S266	3	"20150320318"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S267	5006	optical with inner with measur\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S268	233	S267 and ((target object sample ) with probe)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S269	89	S268 and (interferen\$3 and fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S270	11	S269 and ((detect\$3 sensor) and rotat\$3 and displac\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S271	6230	catheter and probe and fiber and interference	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S272	2496	S271 and ((target object sample ) with probe)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2018/04/06 15:14

EAST Search History

			IBM_TDB			
S273	2052	S271 and ((target object sample) with probe and human)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S274	293	S273 and ((detect\$3 sensor) and rotat\$3 and displac\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S275	25	S274 and (rotation with shaft same motor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S276	0	S275 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S277	47	S274 and (rotation with shaft and motor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S278	1	"20150338580"	DERWENT	OR	OFF	2018/04/06 15:14
S279	1	"20100105980"	DERWENT	OR	OFF	2018/04/06 15:14
S280	7	"20100105980"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S281	283	optical adj imaging adj probe	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S282	27	S281 and ((detect\$3 sensor) and rotat\$3 and displac\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2018/04/06 15:14



EAST Search History

			IBM_TDB			
S283	6	"20090079993"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S284	5006	optical with inner with measur\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S285	346	S284 and (fiber with tube)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S286	50	S285 and ((prism mirror) with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S287	15	S286 and ((rotation rotating) with fiber with (prism mirror))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S288	130	NAMIKI adj SEIMITSU adj HOUSEKI adj KABUSHIKI adj KAISHA	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S289	3	S288 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S290	14	S288 and ((rotation rotating) with fiber with (prism mirror))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S291	13	S288 and (probe with imaging)	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2018/04/06 15:14

EAST Search History

			EPO; JPO; DERWENT; IBM_TDB			
S292	2	"20110164255"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S293	3	"20130308117"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S294	1844	displace\$4 with detect\$3 with measur\$3 with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S295	3	S294 and (probe with imaging)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S296	20	S294 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S297	2864	detect\$3 with measur\$3 with amount with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S298	21	S297 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S299	15	(rotation near2 detector) and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S300	53059	(detect\$3 sensor) with measur\$3 with rotation	US-PGPUB; USPAT;	OR	OFF	2018/04/06 15:14

EAST Search History

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S301	125	S300 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S302	1700	(detect\$3 sensor) with measur\$3 with rotation near3 amount	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S303	12	S302 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S304	2558	advantage near3 rotation with detect\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S305	0	S304 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S306	6	S304 and ( inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S307	1464	rotation with shaft and ( dynamic with pressure with bearing same groove)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S308	54	S307 and ( inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14

EAST Search History

S309	3418	dynamic adj pressure with bearing with dynamic with groove	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S310	65	S309 and ( inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S311	1470	dynamic adj pressure with bearing with dynamic near2 groove	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S312	23	S311 and ( inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S313	12	S311 and (probe and measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S314	1227276	rotation with shaft	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S315	23703	rotation with shaft near3 hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S316	26	S315 and ((prism mirror) with rotation same fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S317	1932791	fiber with fixation with non\$1 rotatably	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2018/04/06 15:14

EAST Search History

			DERWENT; IBM_TDB			
S318	603427	fiber with fixation with non\$1 rotatably same rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S319	73	S318 and optical with inner with measur\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S320	73	S318 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S321	2	"20150219436"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S322	37823	rotation with shaft with hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S323	69	S322 and (fiber with rotatable)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S324	415	S322 and (fiber with rotat\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S325	2	S324 and (actuator with slide with axis)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S326	12	S324 and (actuator with axis)	US-PGPUB; USPAT; USOCR;	OR	OFF	2018/04/06 15:14

EAST Search History

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S327	0	S324 and (actuator with press with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S328	64	(actuator with press with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S329	4	S328 and (rotation with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S330	140	direct with actuator with fiber	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S331	2	S330 and (rotation with shaft with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S332	4	S330 and (rotation with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S333	97391	rotation with hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S334	86	S333 and (motor near3 hollow with back)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S335	11	S334 and actuator	US-PGPUB;	OR	OFF	2018/04/06

EAST Search History

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			15:14
S336	2	S334 and (fiber and (mirror prism))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S337	760	S333 and (fiber and (mirror prism))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S338	136	S337 and (motor with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S339	792	direct with actuator with slid\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S340	5	S339 and (fiber with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S341	104279	actuator with slid\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S342	219	S341 and (fiber with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S343	0	S342 and (simultaneously with lightZZ)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2018/04/06 15:14

EAST Search History

			IBM_TDB			
S344	6	S342 and (simultaneously with light)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S345	11	S342 and (press and pulls)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S346	1	S342 and (slide with axial)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S347	4344	S341 and (slide with axial)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S348	9	S347 and (fiber same hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S349	13919266	G 01B 9/02 G 01D 5/266 G 01D 5/38, G 01B 11/002, G 01B 11/026	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S350	1524	S349 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S351	333	((("ISLAM") near3 ("Mohammed"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/04/06 15:14
S352	1902	356/300.CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14



S353	90914	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S354	143	((("ISLAM") near3 ("Mohammed")).INV.	US-PGPUB	OR	OFF	2018/04/06 15:14
S355	4	S353 AND S354 AND (blood pulp)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S356	34	S354 AND (blood pulp)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S357	14	S354 AND (semiconductor and fiber and short adj wave and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S358	68	(semiconductor and fiber and short adj wave and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S359	27	S358 and (broadened with spectrum )	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S360	27	S358 and (broadened with spectrum and infrared)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S361	33	S358 and (spectroscopy and infrared)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S362	0	S361 and ((detect\$3 sensor receiver) with hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR;	OR	OFF	2018/04/06 15:14

EAST Search History

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S363	0	((detect\$3 sensor receiver) with hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S364	38	((detect\$3 sensor receiver) and hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S365	0	S364 and (fiber with fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S366	0	S364 and (fiber and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S367	0	nonlinear with element with nanometer with effect	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S368	215	interface with sample with spectroscopy	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S369	18	S368 and (amplifier)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S370	460	(fiber with fused with silica).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S371	6919	("5180378"   "5458122"	US-PGPUB;	OR	OFF	2018/04/06

		"5617871"   "6246896"   "6340806" "6443890"   "6611643"   "6847336"   "7167300"   "20060223032"   "20100331637"   "4063106"   "4275266"   "4462080" "4728974"   "5142930"   "5323404"   "5950629"   "6278975" "6350261"   "6442430"   "6453201"   "6534012"   "6788965" "6816241"   "8198589"   "7356364"   "20020082612"   "20020115914"   "20020178003"   "20080105665"   "5696778"   "5718234"   "6043927"   "6281471" "6603910"   "6659947"   "6802811"   "4704696"   "4776016" "4958910"   "5086401"   "5267323"   "6115673"   "6200309" "6246707"   "6301273"   "6337462"   "6567431"   "6587702" "6625180"   "6631025"   "6659999"   "6760148"   "7133710" "7433116"   "20110282167"   "20060245461"   "20060268393"   "5084880"   "5687734"   "20030022126"   "4158750"   "4516207"   "5303148"   "5313306" "5792204"   "5970457"   "6340806"   "6436107"   "6512936" "7010336"   "7299080"   "7519406"   "7697966"   "7787924" "8145286"   "20030152307"   "9207121")	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			15:14
S372	0	S371 and ((detect\$3 sensor receiver) and hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S373	0	S371 and ((rotation rotating) with fiber with (prism mirror))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S374	12	S371 AND (semiconductor and fiber and short adj wave and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S375	27	"8180422"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S376	4	"14717896"	US-PGPUB;	OR	OFF	2018/04/06

EAST Search History

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			15:14
S377	3	"20150338580"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S378	3	"20050168751"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S379	1	"2015320318"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S380	3	"20150320318"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S381	5006	optical with inner with measur\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S382	233	S381 and ((target object sample ) with probe)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S383	89	S382 and (interferen\$3 and fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S384	11	S383 and ((detect\$3 sensor) and rotat\$3 and displac\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2018/04/06 15:14

EAST Search History

			IBM_TDB			
S385	6230	catheter and probe and fiber and interference	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S386	2496	S385 and ((target object sample ) with probe)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S387	2052	S385 and ((target object sample ) with probe and human)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S388	293	S387 and ((detect\$3 sensor) and rotat\$3 and displac\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S389	25	S388 and (rotation with shaft same motor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S390	0	S389 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S391	47	S388 and (rotation with shaft and motor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S392	1	"20150338580"	DERWENT	OR	OFF	2018/04/06 15:14
S393	1	"20100105980"	DERWENT	OR	OFF	2018/04/06 15:14
S394	7	"20100105980"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2018/04/06 15:14

EAST Search History

			IBM_TDB			
S395	283	optical adj imaging adj probe	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S396	27	S395 and ((detect\$3 sensor) and rotat\$3 and displac\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S397	6	"20090079993"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S398	5006	optical with inner with measur\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S399	346	S398 and (fiber with tube)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S400	50	S399 and ((prism mirror) with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S401	15	S400 and ((rotation rotating) with fiber with (prism mirror))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S402	130	NAMIKI adj SEIMITSU adj HOUSEKI adj KABUSHIKI adj KAISHA	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S403	3	S402 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2018/04/06 15:14

EAST Search History

			EPO; JPO; DERWENT; IBM_TDB			
S404	14	S402 and ((rotation rotating) with fiber with (prism mirror))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S405	13	S402 and (probe with imaging)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S406	2	"20110164255"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S407	3	"20130308117"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S408	1844	displace\$4 with detect\$3 with measur\$3 with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S409	3	S408 and (probe with imaging)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S410	20	S408 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S411	2864	detect\$3 with measur\$3 with amount with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S412	21	S411 and (optical with inner with measur\$3)	US-PGPUB; USPAT;	OR	OFF	2018/04/06 15:14

EAST Search History

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S413	15	(rotation near2 detector) and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S414	53059	(detect\$3 sensor) with measur\$3 with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S415	125	S414 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S416	1700	(detect\$3 sensor) with measur\$3 with rotation near3 amount	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S417	12	S416 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S418	2558	advantage near3 rotation with detect\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S419	0	S418 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S420	6	S418 and ( inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14



