

Abstract Submitted  
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**Soft X-ray Measurement of the Thermal Electron Temperature on the Levitated Dipole Experiment (LDX)**<sup>1</sup> MATTHEW DAVIS, DARREN GARNIER, MICHAEL MAUEL, Columbia University, JENNIFER ELLSWORTH, PSFC MIT — The Levitated Dipole Experiment studies plasma confinement in a magnetic dipole field. Measurement of the plasma pressure profile is of particular interest in determining whether the dipole geometry is suitable for magnetically confined fusion. Interferometer measurements on LDX have shown the density profile to be “peaked” during levitation but while edge probe temperature measurements and measurements of the hot electron temperature have been made the thermal electron temperature profile has not been determined. Preliminary soft X-ray measurements have approximated a thermal electron temperature of 800 eV. Here we present further soft X-ray measurements made with a Si-PIN diode and pulse height analysis system. By comparing levitated shots with similar supported shots, in which the thermal population is largely absent due to end losses, we deduce the thermal electron temperature.

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Matthew Davis  
Columbia University

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