Abstract Submitted
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Evaluation of Ion Cyclotron Harmonic Damping on a Non-Maxwellian Distribution Function[1] D. SCHAFFNER, University of California-Los Angeles, R.I. PINSKER, M. CHOI, General Atomics, M. PORKOLAB, Massachusetts Institute of Technology — In tokamak plasmas, fast Alfven waves are absorbed on electrons by Landau and TTMP damping and on ions by ion cyclotron harmonic damping. Ion cyclotron harmonic damping of fast Alfven waves in magnetized plasma can be calculated analytically given a Maxwellian ion velocity distribution; however, in plasmas with strong neutral beam heating a non-Maxwellian ion distribution is obtained. The absorption of fast waves on a general non-Maxwellian distribution has been evaluated numerically in recent work [1]. Here, the linear theory is reexamined to find a semi-analytic model for absorption on a slowing-down distribution function. Results are compared to the numerical results from [1], to recent experimental data from DIII-D, and to results from the ORBIT-RF code.

[1] R.J. Dumont, et al., Phys. Plasmas **12**, 042508 (2005).

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