

Abstract Submitted
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Plasma phase-space fluctuations¹ FRED SKIFF, VIKRAM PATEL, DEREETH DRAKE, University of Iowa — The low frequency electrostatic, kinetic, electromechanical degrees of freedom of weakly collisional plasma are studied through the measurement of correlation functions that are resolved in the ion phase-space using laser-induced fluorescence. Fluctuations in a CW magnetized cylindrical plasma column of $n \sim 10^9 \text{ cm}^{-3}$ singly ionized Argon produced by an inductively coupled source are observed using two movable periscopes that image 10mm^3 laser-illuminated volumes which can be translated along the magnetic field direction (the cylinder axis). Two-point correlation functions are obtained which provide information on the linear and nonlinear dynamics of the ion degrees of freedom.

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