EAST Search History

S421	1464	rotation with shaft and ( dynamic with pressure with bearing same groove)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S422	54	S421 and ( inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S423	3418	dynamic adj pressure with bearing with dynamic with groove	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S424	65	S423 and ( inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S425	1470	dynamic adj pressure with bearing with dynamic near2 groove	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S426	23	S425 and ( inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S427	12	S425 and (probe and measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S428	1227276	rotation with shaft	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S429	23703	rotation with shaft near3 hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2018/04/06 15:14

EAST Search History

			DERWENT; IBM_TDB			
S430	26	S429 and ((prism mirror) with rotation same fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S431	1932791	fiber with fixation with non\$1 rotatably	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S432	603427	fiber with fixation with non\$1 rotatably same rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S433	73	S432 and optical with inner with measur\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S434	73	S432 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S435	2	"20150219436"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S436	37823	rotation with shaft with hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S437	69	S436 and (fiber with rotatable)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S438	415	S436 and (fiber with rotat\$4)	US-PGPUB; USPAT; USOCR;	OR	OFF	2018/04/06 15:14

EAST Search History

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S439	2	S438 and (actuator with slide with axis)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S440	12	S438 and (actuator with axis)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S441	0	S438 and (actuator with press with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S442	64	(actuator with press with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S443	4	S442 and (rotation with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S444	140	direct with actuator with fiber	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S445	2	S444 and (rotation with shaft with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S446	4	S444 and (rotation with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S447	97391	rotation with hollow	US-PGPUB;	OR	OFF	2018/04/06

EAST Search History

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			15:14
S448	86	S447 and (motor near3 hollow with back)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S449	11	S448 and actuator	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S450	2	S448 and (fiber and (mirror prism))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S451	760	S447 and (fiber and (mirror prism))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S452	136	S451 and (motor with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S453	792	direct with actuator with slid\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S454	5	S453 and (fiber with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S455	104279	actuator with slid\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2018/04/06 15:14

EAST Search History

			IBM_TDB			
S456	219	S455 and (fiber with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S457	0	S456 and (simultaneously with lightZZ)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S458	6	S456 and (simultaneously with light)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S459	11	S456 and (press and pulls)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S460	1	S456 and (slide with axial)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S461	4344	S455 and (slide with axial)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S462	9	S461 and (fiber same hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S463	13919266	G 01B 9/02 G 01D 5/266 G 01D 5/38, G 01B 11/002, G 01B 11/026	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S464	1524	S463 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2018/04/06 15:14

EAST Search History

			EPO; JPO; DERWENT; IBM_TDB			
S465	333	((("ISLAM") near3 ("Mohammed"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/04/06 15:14
S466	1902	356/300.CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S467	90914	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/52	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S468	143	((("ISLAM") near3 ("Mohammed"))).INV.	US-PGPUB	OR	OFF	2018/04/06 15:14
S469	4	S467 AND S468 AND (blood pulp)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S470	34	S468 AND (blood pulp)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S471	14	S468 AND (semiconductor and fiber and short adj wave and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S472	68	(semiconductor and fiber and short adj wave and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S473	27	S472 and (broadened with spectrum )	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S474	27	S472 and (broadened with spectrum and infrared)	US-PGPUB; USPAT; USOCR;	OR	OFF	2018/04/06 15:14

EAST Search History

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S475	33	S472 and (spectroscopy and infrared)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S476	0	S475 and ((detect\$3 sensor receiver) with hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S477	0	((detect\$3 sensor receiver) with hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S478	38	((detect\$3 sensor receiver) and hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S479	0	S478 and (fiber with fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S480	0	S478 and (fiber and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S481	0	nonlinear with element with nanometer with effect	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S482	215	interface with sample with spectroscopy	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S483	18	S482 and (amplifier)	US-PGPUB;	OR	OFF	2018/04/06

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			15:14
S484	460	(fiber with fused with silica).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S485	6919	("5180378"   "5458122"   "5617871"   "6246896"   "6340806" "6443890"   "6611643"   "6847336"   "7167300"   "20060223032"   "20100331637"   "4063106"   "4275266"   "4462080" "4728974"   "5142930"   "5323404"   "5950629"   "6278975" "6350261"   "6442430"   "6453201"   "6534012"   "6788965" "6816241"   "8198589"   "7356364"   "20020082612"   "20020115914"   "20020178003"   "20080105665"   "5696778"   "5718234"   "6043927"   "6281471" "6603910"   "6659947"   "6802811"   "4704696"   "4776016" "4958910"   "5086401"   "5267323"   "6115673"   "6200309" "6246707"   "6301273"   "6337462"   "6567431"   "6587702" "6625180"   "6631025"   "6659999"   "6760148"   "7133710" "7433116"   "20110282167"   "20060245461"   "20060268393"   "5084880"   "5687734"   "20030022126"   "4158750"   "4516207"   "5303148"   "5313306" "5792204"   "5970457"   "6340806"   "6436107"   "6512936" "7010336"   "7299080"   "7519406"   "7697966"   "7787924" "8145286"   "20030152307"   "9207121")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S486	0	S485 and ((detect\$3 sensor receiver) and hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S487	0	S485 and ((rotation rotating) with fiber with (prism mirror))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S488	12	S485 AND (semiconductor and fiber	US-PGPUB;	OR	OFF	2018/04/06



EAST Search History

		and short adj wave and fused with silica)	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			15:14
S489	27	"8180422"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/06 15:14
S490	3	"20150215529"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/04/06 15:14
S523	4	"14717896"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S526	1	"2015320318"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S528	5006	optical with inner with measur\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S529	233	S528 and ((target object sample ) with probe)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S530	89	S529 and (interferen\$3 and fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S532	6230	catheter and probe and fiber and interference	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2018/04/07 09:33

EAST Search History

			IBM_TDB			
S533	2496	S532 and ((target object sample ) with probe)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S534	2052	S532 and ((target object sample ) with probe and human)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S535	293	S534 and ((detect\$3 sensor) and rotat\$3 and displac\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S537	0	S536 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S539	1	"20150338580"	DERWENT	OR	OFF	2018/04/07 09:33
S540	1	"20100105980"	DERWENT	OR	OFF	2018/04/07 09:33
S542	283	optical adj imaging adj probe	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S545	5006	optical with inner with measur\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S546	346	S545 and (fiber with tube)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S547	50	S546 and ((prism mirror) with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2018/04/07 09:33

EAST Search History

			IBM_TDB			
S549	130	NAMIKI adj SEIMITSU adj HOUSEKI adj KABUSHIKI adj KAISHA	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S550	3	S549 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S553	2	"20110164255"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S555	1844	displace\$4 with detect\$3 with measur\$3 with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S556	3	S555 and (probe with imaging)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S558	2864	detect\$3 with measur\$3 with amount with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S561	53065	(detect\$3 sensor) with measur\$3 with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S563	1700	(detect\$3 sensor) with measur\$3 with rotation near3 amount	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S565	2560	advantage near3 rotation with detect\$3	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2018/04/07 09:33

EAST Search History

			EPO; JPO; DERWENT; IBM_TDB			
S566	0	S565 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S568	1464	rotation with shaft and ( dynamic with pressure with bearing same groove)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S570	3418	dynamic adj pressure with bearing with dynamic with groove	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S572	1470	dynamic adj pressure with bearing with dynamic near2 groove	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S575	1227457	rotation with shaft	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S576	23705	rotation with shaft near3 hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S578	1933451	fiber with fixation with non\$1 rotatably	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S579	603499	fiber with fixation with non\$1 rotatably same rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S582	2	"20150219436"	US-PGPUB; USPAT;	OR	OFF	2018/04/07 09:33

EAST Search History

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S583	37828	rotation with shaft with hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S584	69	S583 and (fiber with rotatable)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S585	415	S583 and (fiber with rotat\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S586	2	S585 and (actuator with slide with axis)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S587	12	S585 and (actuator with axis)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S588	0	S585 and (actuator with press with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S589	64	(actuator with press with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S591	140	direct with actuator with fiber	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33

EAST Search History

S592	2	S591 and (rotation with shaft with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S593	4	S591 and (rotation with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S594	97404	rotation with hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S595	86	S594 and (motor near3 hollow with back)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S597	2	S595 and (fiber and (mirror prism))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S598	760	S594 and (fiber and (mirror prism))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S600	792	direct with actuator with slid\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S602	104285	actuator with slid\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S603	219	S602 and (fiber with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2018/04/07 09:33

EAST Search History

			DERWENT; IBM_TDB			
S604	0	S603 and (simultaneously with lightZZ)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S607	1	S603 and (slide with axial)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S608	4344	S602 and (slide with axial)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S610	13922933	G 01B 9/02 G 01D 5/266 G 01D 5/38, G 01B 11/002, G 01B 11/026	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S611	1524	S610 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S613	1902	356/300.CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S614	90928	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S615	143	(("ISLAM") near3 ("Mohammed")).INV.	US-PGPUB	OR	OFF	2018/04/07 09:33
S616	4	S614 AND S615 AND (blood pulp)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33

EAST Search History

S617	34	S615 AND (blood pulp)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S618	14	S615 AND (semiconductor and fiber and short adj wave and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S619	68	(semiconductor and fiber and short adj wave and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S620	27	S619 and (broadened with spectrum )	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S621	27	S619 and (broadened with spectrum and infrared)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S622	33	S619 and (spectroscopy and infrared)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S623	0	S622 and ((detect\$3 sensor receiver) with hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S624	0	((detect\$3 sensor receiver) with hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S625	38	((detect\$3 sensor receiver) and hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2018/04/07 09:33



