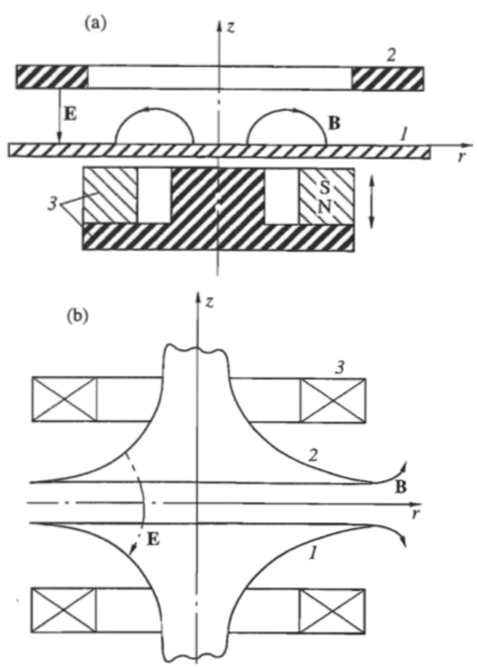
EXHIBIT A.02
U.S. Patent No. 7,147,759

Ex. A.02.PDFReferences cited herein:

- U.S. Patent No. 7,147,759 ("'759 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")
- Li et al, Low-temperature magnetron sputter-deposition, hardness, and electrical resistivity of amorphous and crystalline alumina thin films, J. Vac. Sci. Technol. A 18(5), 2000 ("Li")
- U.S. Pat. No. 6,413,382 ("Wang")

Claims 10-12, 34-36	**Mozgrin in view of Kudryavtsev and Li**
[1pre.] A magnetically enhanced sputtering source comprising:	The combination of Mozgrin with Kudryavtsev discloses a magnetically enhanced sputtering source. Mozgrin 403, right col, ¶4 ("Regime 2 was characterized by intense cathode ***sputtering***…") (emphasis added). Mozgrin at Fig. 1 

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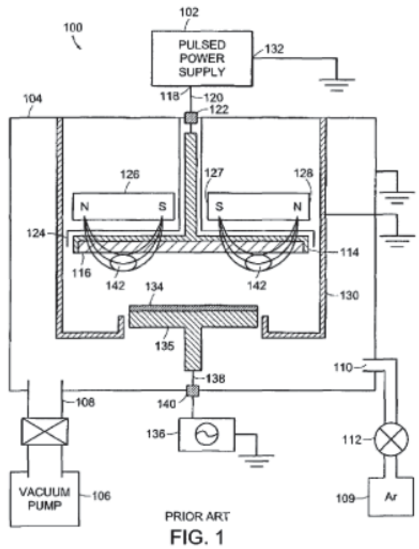
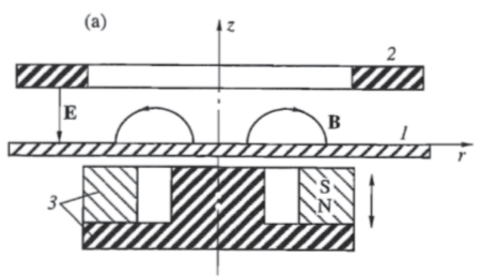
Claims 10-12, 34-36	Mozgrin in view of Kudryavtsev and Li
	Fig. 1. Discharge device configurations: (a) planar magnetron; (b) shaped-electrode configuration. (*1*) Cathode; (2) anode; (*3*) magnetic system.
[1a.] an anode;	The combination of Mozgrin with Kudryavtsev discloses an anode. '759 Patent at Fig. 1  '759 Patent at Fig. 1 ("FIG. 1 illustrates a cross-sectional view of a known magnetron sputtering apparatus having a pulsed power source.") '759 Patent at 3:40-41 ("an anode 130 is positioned in the vacuum chamber 104 proximate to the cathode assembly.") Mozgrin at Fig. 1 

