

Abstract Submitted
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Hole-clump Pair Suppression with HHFW on NSTX¹ E.D. FREDRICKSON, N.N. GORELENKOV, S.S. MEDLEY, S. BERNABEI, J.R. WILSON, J. MENARD, PPPL, Princeton NJ, W. HEIDBRINK, UCI, Irvine CA, H. BERK, IFS, Austin TX, S. KUBOTA, N. CROCKER, W.A. PEEBLES, UCLA, Los Angeles CA, R.W. HARVEY, CompXco, Livermore CA — Hole-Clump-like behavior has been observed for fast ion driven modes at frequencies $< f_{ci}/4$ on NSTX. In experiments with combined High Harmonic Fast Wave heating (HHFW) and Neutral Beam Injection (NBI), it is often observed that during HHFW the hole-clump chirping is suppressed. HHFW is known to accelerate the beam fast ions, based on Neutral Particle Analyzer measurements of the fast ion distribution function, as well as an increase in the neutron rate during HHFW. The heating of the fast ion population has been predicted to decrease the lifetime of hole-clump pairs by diffusing the fast ion phase space holes and clumps. However, the apparent suppression of non-chirping modes, as well suggests that fundamental reorganization of the fast ion distribution function could eliminate the bump-on-tail needed to drive the instability.

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Eric Fredrickson
PPPL, Princeton NJ

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