			DERWENT; IBM_TDB			
S626	0	S625 and (fiber with fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S627	0	S625 and (fiber and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S628	0	nonlinear with element with nanometer with effect	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S629	215	interface with sample with spectroscopy	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S631	460	(fiber with fused with silica).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S632	6919	("5180378"   "5458122"   "5617871"   "6246896"   "6340806"   "6443890"   "6611643"   "6847336"   "7167300"   "20060223032"   "20100331637"   "4063106"   "4275266"   "4462080"   "4728974"   "5142930"   "5323404"   "5950629"   "6278975"   "6350261"   "6442430"   "6453201"   "6534012"   "6788965"   "6816241"   "8198589"   "7356364"   "20020082612"   "20020115914"   "20020178003"   "20080105665"   "5696778"   "5718234"   "6043927"   "6281471"   "6603910"   "6659947"   "6802811"   "4704696"   "4776016"   "4958910"   "5086401"   "5267323"   "6115673"   "6200309"   "6246707"   "6301273"   "6337462"   "6567431"   "6587702"   "6625180"   "6631025"   "6659999"   "6760148"   "7133710"   "7433116"   "20110282167"   "20060245461"   "20060268393"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33

		"5084880"   "5687734"   "20030022126"   "4158750"   "4516207"   "5303148"   "5313306" "5792204"   "5970457"   "6340806"   "6436107"   "6512936" "7010336"   "7299080"   "7519406"   "7697966"   "7787924" "8145286"   "20030152307"   "9207121")				
S633	0	S632 and ((detect\$3 sensor receiver) and hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S634	0	S632 and ((rotation rotating) with fiber with (prism mirror))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S635	12	S632 AND (semiconductor and fiber and short adj wave and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S637	4	"14717896"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S640	1	"2015320318"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S642	5006	optical with inner with measur\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S643	233	S642 and ((target object sample ) with probe)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S644	89	S643 and (interferen\$3 and fiber)	US-PGPUB; USPAT; USOCR;	OR	OFF	2018/04/07 09:33

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S646	6230	catheter and probe and fiber and interference	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S647	2496	S646 and ((target object sample ) with probe)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S648	2052	S646 and ((target object sample ) with probe and human)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S649	293	S648 and ((detect\$3 sensor) and rotat\$3 and displac\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S651	0	S650 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S653	1	"20150338580"	DERWENT	OR	OFF	2018/04/07 09:33
S654	1	"20100105980"	DERWENT	OR	OFF	2018/04/07 09:33
S656	283	optical adj imaging adj probe	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S659	5006	optical with inner with measur\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S660	346	S659 and (fiber with tube)	US-PGPUB; USPAT; USOCR;	OR	OFF	2018/04/07 09:33

EAST Search History

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S661	50	S660 and ((prism mirror) with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S663	130	NAMIKI adj SEIMITSU adj HOUSEKI adj KABUSHIKI adj KAISHA	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S664	3	S663 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S667	2	"20110164255"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S669	1844	displace\$4 with detect\$3 with measur\$3 with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S670	3	S669 and (probe with imaging)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S672	2864	detect\$3 with measur\$3 with amount with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S675	53065	(detect\$3 sensor) with measur\$3 with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S677	1700	(detect\$3 sensor) with measur\$3	US-PGPUB;	OR	OFF	2018/04/07

EAST Search History

		with rotation near3 amount	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			09:33
S679	2560	advantage near3 rotation with detect\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S680	0	S679 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S682	1464	rotation with shaft and ( dynamic with pressure with bearing same groove)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S684	3418	dynamic adj pressure with bearing with dynamic with groove	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S686	1470	dynamic adj pressure with bearing with dynamic near2 groove	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S689	1227457	rotation with shaft	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S690	23705	rotation with shaft near3 hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S692	1933451	fiber with fixation with non\$1 rotatably	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2018/04/07 09:33

EAST Search History

			IBM_TDB			
S693	603499	fiber with fixation with non\$1 rotatably same rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S696	2	"20150219436"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S697	37828	rotation with shaft with hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S698	69	S697 and (fiber with rotatable)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S699	415	S697 and (fiber with rotat\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S700	2	S699 and (actuator with slide with axis)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S701	12	S699 and (actuator with axis)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S702	0	S699 and (actuator with press with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S703	64	(actuator with press with fiber)	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2018/04/07 09:33

EAST Search History

			EPO; JPO; DERWENT; IBM_TDB			
S705	140	direct with actuator with fiber	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S706	2	S705 and (rotation with shaft with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S707	4	S705 and (rotation with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S708	97404	rotation with hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S709	86	S708 and (motor near3 hollow with back)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S711	2	S709 and (fiber and (mirror prism))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S712	760	S708 and (fiber and (mirror prism))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S714	792	direct with actuator with slid\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S716	104285	actuator with slid\$3	US-PGPUB; USPAT;	OR	OFF	2018/04/07 09:33

EAST Search History

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S717	219	S716 and (fiber with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S718	0	S717 and (simultaneously with lightZZ)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S721	1	S717 and (slide with axial)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S722	4344	S716 and (slide with axial)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S724	13922933	G 01B 9/02 G 01D 5/266 G 01D 5/38, G 01B 11/002, G 01B 11/026	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S725	1524	S724 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S727	1902	356/300.CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S728	90928	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33



EAST Search History

S729	143	((("ISLAM") near3 ("Mohammed")).INV.	US-PGPUB	OR	OFF	2018/04/07 09:33
S730	4	S728 AND S729 AND (blood pulp)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S731	34	S729 AND (blood pulp)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S732	14	S729 AND (semiconductor and fiber and short adj wave and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S733	68	(semiconductor and fiber and short adj wave and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S734	27	S733 and (broadened with spectrum )	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S735	27	S733 and (broadened with spectrum and infrared)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S736	33	S733 and (spectroscopy and infrared)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S737	0	S736 and ((detect\$3 sensor receiver) with hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S738	0	((detect\$3 sensor receiver) with hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR;	OR	OFF	2018/04/07 09:33

EAST Search History

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S739	38	((detect\$3 sensor receiver) and hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S740	0	S739 and (fiber with fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S741	0	S739 and (fiber and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S742	0	nonlinear with element with nanometer with effect	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S743	215	interface with sample with spectroscopy	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S745	460	(fiber with fused with silica).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S746	6919	("5180378"   "5458122"   "5617871"   "6246896"   "6340806"   "6443890"   "6611643"   "6847336"   "7167300"   "20060223032"   "20100331637"   "4063106"   "4275266"   "4462080"   "4728974"   "5142930"   "5323404"   "5950629"   "6278975"   "6350261"   "6442430"   "6453201"   "6534012"   "6788965"   "6816241"   "8198589"   "7356364"   "20020082612"   "20020115914"   "20020178003"   "20080105665"   "5696778"   "5718234"   "6043927"   "6281471"   "6603910"   "6659947"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33

		"6802811"   "4704696"   "4776016" "4958910"   "5086401"   "5267323"   "6115673"   "6200309" "6246707"   "6301273"   "6337462"   "6567431"   "6587702" "6625180"   "6631025"   "6659999"   "6760148"   "7133710" "7433116"   "20110282167"   "20060245461"   "20060268393"   "5084880"   "5687734"   "20030022126"   "4158750"   "4516207"   "5303148"   "5313306" "5792204"   "5970457"   "6340806"   "6436107"   "6512936" "7010336"   "7299080"   "7519406"   "7697966"   "7787924" "8145286"   "20030152307"   "9207121")				
S747	0	S746 and ((detect\$3 sensor receiver) and hydro adj carbon with bond)	US-PGPUB; OR USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S748	0	S746 and ((rotation rotating) with fiber with (prism mirror))	US-PGPUB; OR USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S749	12	S746 AND (semiconductor and fiber and short adj wave and fused with silica)	US-PGPUB; OR USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S752	4	"14717896"	US-PGPUB; OR USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S755	1	"2015320318"	US-PGPUB; OR USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S757	5006	optical with inner with measur\$3	US-PGPUB; OR USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S758	233	S757 and ((target object sample) with probe)	US-PGPUB; OR USPAT;	OR	OFF	2018/04/07 09:33

EAST Search History

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S759	89	S758 and (interferen\$3 and fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S761	6230	catheter and probe and fiber and interference	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S762	2496	S761 and ((target object sample ) with probe)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S763	2052	S761 and ((target object sample ) with probe and human)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S764	293	S763 and ((detect\$3 sensor) and rotat\$3 and displac\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S766	0	S765 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S768	1	"20150338580"	DERWENT	OR	OFF	2018/04/07 09:33
S769	1	"20100105980"	DERWENT	OR	OFF	2018/04/07 09:33
S771	283	optical adj imaging adj probe	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S774	5006	optical with inner with measur\$3	US-PGPUB; USPAT;	OR	OFF	2018/04/07 09:33

EAST Search History

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S775	346	S774 and (fiber with tube)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S776	50	S775 and ((prism mirror) with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S778	130	NAMIKI adj SEIMITSU adj HOUSEKI adj KABUSHIKI adj KAISHA	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S779	3	S778 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S782	2	"20110164255"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S784	1844	displace\$4 with detect\$3 with measur\$3 with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S785	3	S784 and (probe with imaging)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S787	2864	detect\$3 with measur\$3 with amount with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33

EAST Search History

S790	53065	(detect\$3 sensor) with measur\$3 with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S792	1700	(detect\$3 sensor) with measur\$3 with rotation near3 amount	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S794	2560	advantage near3 rotation with detect\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S795	0	S794 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S797	1464	rotation with shaft and ( dynamic with pressure with bearing same groove)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S799	3418	dynamic adj pressure with bearing with dynamic with groove	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S801	1470	dynamic adj pressure with bearing with dynamic near2 groove	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S804	1227457	rotation with shaft	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S805	23705	rotation with shaft near3 hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2018/04/07 09:33

EAST Search History

			DERWENT; IBM_TDB			
S807	1933451	fiber with fixation with non\$1 rotatably	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S808	603499	fiber with fixation with non\$1 rotatably same rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S811	2	"20150219436"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S812	37828	rotation with shaft with hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S813	69	S812 and (fiber with rotatable)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S814	415	S812 and (fiber with rotat\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S815	2	S814 and (actuator with slide with axis)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S816	12	S814 and (actuator with axis)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S817	0	S814 and (actuator with press with fiber)	US-PGPUB; USPAT; USOCR;	OR	OFF	2018/04/07 09:33