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<tr><th>Claims 10-12, 34-36</th><th>Mozgrin in view of Kudryavtsev and Li</th></tr>
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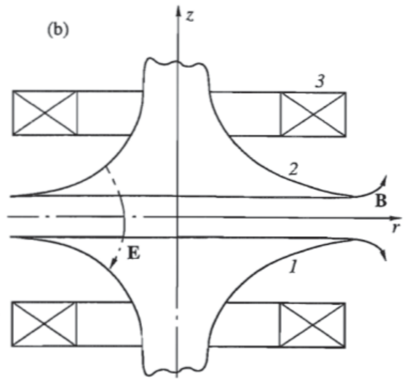

Fig. 1. Discharge device configurations: (a) planar magnetron; (b) shaped-electrode configuration. (*1*) Cathode; (2) anode; (*3*) magnetic system.
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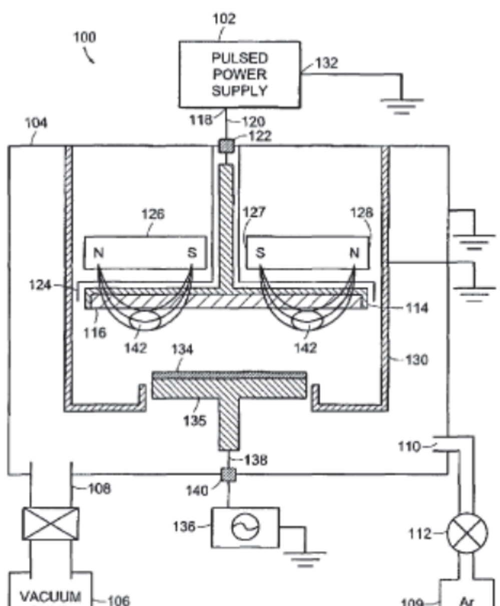
<tr><td>[1b.] a cathode assembly that is positioned adjacent to the anode, the cathode assembly including a sputtering target;</td><td>
The combination of Mozgrin with Kudryavtsev discloses a cathode assembly that is positioned adjacent to the anode, the cathode assembly including a sputtering target.

‘759 Patent at Fig. 1



PRIOR ART
FIG. 1

‘759 Patent at 3:10-12 (“FIG. 1 illustrates a cross-sectional view of a known magnetron sputtering apparatus having a pulsed power source.”)

