EXHIBIT B.03
U.S. Patent No. 7,604,716

References cited herein:

- U.S. Patent No. 7,604,716 ("'716 Patent")
- D.V. Mozgrin, *et al*, High-Current Low-Pressure Quasi-Stationary Discharge in a Magnetic Field: Experimental Research, Plasma Physics Reports, Vol. 21, No. 5, 1995 ("Mozgrin")
- A. A. Kudryavtsev, *et al*, Ionization relaxation in a plasma produced by a pulsed inert-gas discharge, Sov. Phys. Tech. Phys. 28(1), January 1983 ("Kudryavtsev")
- U.S. Pat. No. 6,190,512 ("Lantsman")
- Milton Ohring, The Material Science of Thin Films, Academic Press, 1992 ("Ohring")
- Donald L. Smith, Thin-Film Deposition: Principles & Practice, McGraw Hill, 1995 ("Smith")

Claims 19 and 20	**Mozgrin in view of Kudryavtsev and Lantsman**
14. A method for generating a strongly-ionized plasma, the method comprising:	The combination of Mozgrin with Kudryavtsev discloses a method for generating a strongly-ionized plasma. '716 Patent at claim 24 ("wherein the peak plasma density of the strongly-ionized plasma is greater than about 10^{12} cm^{-3}") Mozgrin at Fig 1 Mozgrin at 400, right col, ¶ 4 ("To study the high-current forms of the discharge, we used two types of devices: a planar magnetron and a ystem with specifically shaped hollow electrodes.") Mozgrin at 401, right col, ¶2 ("For pre-ionization … the initial plasma density in the $10^9 – 10^{11}$ cm^{-3} range.") Mozgrin at 409, left col, ¶ 4 ("The implementation of the high-current magnetron discharge (regime 2) in sputtering … plasma density (exceeding $2x10^{13}$ cm^{-3}).") Mozgrin at 409, left col, ¶5 ("The high-current diffuse discharge (regime 3) is useful for producing large-volume uniform dense plasmas $n_i \cong 1.5x10^{15} cm^{-3}$…").
a. ionizing a feed gas in a chamber to form a weakly-ionized	The combination of Mozgrin with Kudryavtsev discloses ionizing a feed gas in a chamber to form a weakly-ionized plasma that substantially eliminates the probability of developing an electrical

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plasma that substantially eliminates the probability of developing an electrical breakdown condition in the chamber; and	breakdown condition in the chamber. '716 Patent at 5:14-15 ("The weakly-ionized plasma 232 is also referred to as a pre-ionized plasma.") '716 Patent at claim 23 ("wherein the peak plasma density of the weakly-ionized plasma is less than about 10^{12} cm^{-3}") Mozgrin at Figs. 1, 2, 3, 6, 7 Mozgrin at 401, left col, ¶ 1 ("The [plasma] discharge had an annular shape and was adjacent to the cathode.") Mozgrin at 401, left col, ¶ 4 ("[A]pplying a square voltage pulse to the discharge gap which was filled up with either neutral or pre-ionized gas.") Mozgrin at 402, right col, ¶2 ("Figure 3 shows typical voltage and current oscillograms.… Part I in the voltage oscillogram represents the voltage of the stationary discharge (pre-ionization stage).") Mozgrin at 401, right col, ¶2 ("[f]or pre-ionization, we used a stationary magnetron discharge; … provided the initial plasma density in the 10^9 – 10^{11} cm^{-3} range.") Mozgrin at 400, right col, ¶ 3 ("We investigated the discharge regimes in various gas mixtures at 10^{-3} – 10 torr…") Mozgrin at 402, ¶ spanning left and right cols ("We studied the high-current discharge in wide ranges of discharge current…and operating pressure…using various gases (Ar, N_2, SF_6, and H_2) or their mixtures of various composition…")
b. supplying an electrical pulse across the weakly-ionized plasma that excites atoms in the weakly-ionized plasma, thereby generating a strongly-ionized plasma without developing an electrical breakdown	The combination of Mozgrin with Kudryavtsev discloses supplying an electrical pulse across the weakly-ionized plasma that excites atoms in the weakly-ionized plasma, thereby generating a strongly-ionized plasma without developing an electrical breakdown condition in the chamber. '716 Patent at claim 23 ("wherein the peak plasma density of the weakly-ionized plasma is less than about 10^{12} cm^{-3}") '716 Patent at claim 24 ("wherein the peak plasma density of the strongly-ionized plasma is greater than about 10^{12} cm^{-3}")

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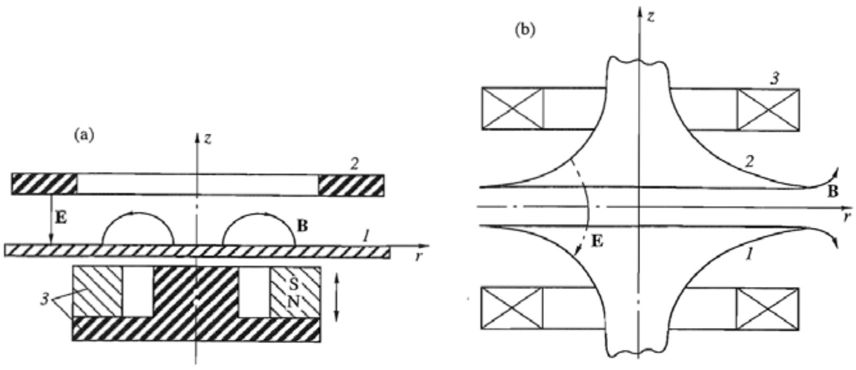
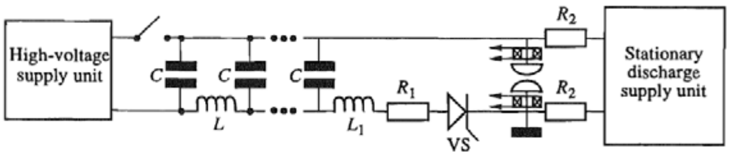
condition in the chamber.	Mozgrin at Fig. 1  Fig. 1. Discharge device configurations: (a) planar magnetron; (b) shaped-electrode configuration. (1) Cathode; (2) anode; (3) magnetic system. Mozgrin at Fig. 2  Fig. 2. Discharge supply unit. Mozgrin at Fig. 3

