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Full-wave Simulations of ICRF heating in toroidal plasma with non-Maxwellian distribution functions E.J. VALEO, C.K. PHILLIPS, H. OKUDA, PPPL, Princeton, NJ, J.C. WRIGHT, P.T. BONOLI, MIT, Cambridge, MA, L.A. BERRY, ORNL, Oak Ridge, TN, RF SCIDAC TEAM — At the power levels required for significant heating and current drive in magnetically-confined toroidal plasma, modification of the particle distribution function from a Maxwellian shape is likely, with consequent changes in wave propagation and the location and amount of absorption. As part of the RF SciDAC effort to achieve the capability to self-consistently compute wave-plasma interactions, the FLR, full-wave, hot-plasma, toroidal simulation code, TORIC[1], has been extended to allow prescription of arbitrary distributions of the form $f(v_\parallel, v_\perp, \psi, \theta)$. Initial simulation results for several choices, including slowing-down distributions ($\sim v^{-3}$ for $|v/v_{th}| >> 1$), bi-Maxwellians, and distributions with a plateau at high energy will be presented.

[1]M. Brambilla, Plasma Phys. Control. Fusion **41** (1999) 1-34

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