Abstract Submitted
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Measurements of Ion Temperature and Velocity in HIT-SI with Comparison to NIMROD Calculations, Development of Piezoelectric Valve A.C. HOSSACK, C. AKCAY, T.R. JARBOE, J.A. ROGERS, A.M. KIRKPATRICK, R.J. SMITH, University of Washington — A one meter ion Doppler spectrometer has been upgraded to multichord capability using an image intensifier and high-speed camera. Two linear arrays of 36 fibers each simultaneously collect light across a toroidal and poloidal section of HIT-SI. Temperature and velocity data will be presented and compared with NIMROD calculation results. Additionally, a fast, piezoelectric valve has been developed which achieves a gas flow rates of over 325 Torr liters per second and response time of approximately 0.5 ms. Flow rate is proportional to voltage, so the valve will offer arbitrary fueling profile for HIT-SI3. Work supported by USDoE and ARRA.

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