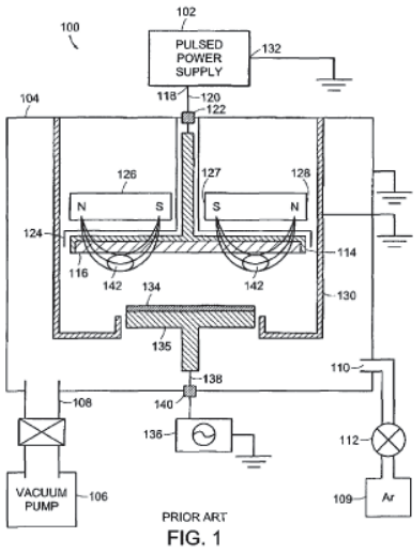
EXHIBIT A.06
U.S. Patent No. 7,147,759

References cited herein:

- U.S. Patent No. 7,147,759 ("'759 Patent")
- U.S. Pat. No. 6,413,382 ("Wang")
- 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")
- Yu. P. Raizer, Gas Discharge Physics, Springer, 1991 ("Raizer")

Claims 1-10, 12-15, 19-26, 28-31, 34, 36, 37, 40-43 and 46-48	**Wang in view of Kudryavtsev**
[1pre.] A magnetically enhanced sputtering source comprising:	The combination of Wang with Kudryavtsev discloses a magnetically enhanced sputtering source. Wang at Title ("Pulsed sputtering with a small rotating magnetron.").
[1a.] an anode;	The combination of Wang with Kudryavtsev discloses an anode. '759 Patent at Fig. 1  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.")

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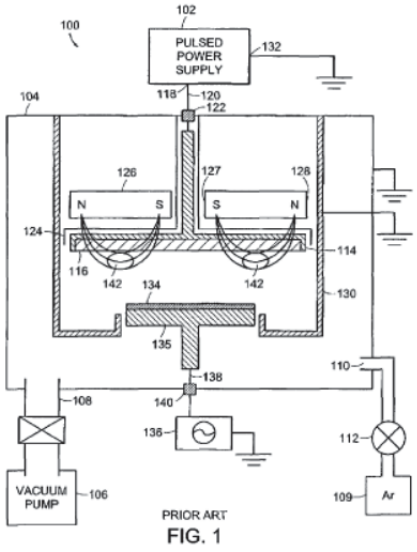
Claims 1-10, 12-15, 19-26, 28-31, 34, 36, 37, 40-43 and 46-48	Wang in view of Kudryavtsev
	Wang at Fig. 1 Wang at 3:66-4:1 ("A grounded shield 24 protects the chamber walls from sputter deposition and also acts as a grounded anode for the cathode of the negatively biased target 14.")
[1b.] a cathode assembly that is positioned adjacent to the anode, the cathode assembly including a sputtering target;	The combination of Wang 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 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.") Wang at Fig. 1 Wang at 3:66-4:1 ("A grounded shield 24 protects the chamber walls from sputter deposition and also acts as a grounded anode for the cathode of the negatively biased target 14.")
[1c.] an ionization source that generates a weakly-ionized plasma proximate to the anode	The combination of Wang with Kudryavtsev discloses an ionization source that generates a weakly-ionized plasma proximate to the anode

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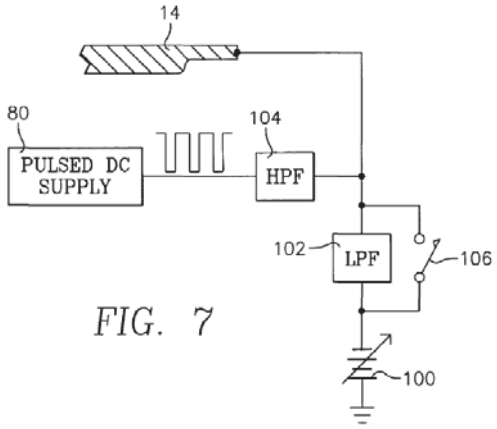
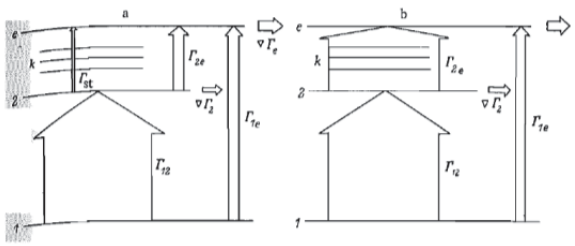
Claims 1-10, 12-15, 19-26, 28-31, 34, 36, 37, 40-43 and 46-48	Wang in view of Kudryavtsev
and the cathode assembly;	and the cathode assembly. Wang at Fig. 1. Wang at 7:17-31 ("The background power level P_B is chosen to exceed the minimum power necessary to support a plasma... [T]he application of the high peak power P_P quickly causes the already existing plasma to spread and increases the density of the plasma.") Wang at 7:19-25 ("Preferably, the peak power P_P is at least 10 times the background power P_B … and most preferably 1000 times to achieve the greatest effect of the invention. A background power P_B of 1 kW [causes] little if any actual sputter deposition.") Wang at 4:23-31 ("A small rotatable magnetron 40 is thus creating a region 42 of a high-density plasma (HDP)…") Wang at 7:47-49 ("The initial plasma ignition needs to be performed only once and at much lower power levels so that particulates produced by arcing are much reduced.").
[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 sputtering target; and	The combination of Wang 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….") Wang at Fig. 1. Wang at 4:23-27 ("A small rotatable magnetron 40 is disposed in the back of the target 14 to create a magnetic field near the face of the target 14 which traps electrons from the plasma to increase the electron density.")
[1e.] a power supply generating a voltage pulse that produces an	The combination of Wang with Kudryavtsev discloses a power supply generating a voltage pulse that produces an electric field between the

