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Alfvén Eigenmodes in a DIII-D Discharge Simulated in GYRO,* E.M. Bass, *UCSD* – Alfvén eigenmodes (AEs) are excited by, and cause transport of, beam or fusion energetic particles (EPs). We examine a beam-heated, shear-reversed DIII-D discharge (142111) where toroidal Alfvén eigenmodes (TAEs) and reverse shear Alfvén eigenmodes (RSAEs) flattened the beam EP density profile. With the gyrokinetic code GYRO [1], we follow low-n unstable TAEs and RSAEs in this discharge. TAEs and RSAEs are tracked (with GYRO's parallel eigenvalue solver) as the minimum safety factor $q_{\min}$ evolves in time. RSAE frequency sweeping and RSAE-TAE mode-mode interaction (where the mode distinction is blurred) are observed. In this full gyrokinetic treatment, all eigenfunctions are perturbed from the canonical MHD form. Poloidal twisting [2] and on-surface peaking of poloidal harmonics (EPM-like) [3] are examples. The global transport "footprint" corresponds to regions of strong local drive for dominant modes, generally less so for subdominant modes.

[1] J. Candy and R.E. Waltz, Phys. Rev. Lett. **91**, 045001 (2003).
[2] B.J. Tobias et al., Phys. Rev. Lett. **106**, 075003 (2011).
[3] E.M. Bass and R.E. Waltz, Phys. Plasmas **17**, 112319 (2010).

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