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**Electron Temperature Measurements on the ZaP Experiment**

R.P. GOLINGO, U. SHUMLAK, B.A. NELSON, D.J. DEN HARTOG, R.J. OBERTO, Aerospace and Energetics Research Program, University of Washington — The ZaP Flow Z-Pinch Experiment is presently studying the effect of sheared flow on gross plasma stability. During a quiescent period in the magnetic mode activity, a dense Z-pinch with a sheared flow is observed on the axis of the machine. A better comparison between the experimental and analytic results can be made once the pressure profile is known. A single-point Thomson scattering system has been installed on the machine to directly measure the local electron temperature in the Z-pinch. Available components have been used to build the system, reducing the cost. The system has a 3 mm radial resolution and can collect scattered light up to 4 cm off the axis of the machine (The Z-pinch has a 1 cm characteristic radius). The temporal evolution of the background and scattered light is recorded on each pulse. The design and hardware allow the system to be upgraded to a multipoint system. More accurate temperatures are found with a complete calibration of the collection system. The measured electron temperatures are consistent with previous estimates from pressure balance.

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