Claims 1-10, 12-15, 19-26, 28-31, 34, 36, 37, 40-43 and 46-48	Wang in view of Kudryavtsev
electric field between the cathode assembly and the anode, the power supply being configured to generate the voltage pulse with an amplitude and a rise time that increases an excitation rate of ground state atoms that are present in the weakly-ionized plasma to create a multi-step ionization process that generates a strongly-ionized plasma, which comprises ions that sputter target material, from the weakly-ionized plasma, the multi-step ionization process comprising exciting the ground state atoms to generate excited atoms, and then ionizing the excited atoms within the weakly-ionized plasma without forming an arc discharge.	cathode assembly and the anode, the power supply being configured to generate the voltage pulse with an amplitude and a rise time that increases an excitation rate of ground state atoms that are present in the weakly-ionized plasma to create a multi-step ionization process that generates a strongly-ionized plasma, which comprises ions that sputter target material, from the weakly-ionized plasma, the multi-step ionization process comprising exciting the ground state atoms to generate excited atoms, and then ionizing the excited atoms within the weakly-ionized plasma without forming an arc discharge. '759 Patent at Fig. 5 Wang at Figs. 6, 7.  FIG. 7 Wang at 7:61-62 ("The pulsed DC power supply 80 produces a train of negative voltage pulses."). Wang at 5:23-27 ("[The pulse's] exact shape depends on the design of the pulsed DC power supply 80, and significant rise times and fall times are expected."). Wang at 4:29-31 ("increases the sputtering rate..."). Wang at 7:19-25 ("Preferably, the peak power level P_P is at least 10 times the background power level P_B, … most preferably 1000 times to achieve the greatest effects of the invention. A background power P_B of 1 kW will typically be sufficient…") Wang at 7:31-39 ("The SIP reactor is advantageous for a low-power, low-pressure background period since the small rotating SIP

Claims 1-10, 12-15, 19-26, 28-31, 34, 36, 37, 40-43 and 46-48	Wang in view of Kudryavtsev
	magnetron can maintain a plasma at a lower power and lower pressure than can a larger stationary magnetron. However, it is possible to combine highly ionized sputtering during the pulses With significant neutral sputtering during the back ground period."). Wang at 7:3-6 ("Plasma ignition, particularly in plasma sputter reactors, has a tendency to generate particles during the initial arcing, which may dislodge large particles from the target or chamber.") Wang at 7:47-49 ("The initial plasma ignition needs be performed only once and at much lower power levels so that particulates produced by arcing are much reduced."). Wang at 7:13-28 ("Accordingly, it is advantageous to use a target power waveform illustrated in FIG. 6… As a result, once the plasma has been ignited at the beginning of sputtering prior to the illustrated waveform…"). Kudryavtsev at 34, right col, ¶ 4 ("Since the effects studied in this work are characteristic of ionization whenever a field is suddenly applied to a weakly ionized gas, they must be allowed for when studying emission mechanisms in pulsed gas lasers, gas breakdown, laser sparks, etc.") Kudryavtsev at Fig. 1  FIG. 1. Diagram showing the relative sizes of the elect fluxes in terms of the atomic energy levels for the slow and fast (b) stages. The width of the arrows indicates t magnitude of the electron flux. The horizontal arrows the diffusion fluxes of electrons and excited atoms reac the walls of the discharge tube. Kudryavtsev at Fig. 6

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