

Abstract Submitted
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Progress in Coherence Imaging Techniques on DIII-D¹ STEVEN ALLEN, C.M SAMUELL, B.S. VICTOR, Lawrence Livermore National Lab — Coherence Imaging Spectroscopy CIS systems are used on DIII-D for measurement of 2D distributions of impurity ion flow velocities, Imaging Motional Start Effect (IMSE), and a newly developed impurity ion temperature diagnostic [1]. High-quality calibrated flow images previously required careful temperature control; rapid inter-shot system calibration with a laser and wave meter has reduced this requirement. The tunable laser has facilitated CIS characterization and calibration, and results from interferometers with three different optical delays (1000-flow, 1300, 2900-ion temperature waves) will be presented. More than one emission line in the CIS bandpass requires extra analysis; an example with two emission lines is shown. Calibrated tomographically inverted CIII flow images of the DIII-D divertor plasma will be presented. In the case of IMSE, the fidelity of the measurement depends on a switchable polarization retarder being a true half-wave. We have worked to improve the liquid crystal variable retarder and initial results will be shown. [1] C.M. Samuell, et al., these proceedings

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