

**UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD**

In Re: U.S. Patent 7,116,710 : Attorney Docket No. 082944.0102
Inventor: Hui Jin, *et. al.* :
Filed: May 18, 2001 :
Claimed Priority: May 18, 2000 :
Issued: October 3, 2006 : IPR No. Unassigned
Assignee: California Institute of Technology
Title: Serial Concatenation of Interleaved Convolutional Codes Forming
Turbo-Like Codes

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Patent Trial and Appeal Board
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Submitted Electronically via the Patent Review Processing System

**PETITION FOR *INTER PARTES* REVIEW OF CLAIMS 1, 3, 4, 5, 6, 15, 16,
20, 21, and 22 OF U.S. PATENT NO. 7,116,710 UNDER §§ 42.100 *ET SEQ.*
BASED ON FREY AS A LEAD REFERENCE**

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LIST OF EXHIBITS

1001	U.S. Patent No. 7,116,710 by Hui Jin, <i>et. al.</i> entitled “Serial Concatenation of Interleaved Convolutional Codes Forming Turbo-Like Codes.” (the “’710 Patent”)
1002	Prosecution History of the ’710 Patent
1003	U.S. Patent No. 7,421,032 by Hui Jin, <i>et. al.</i> entitled “Serial Concatenation of Interleaved Convolutional Codes Forming Turbo-Like Codes.” (the “’032 Patent”)
1004	Prosecution History of the ’032 Patent
1005	U.S. Patent No. 7,421,781 by Hui Jin, <i>et. al.</i> entitled “Serial Concatenation of Interleaved Convolutional Codes Forming Turbo-Like Codes.” (the “’781 Patent”)
1006	Prosecution History of the ’781 Patent
1007	U.S. Patent No. 8,284,833 by Hui Jin, <i>et. al.</i> entitled “Serial Concatenation of Interleaved Convolutional Codes Forming Turbo-Like Codes.” (the “’833 Patent”)
1008	Prosecution History of the ’833 Patent
1009	U.S. Provisional Application Ser. No. 60/205,095 by Hui Jin, <i>et. al.</i> (the “’095 Provisional Application”)
1010	Declaration of Henry D. Pfister, Ph.D.
1011	D. Divsalar, H. Jin, and R. J. McEliece, “Coding Theorems for “Turbo-like” Codes.” <i>Proc. 36th Allerton Conf. on Comm., Control and Computing</i> , Allerton, Illinois, pp. 201-210, Sept. 1998 (“ <i>Divsalar</i> ”) (published no later than April 30, 1999 at the University of Texas library)
1012	B.J. Frey and D.J.C. MacKay, “Irregular Turbocodes.” from the 37th Allerton Conference (“ <i>Frey</i> ”) (published no later than October 8, 1999 at the website of D.J.C. MacKay)

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1013	E.K. Hall and S.G. Wilson, “Stream-Oriented Turbo Codes.” <i>48th IEEE Vehicular Technology Conference</i> , pp. 71-76, 1998 (“Hall”) (published no later than June 23, 1998 at the Library of Congress)
1014	L. Ping, W. K. Leung, N. Phamdo, “Low Density Parity Check Codes with Semi-random Parity Check Matrix.” <i>Electron. Letters</i> , Vol. 35, No. 1, pp. 38-39, Jan. 7th, 1999 (“Ping”) (published no later than April 22, 1999 at the Library of Congress)
1015	M. Luby, M. Mitzenmacher, A. Shokrollah, D. Spielman, “Analysis of Low Density Codes and Improved Designs Using Irregular Graphs.” <i>STOC ’98 Proceedings of the Thirtieth Annual ACM symposium on Theory of Computing</i> , pp. 249-258, 1998 (“Luby”) (published no later than July 30, 1998 at the University of Washington)
1016	U.S. Patent No. 6,081,909 by Michael Luby, <i>et. al.</i> entitled “Irregularly Graphed Encoding Technique.” (“the Luby ’909 Patent”) (filed November 6, 1997 and issued June 27, 2000)
1017	F. R. Kschischang and B. J. Frey, “Iterative decoding of compound codes by probability propagation in graphical models.” <i>IEEE Journal on Selected Areas in Communications</i> , 16, 219-230. 1998. (“Kschischang”) (published no later than February 23, 1998 at the Library of Congress)
1018	U.S. Patent No. 7,089,477 by Michael Divsalar, <i>et. al.</i> entitled “Interleaved Serial Concatenation Forming Turbo-Like Codes .” (“the ’477 Patent”)
1019	RA.c code (including RA.c, and supporting files)
1020	J.L. Hennessy and D.A. Patterson, <u>Computer organization and design: the hardware/software interface</u> . 1994. (“Hennessy”) (published no later than November 8, 1994 at the Library of Congress)
1021	Complaint, <i>California Institute of Technology v. Hughes Communications, Inc. et. al.</i> , No. 13-CV-07245 (CACD)
1022	Amended Complaint, <i>California Institute of Technology v. Hughes Communications, Inc. et. al.</i> , No. 13-CV-07245 (CACD)

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