

Abstract Submitted
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Transport equations for lower hybrid waves in a turbulent plasma¹ J.T. MENDONCA, IPFN, Instituto Superior Tecnico, 1049-001 Lisboa, Portugal, W. HORTON, University of Texas at Austin, R.M.O. GALVAO, Instituto de Fisica, Universidade de Sao Paulo, Sao Paulo SP, 05508-090 Brasil, Y. ELSKENS, Aix-Marseille University, Saint Jerome, 13397 Marseille Cedex 20, France — Injection and control of intense lower hybrid (LH) wave spectra is required to achieve steady state tokamak operation in the new WEST tokamak at CEA France. The tungsten [W] environment [E] steadytstate [S] tokamak [T] has two high-power [20MW] lower hybrid antennas launching 3.7 GHz polarized waves for steady fusion-grade plasmas control. The wave propagation and scattering is described in by ray equations in the presence of the drift wave turbulence. Theory for the wave transport equations for propagation of the wave momentum and energy densities are derived from the Wigner function method of QM. The limits of the diffraction and scattering for ray transport theory are established. Comparisons are made between the wave propagation in WEST and ITER tokamaks.

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