‘759 Patent at 3:23-24 (“magnetron sputtering apparatus 100 also includes a cathode assembly 114 having a target material 116.”)
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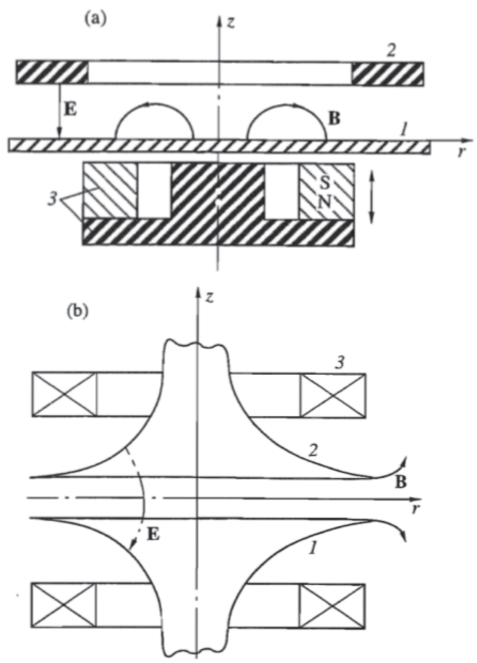
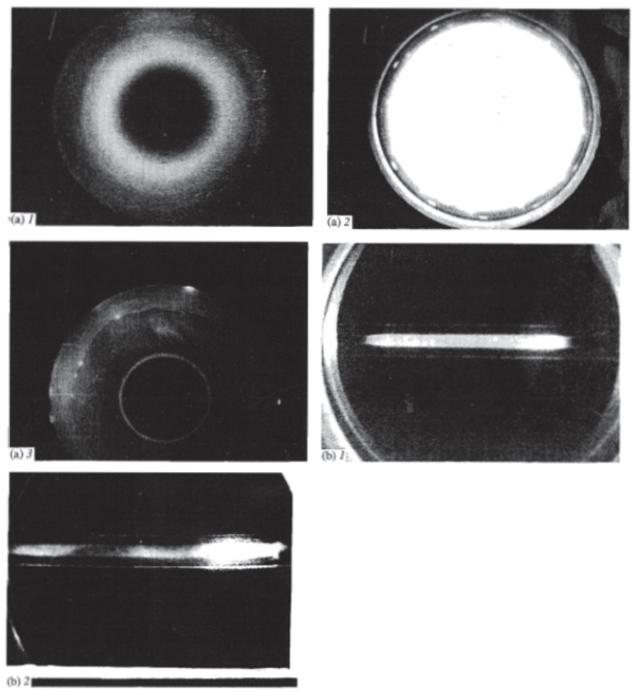
Claims 10-12, 34-36	**Mozgrin in view of Kudryavtsev and Li**
	Mozgrin at 403, right col, ¶ 4 (“Regime 2 was characterized by intense cathode sputtering…”). Mozgrin at 403, right col, ¶ 4 (“…The pulsed deposition rate of the cathode material…”). Mozgrin at Fig. 1  **Fig. 1.** Discharge device configurations: (a) planar magnetron; (b) shaped-electrode configuration. (*1*) Cathode; (2) anode; (*3*) magnetic system.
[1c.] an ionization source that generates a weakly-ionized plasma proximate to the anode and the cathode assembly;	The combination of Mozgrin with Kudryavtsev discloses an ionization source that generates a weakly-ionized plasma proximate to the anode and the cathode assembly. ‘759 Patent at 6:30-32 (“The weakly-ionized plasma is also referred to as a pre-ionized plasma.”) ‘759 Patent at claim 32 (“wherein the peak plasma density of the weakly-ionized plasma is less than about 10^{12} cm^{-3}”). Mozgrin at 401, right col, ¶2 (“For pre-ionization, we used a stationary magnetron discharge; the discharge current ranged up to 300 mA…. We found out that only the regimes with magnetic field strength not lower than 400 G provided the initial plasma density in the $10^9 – 10^{11}$ cm^{-3} range.”). (emphasis added).

Claims 10-12, 34-36	Mozgrin in view of Kudryavtsev and Li
	Mozgrin at 401, left col, ¶ 1 (“The [plasma] discharge had an annular shape and was adjacent to the cathode.”). (emphasis added) 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 Fig. 6  **Fig. 6.** High-current quasi-stationary discharge regimes. (a) planar magnetron: (*1*) high-current magnetron regime (*p* Ar, $I_d = 70$ A, $U_d = 900$ V); (*2*) high-current diffuse regime ($p = 10^{-1}$ torr, Ar, $I_d = 700$ A, $U_d = 80$ V); (*3*) arc regim Ar, $I_d = 1000$ A, $U_d = 45$ V). (b) Shaped-electrode system: (*1*) high-current diffuse regime ($p = 10^{-1}$ torr, Ar, $I_d = 100$ (*2*) contracted arc regime ($p = 10^{-1}$ torr, Ar, $I_d = 1500$ A, $U_d = 50$ V).
[1d.] a magnet that is positioned to generate a magnetic field proximate to the weakly-ionized plasma, the magnetic field substantially trapping electrons in the weakly-ionized plasma proximate to	The combination of Mozgrin with Kudryavtsev discloses a magnet that is positioned to generate a magnetic field proximate to the weakly-ionized plasma, the magnetic field substantially trapping electrons in the weakly-ionized plasma proximate to the sputtering target. ‘759 Patent at 3:10-12 (“FIG. 1 shows a cross-sectional view of a known magnetron sputtering apparatus 100…” that has a magnet 126.”) ‘759 Patent at 4:4-10 [*describing the prior art Fig. 1*] (“The electrons, which cause ionization, are generally confined by the magnetic fields produced by the magnet 126. The magnetic confinement is strongest in a confinement region 142….”)

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