Abstract Submitted
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Coherent Beam-Ion Losses During Instabilities in DIII-D[1] X. CHEN, W.W. HEIDBRINK, UC-Irvine, R.K. FISHER, M.A. VAN ZEELAND, GA, D.C. PACE, ORISE, M. GARCIA-MUNOZ, MPI — A scintillator-based fast-ion loss detector (FILD) was installed on DIII D in 2010 [1] and successfully measured coherent losses produced by fast-ion driven instabilities. Loss signals at mode frequencies were observed for off-axis fishbones [2], toroidal Alfvén eigenmodes (TAEs) [3], reversed-shear AEs (RSAEs) [3], and energetic-particle driven geodesic acoustic modes. Modeling of the TAE and RSAE experiments indicate that the observed losses are predominately counter-passing ions that are scattered onto lost trapped-ion orbits by the AEs [4]. The original FILD detector is $\sim 45^\circ$ below the midplane. For the 2011 campaign, a second FILD detector is installed at $\theta \approx 0^\circ$ and has already observed prompt losses. Observations of coherent losses from the pair of FILD detectors will be reported.

[1] R.K. Fisher, et al., Rev. Sci. Instrum. **81** (2010) 10D307.
[2] W.W. Heidbrink, et al., Plasma Phys. Control. Fusion **53** (2011) 085028.
[3] D.C. Pace, et al., Plasma Phys. Control. Fusion **53** (2011) 062001.
[4] M.A. Van Zeeland, et al., Phys. Plasmas **18** (2011) in press.

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