EAST Search History

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S818	64	(actuator with press with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S820	140	direct with actuator with fiber	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S821	2	S820 and (rotation with shaft with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S822	4	S820 and (rotation with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S823	97404	rotation with hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S824	86	S823 and (motor near3 hollow with back)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S826	2	S824 and (fiber and (mirror prism))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S827	760	S823 and (fiber and (mirror prism))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S829	792	direct with actuator with slid\$3	US-PGPUB;	OR	OFF	2018/04/07



EAST Search History

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			09:33
S831	104285	actuator with slid\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S832	219	S831 and (fiber with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S833	0	S832 and (simultaneously with lightZZ)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S836	1	S832 and (slide with axial)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S837	4344	S831 and (slide with axial)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/07 09:33
S871	4	"14717896"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S874	1	"2015320318"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S876	5012	optical with inner with measur\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2018/04/20 10:55

EAST Search History

			IBM_TDB			
S877	234	S876 and ((target object sample ) with probe)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S878	89	S877 and (interferen\$3 and fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S880	6239	catheter and probe and fiber and interference	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S881	2500	S880 and ((target object sample ) with probe)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S882	2055	S880 and ((target object sample ) with probe and human)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S883	293	S882 and ((detect\$3 sensor) and rotat\$3 and displac\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S885	0	S884 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S890	283	optical adj imaging adj probe	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S893	5012	optical with inner with measur\$3	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2018/04/20 10:55

EAST Search History

			EPO; JPO; DERWENT; IBM_TDB			
S894	347	S893 and (fiber with tube)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S895	51	S894 and ((prism mirror) with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S897	130	NAMIKI adj SEIMITSU adj HOUSEKI adj KABUSHIKI adj KAISHA	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S898	3	S897 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S903	1846	displace\$4 with detect\$3 with measur\$3 with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S904	3	S903 and (probe with imaging)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S906	2872	detect\$3 with measur\$3 with amount with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S909	53184	(detect\$3 sensor) with measur\$3 with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S911	1710	(detect\$3 sensor) with measur\$3 with rotation near3 amount	US-PGPUB; USPAT;	OR	OFF	2018/04/20 10:55

EAST Search History

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S913	2563	advantage near3 rotation with detect\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S914	0	S913 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S916	1464	rotation with shaft and ( dynamic with pressure with bearing same groove)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S918	3419	dynamic adj pressure with bearing with dynamic with groove	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S920	1470	dynamic adj pressure with bearing with dynamic near2 groove	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S923	1228637	rotation with shaft	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S924	23728	rotation with shaft near3 hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S926	1935233	fiber with fixation with non\$1 rotatably	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55

EAST Search History

S927	604062	fiber with fixation with non\$1 rotatably same rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S931	37860	rotation with shaft with hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S932	69	S931 and (fiber with rotatable)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S933	416	S931 and (fiber with rotat\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S934	2	S933 and (actuator with slide with axis)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S935	12	S933 and (actuator with axis)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S936	0	S933 and (actuator with press with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S937	65	(actuator with press with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S939	142	direct with actuator with fiber	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2018/04/20 10:55

EAST Search History

			DERWENT; IBM_TDB			
S940	2	S939 and (rotation with shaft with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S941	4	S939 and (rotation with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S942	97488	rotation with hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S943	86	S942 and (motor near3 hollow with back)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S945	2	S943 and (fiber and (mirror prism))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S946	762	S942 and (fiber and (mirror prism))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S948	794	direct with actuator with slid\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S950	104461	actuator with slid\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S951	219	S950 and (fiber with hollow)	US-PGPUB; USPAT; USOCR;	OR	OFF	2018/04/20 10:55

EAST Search History

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S952	0	S951 and (simultaneously with lightZZ)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S956	4352	S950 and (slide with axial)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S958	13939970	G 01B 9/02 G 01D 5/266 G 01D 5/38, G 01B 11/002, G 01B 11/026	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S959	1529	S958 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S961	1904	356/300.CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S962	90957	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S964	4	S962 AND S963 AND (blood pulp)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S965	34	S963 AND (blood pulp)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S967	69	(semiconductor and fiber and short	US-PGPUB;	OR	OFF	2018/04/20

EAST Search History

		adj wave and fused with silica)	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			10:55
S968	27	S967 and (broadened with spectrum )	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S969	27	S967 and (broadened with spectrum and infrared)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S970	34	S967 and (spectroscopy and infrared)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S971	0	S970 and ((detect\$3 sensor receiver) with hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S972	0	((detect\$3 sensor receiver) with hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S973	38	((detect\$3 sensor receiver) and hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S974	0	S973 and (fiber with fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S975	0	S973 and (fiber and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2018/04/20 10:55



			IBM_TDB			
S976	0	nonlinear with element with nanometer with effect	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S977	217	interface with sample with spectroscopy	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S979	461	((fiber with fused with silica).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:55
S980	6942	("5180378"   "5458122"   "5617871"   "6246896"   "6340806"   "6443890"   "6611643"   "6847336"   "7167300"   "20060223032"   "20100331637"   "4063106"   "4275266"   "4462080"   "4728974"   "5142930"   "5323404"   "5950629"   "6278975"   "6350261"   "6442430"   "6453201"   "6534012"   "6788965"   "6816241"   "8198589"   "7356364"   "20020082612"   "20020115914"   "20020178003"   "20080105665"   "5696778"   "5718234"   "6043927"   "6281471"   "6603910"   "6659947"   "6802811"   "4704696"   "4776016"   "4958910"   "5086401"   "5267323"   "6115673"   "6200309"   "6246707"   "6301273"   "6337462"   "6567431"   "6587702"   "6625180"   "6631025"   "6659999"   "6760148"   "7133710"   "7433116"   "20110282167"   "20060245461"   "20060268393"   "5084880"   "5687734"   "20030022126"   "4158750"   "4516207"   "5303148"   "5313306"   "5792204"   "5970457"   "6340806"   "6436107"   "6512936"   "7010336"   "7299080"   "7519406"   "7697966"   "7787924"   "8145286"   "20030152307"   "9207121")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S981	0	S980 and ((detect\$3 sensor receiver) and hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2018/04/20 10:56

EAST Search History

			IBM_TDB			
S982	0	S980 and ((rotation rotating) with fiber with (prism mirror))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S983	12	S980 AND (semiconductor and fiber and short adj wave and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S985	4	"14717896"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S988	1	"2015320318"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S990	5012	optical with inner with measur\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S991	234	S990 and ((target object sample ) with probe)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S992	89	S991 and (interferen\$3 and fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S994	6239	catheter and probe and fiber and interference	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S995	2500	S994 and ((target object sample ) with probe)	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2018/04/20 10:56

EAST Search History

			EPO; JPO; DERWENT; IBM_TDB			
S996	2055	S994 and ((target object sample ) with probe and human)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S997	293	S996 and ((detect\$3 sensor) and rotat\$3 and displac\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S999	0	S998 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1004	283	optical adj imaging adj probe	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1007	5012	optical with inner with measur\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1008	347	S1007 and (fiber with tube)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1009	51	S1008 and ((prism mirror) with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1011	130	NAMIKI adj SEIMITSU adj HOUSEKI adj KABUSHIKI adj KAISHA	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1012	3	S1011 and (optical with inner with measur\$3)	US-PGPUB; USPAT;	OR	OFF	2018/04/20 10:56

EAST Search History

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S1017	1846	displace\$4 with detect\$3 with measur\$3 with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1018	3	S1017 and (probe with imaging)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1020	2872	detect\$3 with measur\$3 with amount with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1023	53184	(detect\$3 sensor) with measur\$3 with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1025	1710	(detect\$3 sensor) with measur\$3 with rotation near3 amount	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1027	2563	advantage near3 rotation with detect\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1028	0	S1027 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1030	1464	rotation with shaft and ( dynamic with pressure with bearing same groove)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56

EAST Search History

S1032	3419	dynamic adj pressure with bearing with dynamic with groove	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1034	1470	dynamic adj pressure with bearing with dynamic near2 groove	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1037	1228637	rotation with shaft	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1038	23728	rotation with shaft near3 hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1040	1935233	fiber with fixation with non\$1 rotatably	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1041	604062	fiber with fixation with non\$1 rotatably same rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1045	37860	rotation with shaft with hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1046	69	S1045 and (fiber with rotatable)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1047	416	S1045 and (fiber with rotat\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2018/04/20 10:56

			DERWENT; IBM_TDB			
S1048	2	S1047 and (actuator with slide with axis)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1049	12	S1047 and (actuator with axis)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1050	0	S1047 and (actuator with press with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1051	65	(actuator with press with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1053	142	direct with actuator with fiber	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1054	2	S1053 and (rotation with shaft with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1055	4	S1053 and (rotation with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1056	97488	rotation with hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1057	86	S1056 and (motor near3 hollow with back)	US-PGPUB; USPAT; USOCR;	OR	OFF	2018/04/20 10:56

EAST Search History

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S1059	2	S1057 and (fiber and (mirror prism))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1060	762	S1056 and (fiber and (mirror prism))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1062	794	direct with actuator with slid\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1064	104461	actuator with slid\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1065	219	S1064 and (fiber with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1066	0	S1065 and (simultaneously with lightZZ)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:56
S1070	4352	S1064 and (slide with axial)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1072	13939970	G 01B 9/02 G 01D 5/266 G 01D 5/38, G 01B 11/002, G 01B 11/026	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1073	1529	S1072 and (optical with inner with	US-PGPUB;	OR	OFF	2018/04/20

EAST Search History

		measur\$3)	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			10:57
S1075	1904	356/300.CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1076	90957	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1078	4	S1076 AND S1077 AND (blood pulp)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1079	34	S1077 AND (blood pulp)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1081	69	(semiconductor and fiber and short adj wave and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1082	27	S1081 and (broadened with spectrum )	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1083	27	S1081 and (broadened with spectrum and infrared)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1084	34	S1081 and (spectroscopy and infrared)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2018/04/20 10:57



