

Abstract Submitted  
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**ECRH Modulation Results in Varied Density Profiles Due to Inward Turbulent Pinch In Dipole Confined Plasma**<sup>1</sup> J.A. KAHN, D.T. GARNIER, M.E. MAUEL, Columbia University, J. KESNER, MIT PSFC — The Levitated Dipole Experiment (LDX) studies plasmas confined in a dipole magnetic field generated by a levitated superconducting magnet. In the past, it has been observed that this method of confinement results in centrally peaked density, as measured by a four-chord microwave interferometer. Here, the interferometer, along with two 16 channel photodiode arrays has been used to study density profiles as well as fluctuations and particle source during 10Hz and 450Hz power modulations of ECRH sources ranging from 10.5 to 2.45GHz. These modulations result in varied density profiles, with stronger peaking being observed when high frequency ECRH sources are turned off. This peaking appears to be due to the inward turbulent pinch, which becomes more significant when heating at inner radii is reduced. This is consistent with a particle source near the edge of the plasma, rather than at the ECRH resonance zones.

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