Abstract Submitted
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Analysis of Alfven Eigenmode Radial Phase Variation and Energy Flow in DIII-D Discharges[1] ERIK C. HANSEN, W.W. HEIDBRINK, UC Irvine, M.E. AUSTIN, UT Austin, G.J. KRAMER, PPPL, M.A. VAN ZEELAND, General Atomics — Radial variations in the phase of fast-ion driven Alfven eigenmodes are often observed [Phys. Rev. Lett. **106** (2011) 075003]. Recent theoretical work [Nucl. Fusion **59** (2019) 094001] showed that these radially spiraling, poloidally sheared mode structures occur when the drive and damping of the instability occurs at different spatial positions. Inspired by that work, in this study radial profiles from an electron cyclotron emission diagnostic are analyzed for a large database of Alfven eigenmode instabilities that include BAAE, BAE, RSAE, TAE, and EAE activity. The dependence of the radial phase profile on plasma parameters and instability type is discussed and compared with theoretical predictions of the expected locations of energy transfer.

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