EAST Search History

			IBM_TDB			
S1085	0	S1084 and ((detect\$3 sensor receiver) with hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1086	0	((detect\$3 sensor receiver) with hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1087	38	((detect\$3 sensor receiver) and hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1088	0	S1087 and (fiber with fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1089	0	S1087 and (fiber and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1090	0	nonlinear with element with nanometer with effect	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1091	217	interface with sample with spectroscopy	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1093	461	(fiber with fused with silica).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1094	6942	("5180378"   "5458122"   "5617871"   "6246896"   "6340806"   "6443890"   "6611643"   "6847336"   "7167300"	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2018/04/20 10:57

		"20060223032"   "20100331637"   "4063106"   "4275266"   "4462080"   "4728974"   "5142930"   "5323404"   "5950629"   "6278975"   "6350261"   "6442430"   "6453201"   "6534012"   "6788965"   "6816241"   "8198589"   "7356364"   "20020082612"   "20020115914"   "20020178003"   "20080105665"   "5696778"   "5718234"   "6043927"   "6281471"   "6603910"   "6659947"   "6802811"   "4704696"   "4776016"   "4958910"   "5086401"   "5267323"   "6115673"   "6200309"   "6246707"   "6301273"   "6337462"   "6567431"   "6587702"   "6625180"   "6631025"   "6659999"   "6760148"   "7133710"   "7433116"   "20110282167"   "20060245461"   "20060268393"   "5084880"   "5687734"   "20030022126"   "4158750"   "4516207"   "5303148"   "5313306"   "5792204"   "5970457"   "6340806"   "6436107"   "6512936"   "7010336"   "7299080"   "7519406"   "7697966"   "7787924"   "8145286"   "20030152307"   "9207121")	EPO; JPO; DERWENT; IBM_TDB			
S1095	0	S1094 and ((detect\$3 sensor receiver) and hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1096	0	S1094 and ((rotation rotating) with fiber with (prism mirror))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1097	12	S1094 AND (semiconductor and fiber and short adj wave and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1100	4	"14717896"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1103	1	"2015320318"	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2018/04/20 10:57

EAST Search History

			EPO; JPO; DERWENT; IBM_TDB			
S1105	5012	optical with inner with measur\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1106	234	S1105 and ((target object sample ) with probe)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1107	89	S1106 and (interferen\$3 and fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1109	6239	catheter and probe and fiber and interference	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1110	2500	S1109 and ((target object sample ) with probe)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1111	2055	S1109 and ((target object sample ) with probe and human)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1112	293	S1111 and ((detect\$3 sensor) and rotat\$3 and displac\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1114	0	S1113 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1119	283	optical adj imaging adj probe	US-PGPUB; USPAT;	OR	OFF	2018/04/20 10:57

EAST Search History

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S1122	5012	optical with inner with measur\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1123	347	S1122 and (fiber with tube)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1124	51	S1123 and ((prism mirror) with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1126	130	NAMIKI adj SEIMITSU adj HOUSEKI adj KABUSHIKI adj KAISHA	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1127	3	S1126 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1132	1846	displace\$4 with detect\$3 with measur\$3 with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1133	3	S1132 and (probe with imaging)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1135	2872	detect\$3 with measur\$3 with amount with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57

EAST Search History

S1138	53184	(detect\$3 sensor) with measur\$3 with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1140	1710	(detect\$3 sensor) with measur\$3 with rotation near3 amount	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:57
S1142	2563	advantage near3 rotation with detect\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1143	0	S1142 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1145	1464	rotation with shaft and ( dynamic with pressure with bearing same groove)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1147	3419	dynamic adj pressure with bearing with dynamic with groove	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1149	1470	dynamic adj pressure with bearing with dynamic near2 groove	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1152	1228637	rotation with shaft	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1153	23728	rotation with shaft near3 hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2018/04/20 10:58

			DERWENT; IBM_TDB			
S1155	1935233	fiber with fixation with non\$1 rotatably	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1156	604062	fiber with fixation with non\$1 rotatably same rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1160	37860	rotation with shaft with hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1161	69	S1160 and (fiber with rotatable)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1162	416	S1160 and (fiber with rotat\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1163	2	S1162 and (actuator with slide with axis)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1164	12	S1162 and (actuator with axis)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1165	0	S1162 and (actuator with press with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1166	65	(actuator with press with fiber)	US-PGPUB; USPAT; USOCR;	OR	OFF	2018/04/20 10:58

EAST Search History

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S1168	142	direct with actuator with fiber	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1169	2	S1168 and (rotation with shaft with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1170	4	S1168 and (rotation with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1171	97488	rotation with hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1172	86	S1171 and (motor near3 hollow with back)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1174	2	S1172 and (fiber and (mirror prism))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1175	762	S1171 and (fiber and (mirror prism))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1177	794	direct with actuator with slid\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1179	104461	actuator with slid\$3	US-PGPUB;	OR	OFF	2018/04/20

EAST Search History

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			10:58
S1180	219	S1179 and (fiber with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1181	0	S1180 and (simultaneously with lightZZ)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1185	4352	S1179 and (slide with axial)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1188	1904	356/300.CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1189	90957	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1191	4	S1189 AND S1190 AND (blood pulp)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1192	34	S1190 AND (blood pulp)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1194	69	(semiconductor and fiber and short adj wave and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2018/04/20 10:58



EAST Search History

			IBM_TDB			
S1195	27	S1194 and (broadened with spectrum )	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1196	27	S1194 and (broadened with spectrum and infrared)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1197	34	S1194 and (spectroscopy and infrared)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1198	0	S1197 and ((detect\$3 sensor receiver) with hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1199	0	((detect\$3 sensor receiver) with hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1200	38	((detect\$3 sensor receiver) and hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1201	0	S1200 and (fiber with fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1202	0	S1200 and (fiber and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1203	0	nonlinear with element with nanometer with effect	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2018/04/20 10:58

			EPO; JPO; DERWENT; IBM_TDB			
S1204	217	interface with sample with spectroscopy	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1206	461	(fiber with fused with silica).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1207	6942	("5180378"   "5458122"   "5617871"   "6246896"   "6340806" "6443890"   "6611643"   "6847336"   "7167300"   "20060223032"   "20100331637"   "4063106"   "4275266"   "4462080" "4728974"   "5142930"   "5323404"   "5950629"   "6278975" "6350261"   "6442430"   "6453201"   "6534012"   "6788965" "6816241"   "8198589"   "7356364"   "20020082612"   "20020115914"   "20020178003"   "20080105665"   "5696778"   "5718234"   "6043927"   "6281471" "6603910"   "6659947"   "6802811"   "4704696"   "4776016" "4958910"   "5086401"   "5267323"   "6115673"   "6200309" "6246707"   "6301273"   "6337462"   "6567431"   "6587702" "6625180"   "6631025"   "6659999"   "6760148"   "7133710" "7433116"   "20110282167"   "20060245461"   "20060268393"   "5084880"   "5687734"   "20030022126"   "4158750"   "4516207"   "5303148"   "5313306" "5792204"   "5970457"   "6340806"   "6436107"   "6512936" "7010336"   "7299080"   "7519406"   "7697966"   "7787924" "8145286"   "20030152307"   "9207121")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1208	0	S1207 and ((detect\$3 sensor receiver) and hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1209	0	S1207 and ((rotation rotating) with fiber with (prism mirror))	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2018/04/20 10:58

EAST Search History

			EPO; JPO; DERWENT; IBM_TDB			
S1210	12	S1207 AND (semiconductor and fiber and short adj wave and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1212	4	"14717896"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1215	1	"2015320318"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1217	5012	optical with inner with measur\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1218	234	S1217 and ((target object sample ) with probe)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1219	89	S1218 and (interferen\$3 and fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1221	6239	catheter and probe and fiber and interference	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1222	2500	S1221 and ((target object sample ) with probe)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1223	2055	S1221 and ((target object sample ) with probe and human)	US-PGPUB; USPAT;	OR	OFF	2018/04/20 10:58

EAST Search History

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S1224	293	S1223 and ((detect\$3 sensor) and rotat\$3 and displac\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1226	0	S1225 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:58
S1231	283	optical adj imaging adj probe	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1234	5012	optical with inner with measur\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1235	347	S1234 and (fiber with tube)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1236	51	S1235 and ((prism mirror) with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1238	130	NAMIKI adj SEIMITSU adj HOUSEKI adj KABUSHIKI adj KAISHA	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1239	3	S1238 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59

EAST Search History

S1244	1846	displace\$4 with detect\$3 with measur\$3 with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1245	3	S1244 and (probe with imaging)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1247	2872	detect\$3 with measur\$3 with amount with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1250	53184	(detect\$3 sensor) with measur\$3 with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1252	1710	(detect\$3 sensor) with measur\$3 with rotation near3 amount	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1254	2563	advantage near3 rotation with detect\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1255	0	S1254 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1257	1464	rotation with shaft and ( dynamic with pressure with bearing same groove)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1259	3419	dynamic adj pressure with bearing with dynamic with groove	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2018/04/20 10:59

EAST Search History

			DERWENT; IBM_TDB			
S1261	1470	dynamic adj pressure with bearing with dynamic near2 groove	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1264	1228637	rotation with shaft	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1265	23728	rotation with shaft near3 hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1267	1935233	fiber with fixation with non\$1 rotatably	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1268	604062	fiber with fixation with non\$1 rotatably same rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1272	37860	rotation with shaft with hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1273	69	S1272 and (fiber with rotatable)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1274	416	S1272 and (fiber with rotat\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1275	2	S1274 and (actuator with slide with axis)	US-PGPUB; USPAT; USOCR;	OR	OFF	2018/04/20 10:59

EAST Search History

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S1276	12	S1274 and (actuator with axis)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1277	0	S1274 and (actuator with press with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1278	65	(actuator with press with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1280	142	direct with actuator with fiber	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1281	2	S1280 and (rotation with shaft with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1282	4	S1280 and (rotation with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1283	97488	rotation with hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1284	86	S1283 and (motor near3 hollow with back)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1286	2	S1284 and (fiber and (mirror	US-PGPUB;	OR	OFF	2018/04/20

EAST Search History

		prism))	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			10:59
S1287	762	S1283 and (fiber and (mirror prism))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1289	794	direct with actuator with slid\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1291	104461	actuator with slid\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1292	219	S1291 and (fiber with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1293	0	S1292 and (simultaneously with lightZZ)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1297	4352	S1291 and (slide with axial)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1300	1904	356/300.CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1301	90957	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2018/04/20 10:59



