

Study on Argon Metastable and 4p State Neutral Atoms in Magnetized ICP and Helicon Plasmas Measured by Laser Induced Fluorescence and Plasma Emission

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We study on Argon metastable and 4p state neutral atom density in magnetized ICP Helicon plasmas by Laser Induced Fluorescence and plasma emission. The results show that metastable density is too low at the center of chamber due to significant neutral depletion. Otherwise, 4p state is high at the center of chamber because electron density is very high. Power and pressure dependence of metastable and 4p state neutral atom have been spatially measured in the radial direction of cylindrical chamber.

Keywords: Plasma diagnostic, Laser Induced fluorescence, Plasma emission, Helicon discharge plasma