

Abstract Submitted
for the DPP96 Meeting of
The American Physical Society

Sorting Category: 5.1.1.2 (experimental)

Simulations of Energetic-Ion Losses During TAE Activity in DIII-D¹ E.M. CAROLIPPIO, W.W. HEIDBRINK, *University of California, Irvine*, A. JAUN, *Alfvén Laboratory*, M.S. CHU, *General Atomics*, R.B. WHITE, C.Z. CHENG, G.Y. FU, *Princeton Plasma Physics Laboratory* — The TAE instability is of concern because it can cause large, concentrated losses of fast ions.² To better understand these losses, we compute the expected eigenfunction with the nonvariational ideal-MHD code NOVA and the kinetic antenna code PENN and then use these results as input for the Hamiltonian guiding-center code ORBIT. Fast-ion losses computed by ORBIT are compared with measured² losses. The distribution function of lost particles and typical loss orbits are also presented. Preliminary analysis shows that the NOVA-computed mode with an amplitude \tilde{B}_r/B set at $\sim 10^{-4}$ causes little ($\ll 1\%$) or no transport of beam ions, compared to measured losses of $\sim 8\%$.

¹Work supported by U.S. DOE Contracts DE-AC03-89ER51114, DE-AC02-76CH03073, Grant DE-FG03-92ER54145, and Subcontract SC-L134501.

²H.H. Duong *et al.*, Nucl. Fusion **33** (1993) 749.

☐ Prefer Oral Session
☒ Prefer Poster Session

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Special instructions: P-1-8

Date submitted: February 20, 1997

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