EAST Search History

			IBM_TDB			
S1303	4	S1301 AND S1302 AND (blood pulp)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1304	34	S1302 AND (blood pulp)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1306	69	(semiconductor and fiber and short adj wave and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 10:59
S1307	27	S1306 and (broadened with spectrum )	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1308	27	S1306 and (broadened with spectrum and infrared)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1309	34	S1306 and (spectroscopy and infrared)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1310	0	S1309 and ((detect\$3 sensor receiver) with hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1311	0	((detect\$3 sensor receiver) with hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1312	38	((detect\$3 sensor receiver) and hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2018/04/20 11:00

EAST Search History

			EPO; JPO; DERWENT; IBM_TDB			
S1313	0	S1312 and (fiber with fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1314	0	S1312 and (fiber and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1315	0	nonlinear with element with nanometer with effect	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1316	217	interface with sample with spectroscopy	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1318	461	(fiber with fused with silica).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1319	6942	("5180378"   "5458122"   "5617871"   "6246896"   "6340806"   "6443890"   "6611643"   "6847336"   "7167300"   "20060223032"   "20100331637"   "4063106"   "4275266"   "4462080"   "4728974"   "5142930"   "5323404"   "5950629"   "6278975"   "6350261"   "6442430"   "6453201"   "6534012"   "6788965"   "6816241"   "8198589"   "7356364"   "20020082612"   "20020115914"   "20020178003"   "20080105665"   "5696778"   "5718234"   "6043927"   "6281471"   "6603910"   "6659947"   "6802811"   "4704696"   "4776016"   "4958910"   "5086401"   "5267323"   "6115673"   "6200309"   "6246707"   "6301273"   "6337462"   "6567431"   "6587702"   "6625180"   "6631025"   "6659999"   "6760148"   "7133710"   "7433116"   "20110282167"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00

EAST Search History

		"20060245461"   "20060268393"   "5084880"   "5687734"   "20030022126"   "4158750"   "4516207"   "5303148"   "5313306"   "5792204"   "5970457"   "6340806"   "6436107"   "6512936"   "7010336"   "7299080"   "7519406"   "7697966"   "7787924"   "8145286"   "20030152307"   "9207121")				
S1320	0	S1319 and ((detect\$3 sensor receiver) and hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1321	0	S1319 and ((rotation rotating) with fiber with (prism mirror))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1322	12	S1319 AND (semiconductor and fiber and short adj wave and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1325	4	"14717896"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1326	1	"2015320318"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1327	5012	optical with inner with measur\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1328	234	S1327 and ((target object sample ) with probe)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1329	89	S1328 and (interferen\$3 and fiber)	US-PGPUB; USPAT;	OR	OFF	2018/04/20 11:00

EAST Search History

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S1330	6239	catheter and probe and fiber and interference	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1331	2500	S1330 and ((target object sample ) with probe)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1332	2055	S1330 and ((target object sample ) with probe and human)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1333	293	S1332 and ((detect\$3 sensor) and rotat\$3 and displac\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1334	25	S1333 and (rotation with shaft same motor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1335	0	S1334 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1338	283	optical adj imaging adj probe	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1339	5012	optical with inner with measur\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00

EAST Search History

S1340	347	S1339 and (fiber with tube)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1341	51	S1340 and ((prism mirror) with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1342	130	NAMIKI adj SEIMITSU adj HOUSEKI adj KABUSHIKI adj KAISHA	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1343	3	S1342 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1345	1846	displace\$4 with detect\$3 with measur\$3 with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1346	3	S1345 and (probe with imaging)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1347	2872	detect\$3 with measur\$3 with amount with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1348	53184	(detect\$3 sensor) with measur\$3 with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:00
S1349	1710	(detect\$3 sensor) with measur\$3 with rotation near3 amount	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2018/04/20 11:01

EAST Search History

			DERWENT; IBM_TDB			
S1350	2563	advantage near3 rotation with detect\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1351	0	S1350 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1352	1464	rotation with shaft and ( dynamic with pressure with bearing same groove)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1353	3419	dynamic adj pressure with bearing with dynamic with groove	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1354	1470	dynamic adj pressure with bearing with dynamic near2 groove	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1355	1228637	rotation with shaft	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1356	23728	rotation with shaft near3 hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1357	1935233	fiber with fixation with non\$1 rotatably	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1358	604062	fiber with fixation with non\$1 rotatably same rotation	US-PGPUB; USPAT; USOCR;	OR	OFF	2018/04/20 11:01

EAST Search History

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S1360	37860	rotation with shaft with hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1361	69	S1360 and (fiber with rotatable)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1362	416	S1360 and (fiber with rotat\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1363	2	S1362 and (actuator with slide with axis)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1364	12	S1362 and (actuator with axis)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1365	0	S1362 and (actuator with press with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1366	65	(actuator with press with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1367	142	direct with actuator with fiber	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1368	2	S1367 and (rotation with shaft with	US-PGPUB;	OR	OFF	2018/04/20

EAST Search History

		hollow)	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			11:01
S1369	4	S1367 and (rotation with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1370	97488	rotation with hollow	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1371	86	S1370 and (motor near3 hollow with back)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1372	2	S1371 and (fiber and (mirror prism))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1373	762	S1370 and (fiber and (mirror prism))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1374	794	direct with actuator with slid\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1375	1904	356/300.CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1376	90957	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2018/04/20 11:01



EAST Search History

			IBM_TDB			
S1378	4	S1376 AND S1377 AND (blood pulp)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1379	34	S1377 AND (blood pulp)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1381	69	(semiconductor and fiber and short adj wave and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1382	27	S1381 and (broadened with spectrum )	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1383	27	S1381 and (broadened with spectrum and infrared)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1384	34	S1381 and (spectroscopy and infrared)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1385	0	S1384 and ((detect\$3 sensor receiver) with hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1386	0	((detect\$3 sensor receiver) with hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1387	38	((detect\$3 sensor receiver) and hydro adj carbon with bond)	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2018/04/20 11:01

EAST Search History

			EPO; JPO; DERWENT; IBM_TDB			
S1388	0	S1387 and (fiber with fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1389	0	S1387 and (fiber and fused with silica)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1390	0	nonlinear with element with nanometer with effect	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1391	217	interface with sample with spectroscopy	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1392	461	(fiber with fused with silica).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1393	6942	("5180378"   "5458122"   "5617871"   "6246896"   "6340806"   "6443890"   "6611643"   "6847336"   "7167300"   "20060223032"   "20100331637"   "4063106"   "4275266"   "4462080"   "4728974"   "5142930"   "5323404"   "5950629"   "6278975"   "6350261"   "6442430"   "6453201"   "6534012"   "6788965"   "6816241"   "8198589"   "7356364"   "20020082612"   "20020115914"   "20020178003"   "20080105665"   "5696778"   "5718234"   "6043927"   "6281471"   "6603910"   "6659947"   "6802811"   "4704696"   "4776016"   "4958910"   "5086401"   "5267323"   "6115673"   "6200309"   "6246707"   "6301273"   "6337462"   "6567431"   "6587702"   "6625180"   "6631025"   "6659999"   "6760148"   "7133710"   "7433116"   "20110282167"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01

EAST Search History

		"20060245461"   "20060268393"   "5084880"   "5687734"   "20030022126"   "4158750"   "4516207"   "5303148"   "5313306" "5792204"   "5970457"   "6340806"   "6436107"   "6512936" "7010336"   "7299080"   "7519406"   "7697966"   "7787924" "8145286"   "20030152307"   "9207121")				
S1394	0	S1393 and ((detect\$3 sensor receiver) and hydro adj carbon with bond)	US-PGPUB; OR USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1395	0	S1393 and ((rotation rotating) with fiber with (prism mirror))	US-PGPUB; OR USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1396	12	S1393 AND (semiconductor and fiber and short adj wave and fused with silica)	US-PGPUB; OR USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1397	4	"14717896"	US-PGPUB; OR USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1398	1	"2015320318"	US-PGPUB; OR USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1399	5012	optical with inner with measur\$3	US-PGPUB; OR USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1400	234	S1399 and ((target object sample ) with probe)	US-PGPUB; OR USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1401	89	S1400 and (interferen\$3 and fiber)	US-PGPUB; OR USPAT;	OR	OFF	2018/04/20 11:01

EAST Search History

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S1404	283	optical adj imaging adj probe	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1405	5012	optical with inner with measur\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1406	347	S1405 and (fiber with tube)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1407	51	S1406 and ((prism mirror) with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1408	130	NAMI KI adj SEIMITSU adj HOUSEKI adj KABUSHI KI adj KAISHA	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1409	3	S1408 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1411	1846	displace\$4 with detect\$3 with measur\$3 with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1412	3	S1411 and (probe with imaging)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01

EAST Search History

S1413	2872	detect\$3 with measur\$3 with amount with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1414	53184	(detect\$3 sensor) with measur\$3 with rotation	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1415	1710	(detect\$3 sensor) with measur\$3 with rotation near3 amount	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:01
S1416	2563	advantage near3 rotation with detect\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:02
S1417	0	S1416 and (optical with inner with measur\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:02
S1419	65	(actuator with press with fiber)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:02
S1420	142	direct with actuator with fiber	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:02
S1421	2	S1420 and (rotation with shaft with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:02
S1422	4	S1420 and (rotation with hollow)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2018/04/20 11:02

EAST Search History

			DERWENT; IBM_TDB			
S1423	794	direct with actuator with slid\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:02
S1424	1904	356/300.CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:02
S1426	34	S1425 AND (blood pulp)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/04/20 11:02