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	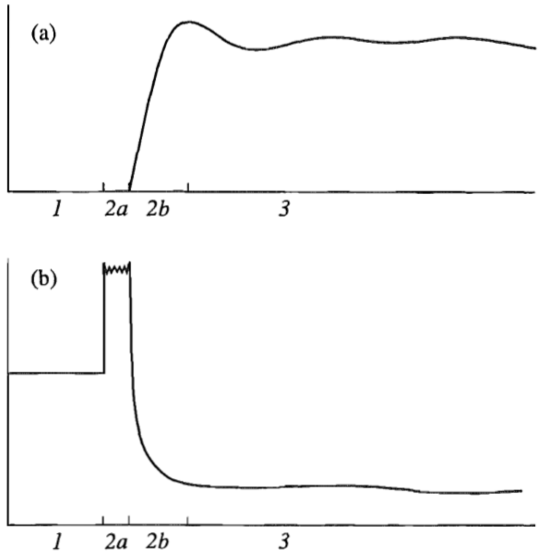 **Fig. 3.** Oscillograms of (a) current and (b) voltage of the quasi-stationary discharge (50 µs per div., 180 A per div., 180 V per div.). Mozgrin at 402, right col, ¶ 2 ("Part 1 in the voltage oscillogram represents the voltage of the stationary discharge (pre-ionization stage).") Mozgrin at 401, right col, ¶2 ("For pre-ionization … the initial plasma density in the $10^9 – 10^{11}$ cm^{-3} range.") Mozgrin at 401, right col, ¶ 1 ("Thus, the supply unit was made providing square voltage and current pulses with [rise] times (leading edge) of 5 – 60 µs…"). Mozgrin 403, right col, ¶4 ("Regime 2 was characterized by intense cathode sputtering…") (emphasis added). Mozgrin at 409, left col, ¶ 4 ("The implementation of the high-current magnetron discharge (regime 2) in sputtering … plasma density (exceeding $2x10^{13}$ cm^{-3})."). Mozgrin at 409, left col, ¶5 ("The high-current diffuse discharge (regime 3) is useful for producing large-volume uniform dense plasmas $n_i \cong 1.5x10^{15} cm^{-3}$…") Mozgrin at 400, left col, ¶ 3 ("Some experiments on magnetron systems of various geometry showed that discharge regimes which do not transit to arcs can be obtained even at high currents.") Mozgrin at 400, right col, ¶ 1 ("A further increase in the discharge

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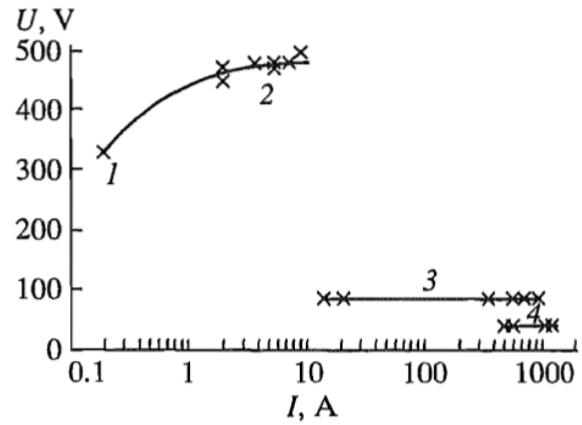
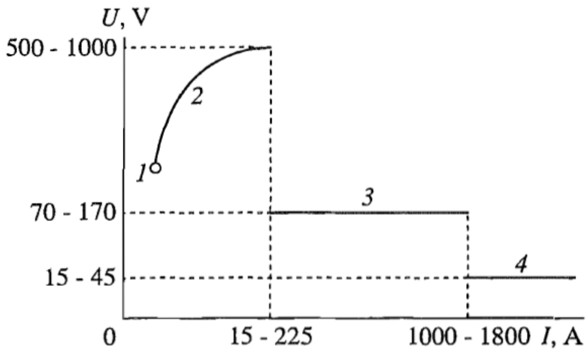
	currents caused the discharges to transit to the arc regimes…”). Mozgrin at 404, left col, ¶ 3 (“The parameters of the shaped-electrode discharge…transit to arc regime 4, could be well determined… The point of the planar-magnetron discharge transit to the arc regime was determined by discharge voltage and structure changes...”). Mozgrin at 404, left col, ¶ 4 (“If the current was raised above 1.8 kA or the pulse duration was increase to 2 – 10 ms, an instability development and discharge contraction was observed.”). Mozgrin at Fig. 4  **Fig. 4.** Current-voltage characteristic of the quasi-stationary discharge with shaped electrodes in argon, $p = 0.1$ torr; $B =$ 0.4 kG. Mozgrin at Fig. 7  **Fig. 7.** Generalized ampere-voltaic characteristic CVC of quasi-stationary discharge. Mozgrin at 401, ¶ spanning left and right columns (“Designing the [pulsed supply] unit, we took into account the dependences which had been obtained in [Kudryavtsev] of ionization relaxation on pre-

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