

Full-wave simulations of LH wave propagation in toroidal plasma with non-Maxwellian electron distributions*

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The generation of energetic tails in the electron distribution function is intrinsic to LH heating and current drive in weakly collisional magnetically confined plasma. The effects of these deformations on the RF deposition profile have previously been examined within the ray approximation [1, 2]. Recently, the calculation of full-wave propagation of LH waves in a thermal plasma [3] has been accomplished using an adaptation of the TORIC [4] code. Here, initial results are presented from TORIC simulations of LH propagation in a toroidal plasma with non-thermal electrons. The required efficient computation of the hot plasma dielectric tensor is accomplished using a technique previously demonstrated in full-wave simulations of ICRF propagation in plasma with non-thermal ions [5].

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*Work supported by USDOE.