**EAST Search History (Interference)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	6153	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US- PGPUB; USPAT	OR	OFF	2018/10/28 08:29
L2	14	L1 and (fiber with fused with silica).clm.	US- PGPUB; USPAT	OR	OFF	2018/10/28 08:29
L3	0	L1 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US- PGPUB; USPAT	OR	OFF	2018/10/28 08:29
L4	478	(fiber with fused with silica).clm.	US- PGPUB; USPAT	OR	OFF	2018/10/28 08:29
L5	0	L4 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US- PGPUB; USPAT	OR	OFF	2018/10/28 08:29
L6	0	nonlinear with element same nanometer with effect.clm.	US- PGPUB; USPAT	OR	OFF	2018/10/28 08:29
L7	0	nonlinear with element with nanometer with effect.clm.	US- PGPUB; USPAT	OR	OFF	2018/10/28 08:30
L8	6153	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US- PGPUB; USPAT	OR	OFF	2018/10/28 08:33
L9	5	L8 AND (semiconductor and fiber and short adj wave and fused with silica).clm.	US- PGPUB; USPAT	OR	OFF	2018/10/28 08:33
L10	0	L1 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US- PGPUB; USPAT	OR	OFF	2018/10/28 08:33

L11	6153	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT	OR	OFF	2018/10/28 08:33
L12	0	L11 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/10/28 08:33
L13	0	nonlinear with element same nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/10/28 08:33
L14	0	nonlinear with element same nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/10/28 08:33
L15	0	L11 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/10/28 08:33
S110	3495	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:54
S111	91	S110 AND (blood pulp).clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:54
S112	0	nonlinear with element with nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:54
S113	0	S110 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:55
S114	407	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:55
S115	2424	(spectroscopy and infrared).clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:55
S116	2	S110 AND (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:55
S117	0	S110 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:55
S118	0	nonlinear with element same nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:56
S119	0	((detect\$3 sensor receiver) and hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:56
S120	6	(semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:56
S121	407	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:57
S122	3	S110 and (fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:57
S123	0	S121 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:57

EAST Search History

S124	6	S121 and (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:57
S125	6	S121 AND (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2016/07/02 11:57
S245	4892	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S246	149	S245 AND (blood pulp).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S247	0	nonlinear with element with nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S248	0	S245 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S249	447	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S250	2725	(spectroscopy and infrared).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S251	5	S245 AND (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S252	0	S245 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S253	0	nonlinear with element same nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S254	0	((detect\$3 sensor receiver) and hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S255	9	(semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S256	447	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S257	9	S245 and (fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S258	0	S256 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S259	9	S256 and (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S260	9	S256 AND (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/30 15:48
S491	5428	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14



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S492	177	S491 AND (blood pulp).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S493	0	nonlinear with element with nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S494	0	S491 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S495	460	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S496	2836	(spectroscopy and infrared).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S497	5	S491 AND (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S498	0	S491 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S499	0	nonlinear with element same nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S500	0	((detect\$3 sensor receiver) and hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S501	9	(semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S502	460	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S503	10	S491 and (fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S504	0	S502 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S505	9	S502 and (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S506	9	S502 AND (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S507	5428	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S508	177	S507 AND (blood pulp).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S509	0	nonlinear with element with nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S510	0	S507 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14

EAST Search History

S511	460	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S512	2836	(spectroscopy and infrared).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S513	5	S507 AND (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S514	0	S507 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S515	0	nonlinear with element same nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S516	0	((detect\$3 sensor receiver) and hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S517	9	(semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S518	460	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S519	10	S507 and (fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S520	0	S518 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S521	9	S518 and (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S522	9	S518 AND (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/06 15:14
S839	5428	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S840	177	S839 AND (blood pulp).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S841	0	nonlinear with element with nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S842	0	S839 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S843	460	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S844	2836	(spectroscopy and infrared).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S845	5	S839 AND (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33

S846	0	S839 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S847	0	nonlinear with element same nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S848	0	((detect\$3 sensor receiver) and hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S849	9	(semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S850	460	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S851	10	S839 and (fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S852	0	S850 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S853	9	S850 and (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S855	5428	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S856	177	S855 AND (blood pulp).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S857	0	nonlinear with element with nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S858	0	S855 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S859	460	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S860	2836	(spectroscopy and infrared).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S861	5	S855 AND (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S862	0	S855 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S863	0	nonlinear with element same nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S864	0	((detect\$3 sensor receiver) and hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S865	9	(semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33

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S866	460	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S867	10	S855 and (fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S868	0	S866 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S869	9	S866 and (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/07 09:33
S1427	5477	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:55
S1428	177	S1427 AND (blood pulp).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:55
S1429	0	nonlinear with element with nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:55
S1430	0	S1427 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:55
S1431	461	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:55
S1432	2844	(spectroscopy and infrared).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:55
S1433	5	S1427 AND (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:55
S1434	0	S1427 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:56
S1435	0	nonlinear with element same nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:56
S1436	0	((detect\$3 sensor receiver) and hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:56
S1437	9	(semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:56
S1438	461	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:56
S1439	10	S1427 and (fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:56
S1440	0	S1438 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:56
S1441	9	S1438 and (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:56

S1443	5477	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:57
S1444	177	S1443 AND (blood pulp).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:57
S1445	0	nonlinear with element with nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:57
S1446	0	S1443 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:57
S1447	461	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:57
S1448	2844	(spectroscopy and infrared).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:57
S1449	5	S1443 AND (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:57
S1450	0	S1443 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:57
S1451	0	nonlinear with element same nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:57
S1452	0	((detect\$3 sensor receiver) and hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:57
S1453	9	(semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:57
S1454	461	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:57
S1455	10	S1443 and (fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:57
S1456	0	S1454 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:57
S1457	9	S1454 and (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 10:57
S1459	5477	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/552	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
S1460	177	S1459 AND (blood pulp).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
S1461	0	nonlinear with element with nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
S1462	0	S1459 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00

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S1463	461	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
S1464	2844	(spectroscopy and infrared).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
S1465	5	S1459 AND (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
S1466	0	S1459 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
S1467	0	nonlinear with element same nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
S1468	0	((detect\$3 sensor receiver) and hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
S1469	9	(semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
S1470	461	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
S1471	10	S1459 and (fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
S1472	0	S1470 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
S1473	9	S1470 and (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
S1475	5477	G01J3/02 G01J3/28 G01J3/42, G01N21/31, G01N21/52	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
S1476	177	S1475 AND (blood pulp).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
S1477	0	nonlinear with element with nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
S1478	0	S1475 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
S1479	461	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
S1480	2844	(spectroscopy and infrared).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
S1481	5	S1475 AND (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
S1482	0	S1475 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00

EAST Search History

S1483	0	nonlinear with element same nanometer with effect.clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
S1484	0	((detect\$3 sensor receiver) and hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
S1485	9	(semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
S1486	461	(fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
S1487	10	S1475 and (fiber with fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
S1488	0	S1486 and ((detect\$3 sensor receiver) with hydro adj carbon with bond).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00
S1489	9	S1486 and (semiconductor and fiber and short adj wave and fused with silica).clm.	US-PGPUB; USPAT	OR	OFF	2018/04/20 11:00

10/ 28/ 2018 8:33:50 AM

C:\ Users\ mrahman2\ Documents\ EAST\ Workspaces\ 15594053 short wave blood.wsp

## Bibliographic Data

Application No: 15/594,053

Foreign Priority claimed:  Yes  No

35 USC 119 (a-d) conditions met:  Yes  No

Met After Allowance

Verified and Acknowledged:

/MD M RAHMAN/

Examiner's Signature

Initials

Title:

SYSTEM CONFIGURED FOR MEASURING PHYSIOLOGICAL  
PARAMETERS

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FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
05/12/2017	356	2886	OMNI 0105 PUSP2
<b>RULE</b>			

### APPLICANTS

OMNI MEDSCI, INC., Ann Arbor, MI, UNITED STATES

### INVENTORS

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### CONTINUING DATA

This application is a CON of 14875709 10/06/2015 PAT 9651533

14875709 is a CON of 14108986 12/17/2013 PAT 9164032

14108986 has PRO of 61747487 12/31/2012

### FOREIGN APPLICATIONS

#### IF REQUIRED, FOREIGN LICENSE GRANTED\*\*

05/19/2017

\*\* SMALL ENTITY \*\*

### STATE OR COUNTRY

UNITED STATES

### ADDRESS

Brooks, Kushman P.C./Cheetah Omni MedSci

1000 Town Center

Twenty Second Floor

Southfield, MI 48075

UNITED STATES

### FILING FEE RECEIVED

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Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

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I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/594,053	05/12/2017	Mohammed N. ISLAM	OMNI 0105 PUSP2	1876

TITLE OF INVENTION: SYSTEM CONFIGURED FOR MEASURING PHYSIOLOGICAL PARAMETERS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$500	\$0.00	\$500.00	\$0	02/11/2019

EXAMINER	ART UNIT	CLASS-SUBCLASS
RAHMAN, MD M	2886	356-300000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
- (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Brooks Kushman P.C.  
 2 \_\_\_\_\_  
 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Omni Medsci, Inc.

Ann Arbor, MI

Please check the appropriate assignee category or categories (will not be printed on the patent):  Individual  Corporation or other private group entity  Government

4a. Fees submitted:  Issue Fee  Publication Fee (if required)  Advance Order - # of Copies \_\_\_\_\_

4b. Method of Payment: (Please first reapply any previously paid fee shown above)

- Electronic Payment via EFS-Web  Enclosed check  Non-electronic payment by credit card (Attach form PTO-2038)

The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. 02-3978

5. Change in Entity Status (from status indicated above)

- Applicant certifying micro entity status. See 37 CFR 1.29
- Applicant asserting small entity status. See 37 CFR 1.27
- Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /David S. Bir/

Date November 12, 2018

Typed or printed name David S. Bir

Registration No. 38,383

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	34273284
<b>Application Number:</b>	15594053
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	1876
<b>Title of Invention:</b>	SYSTEM CONFIGURED FOR MEASURING PHYSIOLOGICAL PARAMETERS
<b>First Named Inventor/Applicant Name:</b>	Mohammed N. ISLAM
<b>Customer Number:</b>	109543
<b>Filer:</b>	David S. Bir
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	OMNI 0105 PUSP2
<b>Receipt Date:</b>	15-NOV-2018
<b>Filing Date:</b>	12-MAY-2017
<b>Time Stamp:</b>	17:24:31
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	no
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	Issue_Fee_Transmittal.PDF	244466  7116f6118d0346f0188844d342cb35a6815fbcd	no	1

### Warnings:

<b>Information:</b>	
<b>Total Files Size (in bytes):</b>	244466
<p><b>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b>  <b>If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</b></p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  <b>If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</b></p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  <b>If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</b></p>	

**PART B - FEE(S) TRANSMITTAL**

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE  
 Commissioner for Patents  
 P.O. Box 1450  
 Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

**INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

109543 7590 11/09/2018  
 Brooks, Kushman P.C./Cheetah Omni MedSci  
 1000 Town Center  
 Twenty Second Floor  
 Southfield, MI 48075



Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

**Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

_____	(Typed or printed name)
_____	(Signature)
_____	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/594,053	05/12/2017	Mohammed N. ISLAM	OMNI 0105 PUSP2	1876

TITLE OF INVENTION: SYSTEM CONFIGURED FOR MEASURING PHYSIOLOGICAL PARAMETERS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$500	\$0.00	\$500.00	\$0	02/11/2019

11/16/2018 HVUONG2 00000011 023978 15594053

EXAMINER	ART UNIT	CLASS-SUBCLASS
RAHMAN, MD M	2886	356-300000

01 FC:2501 500.00 DA

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list

- (1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
- (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Brooks Kushman P.C.  
 2 \_\_\_\_\_  
 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

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(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Omni Medsci, Inc.

