Abstract Submitted
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Transport of Fast Ions Modulated by Shear Alfvén Waves[1] Y. ZHANG, H. BOEHMER, W. HEIDBRINK, R. MCWILLIAMS, L. ZHAO, UC Irvine, B. BRUGMAN, T. CARTER, D. LENEMAN, S. VINCENA, UCLA — Large-amplitude ($\delta B/B \sim 1\%$) shear Alfén waves (SAWs) can produce fast ion ($v_f \gg v_{thermal}$) deflections in addition to the classical spreading.[2] The LArge Plasma Device (LAPD) at UCLA provides a vast space to fit fast ion orbits and SAWs in the kinetic regime. We developed a Li^+ ion source emitting ~ 1 mA of Li^+ ions up to ~ 3000 eV. The speed of fast ions is similar to the parallel phase speed of SAWs launched from loop antennas to modulate fast ion transport. Fast ion orbits are selected to coincide with maximum wave amplitude for the most deflections. A newly designed fast ion collimated analyzer has been employed to monitor fast ion orbits. First results are presented.

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[2]L. Zhao *et al.*, Phys. Plasmas **12** (2005) 052108

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