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Plasma Parameters Characterization of Large Diameter Inverted Cylindrical Magnetron Discharge. RAMKRISHNA RANE, SUBRATO MUKHERJEE, Institute for Plasma Research — In this study, magnetically enhanced large cathode diameter inverted magnetron discharge is characterized for its plasma properties. The current-voltage characteristics at different operating pressure and magnetic field is studied and compared with post cathode configuration. The radial profile of plasma potential, floating potential, plasma density, electron temperature is measured by emissive probe, double langmuir probe etc. The effect of magnetic field on the plasma properties is studied for different operating pressure and discharge voltages. The higher anode fall is observed in case of inverted magnetron for lower operating pressure. It is also found that at very low operating pressure and higher magnetic field, the discharge is transformed to high impedance low current discharge confined near the anode. The oscillations in floating potential are also studied when the discharge is operating in this low current mode.

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