Ann Arbor, MI

Please check the appropriate assignee category or categories (will not be printed on the patent):  Individual  Corporation or other private group entity  Government

4a. Fees submitted:  Issue Fee  Publication Fee (if required)  Advance Order - # of Copies \_\_\_\_\_

4b. Method of Payment: (Please first reapply any previously paid fee shown above)

- Electronic Payment via EFS-Web  Enclosed check  Non-electronic payment by credit card (Attach form PTO-2038)
- The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. 02-3978

5. Change in Entity Status (from status indicated above)

- Applicant certifying micro entity status. See 37 CFR 1.29
- Applicant asserting small entity status. See 37 CFR 1.27
- Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.  
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 NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /David S. Bir/

Date November 12, 2018

Typed or printed name David S. Bir

Request No. 023978 11/16/2018 HVUONG2

05/24/2018 INIEFSW 00002601 023978 15594053

01 FC:2501 500.00 DA



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 5 columns: APPLICATION NO., ISSUE DATE, PATENT NO., ATTORNEY DOCKET NO., CONFIRMATION NO.
Row 1: 15/594,053, 01/29/2019, 10188299, OMNI 0105 PUSP2, 1876

109543 7590 01/09/2019
Brooks, Kushman P.C./Cheetah Omni MedSci
1000 Town Center
Twenty Second Floor
Southfield, MI 48075

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Mohammed N. ISLAM, Ann Arbor, MI;
OMNI MEDSCI, INC., Ann Arbor, MI;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of:

MOHAMMED N. ISLAM

Serial No.: 15/594,053

Filed: May 12, 2017

For: SYSTEM CONFIGURED FOR MEASURING  
PHYSIOLOGICAL PARAMETERS

Group Art Unit: 2886

Examiner: RAHMAN, MD M.

Attorney Docket No.: OMNI0105PUSP2

**REQUEST FOR CERTIFICATE OF CORRECTION**

Attention Certificate of Correction Branch  
Commissioner for Patents  
U.S. Patent & Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450

Commissioner:

It is requested that a Certificate of Correction be issued for the above-identified patent under the provisions of 37 C.F.R. § 1.322. The corrections noted are as follows:

Column 34, Lines 5-6, Claim 7:  
(Page 4, Line 18, Claim 6: Amendment dated October 21, 2018):

After “generate a first signal responsive to light”  
Insert – received --.

Column 34, Line 12, Claim 8:  
(Page 5, Line 1, Claim 7: Amendment dated April 19, 2018):

After “The system of claim”  
Delete “4” and  
Insert – 7 --.

Column 34, Line 18, Claim 9:  
(Page 6, line 1, Claim 8: Amendment dated April 19, 2018):

After “The system of claim”  
Delete “5” and  
Insert – 8 --.

Column 35, Line 22, Claim 16:  
Page 6, Line 2, Claim 13: Amendment dated October 21, 2018):

After “comprises at least”  
Delete “on” and  
Insert – one --.

Column 36, Line 5, Claim 17:  
Page 7, Line 1, Claim 14: Amendment dated April 19, 2018):

After “The system of claim”  
Delete “9” and  
Insert – 16 --.

Column 36, Line 7, Claim 18:  
(Page 7, Line 1, Claim 18: Amendment dated April 19, 2018):

After “The system of claim”  
Delete “8” and  
Insert – 15 --.

Column 36, Line 16, Claim 19:  
(Page 8, Line 1, Claim 19: Amendment dated April 19, 2018):

After “The system of claim”  
Delete 8” and  
Insert – 15 --.

Column 36, Line 19, Claim 20:  
(Page 8, Line 1, Claim 20: Amendment dated April 19, 2018):

After “The system of claim”  
Delete “8” and  
Insert – 15 --.

Applicant requests a Certificate of Correction to correct an error of omission in patent claim 7, a typographical error in patent claim 16, and claim dependency in patent claims 8-9, and 17-20 introduced when claims were renumbered/re-ordered for printing as supported by the record noted above.

Filed herewith is the form for Certificate of Correction (PTO/SB/44). The Commissioner is hereby authorized to charge any additional fees to our Deposit Account No. 02-3978.

Respectfully submitted,

**MOHAMMED N. ISLAM**

By: /David S. Bir/  
David S. Bir  
Reg. No. 38,383  
Attorney/Agent for Applicant

Date: February 12, 2019

**BROOKS KUSHMAN P.C.**  
1000 Town Center, 22nd Floor  
Southfield, MI 48075-1238  
Phone: 248-358-4400  
Fax: 248-358-3351



**UNITED STATES PATENT AND TRADEMARK OFFICE  
CERTIFICATE OF CORRECTION**

Page 1 of 2

PATENT NO.: 10,188,299  
APPLICATION NO.: 15/594,053  
ISSUE DATE: January 29, 2019  
INVENTOR(S): MOHAMMED N. ISLAM (et al.)

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 34, Lines 5-6, Claim 7:

After "generate a first signal responsive to light"  
Insert – received --.

Column 34, Line 12, Claim 8:

After "The system of claim"  
Delete "4" and  
Insert – 7 --.

Column 34, Line 18, Claim 9:

After "The system of claim"  
Delete "5" and  
Insert – 8 --.

Column 35, Line 22, Claim 16:

After "comprises at least"  
Delete "on" and  
Insert – one --.

Column 36, Line 5, Claim 17:

After "The system of claim"  
Delete "9" and  
Insert – 16 --.

MAILING ADDRESS OF SENDER (Please do not use customer number below):

**BROOKS KUSHMAN P.C.**  
**1000 Town Center, 22<sup>nd</sup> Floor**  
**Southfield, MI 48075-1238**

Column 36, Line 7, Claim 18:

After “The system of claim”  
Delete “8” and  
Insert – 15 --.

Column 36, Line 16, Claim 19:

After “The system of claim”  
Delete 8” and  
Insert – 15 --.

Column 36, Line 19, Claim 20:

After “The system of claim”  
Delete “8” and  
Insert – 15 --.

MAILING ADDRESS OF SENDER (Please do not use customer number below):

**BROOKS KUSHMAN P.C.**  
**1000 Town Center, 22<sup>nd</sup> Floor**  
**Southfield, MI 48075-1238**

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	35132606
<b>Application Number:</b>	15594053
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	1876
<b>Title of Invention:</b>	SYSTEM CONFIGURED FOR MEASURING PHYSIOLOGICAL PARAMETERS
<b>First Named Inventor/Applicant Name:</b>	Mohammed N. ISLAM
<b>Customer Number:</b>	109543
<b>Filer:</b>	David S. Bir
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	OMNI 0105 PUSP2
<b>Receipt Date:</b>	12-FEB-2019
<b>Filing Date:</b>	12-MAY-2017
<b>Time Stamp:</b>	22:05:37
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	no
------------------------	----

### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Certificate of Correction	Req_Cert-Corr.pdf	20639 <small>c2976af51296c441a8328f84feb3b0eb634c9fba</small>	no	3

### Warnings:

<b>Information:</b>					
2	Request for Certificate of Correction	Cert_Corr.pdf	20594	no	2
			13a8ad2d0b79d2556ccc61fe0c8f4fec49afd015		
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>				41233	
<p><b>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b>  If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					

UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

PATENT NO. : 10,188,299 B2  
APPLICATION NO. : 15/594053  
DATED : January 29, 2019  
INVENTOR(S) : Mohammed N. Islam et al.

Page 1 of 2

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Claims

Column 34, Lines 5-6, Claim 7:  
After "generate a first signal responsive to light"  
Insert -- received --.

Column 34, Line 12, Claim 8:  
After "The system of claim"  
Delete "4" and  
Insert -- 7 --.

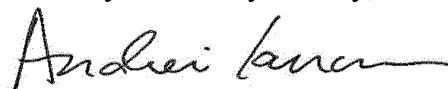
Column 34, Line 18, Claim 9:  
After "The system of claim"  
Delete "5" and  
Insert -- 8 --.

Column 35, Line 22, Claim 16:  
After "comprises at least"  
Delete "on" and  
Insert -- one --.

Column 36, Line 5, Claim 17:  
After "The system of claim"  
Delete "9" and  
Insert -- 16 --.

Column 36, Line 7, Claim 18:  
After "The system of claim"  
Delete "8" and  
Insert -- 15 --.

Signed and Sealed this  
Twenty-third Day of July, 2019



Andrei Iancu  
*Director of the United States Patent and Trademark Office*

**CERTIFICATE OF CORRECTION (continued)**  
**U.S. Pat. No. 10,188,299 B2**

Page 2 of 2

Column 36, Line 16, Claim 19:  
After "The system of claim"  
Delete "8" and  
Insert -- 15 --.

Column 36, Line 19, Claim 20:  
After "The system of claim"  
Delete "8" and  
Insert -- 15 --.