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Comparison of Diagnostic Measurements on a Small Plasma Test Source DAKOTA STARKEY, DAVID HWANG, ROBERT HORTON, RUSS EVANS, RUTH KLAUSER — A simple pulsed plasma test source has been constructed to test different diagnostic methods, specifically laser deflection and spectroscopic measurements to assess plasma density. Previous laser deflection measurements have shown densities between 10^{13-14} cm^{-3}. Optical fibers were also installed to view plasma light emission and were coupled with a spectrometer and a photomultiplier tube for increased sensitivity to small signals. The spectrometer was used as a monochromator to view time dependent aspects of a selected wavelength determined from previous spectroscopic data viewing the plasma across multiple wavelengths at a single time. This setup has the advantage of allowing deflection and spectroscopic data to be taken simultaneously at each plasma location. Comparison of the two types of time dependent measurements will be discussed. Furthermore, possible relations between the two density profiles will be explored.

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