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Analysis of Lower Hybrid Current Drive Scenario on Alcator C-Mod Analysis of Lower Hybrid Current Drive Scenario on Alcator C-Mod with a Full Wave Code J.C. WRIGHT, P.T. BONOLI, PSFC-MIT, M.A. BRAM-BILLA, IPP - Garching, R.W. HARVEY, CompX, C.K. PHILLIPS, H. OKUDA, PPPL, RF - SCIDAC COLLABORATION — The newly installed lower hybrid system on Alcator C-Mod are to be used to drive current and shape the current profile in the plasma. The deposition location is sensitive to the launched parallel refractive index,  $n_{\parallel}$ . The experiment can vary  $n_{\parallel}$  between 2 and 3. We use the full wave lower hybrid code, TORLH (TORIC code modified for LH simulations), with non-Maxwellian electrons and the Ehst-Karney parameterized adjoint model for current drive, to predict the variation with  $n_{\parallel}$  of the current drive deposition location in the plasma for a reference target plasma. We will discuss the importance of including full-wave effects such as focusing and diffraction in the calculation of the LH power deposition. In addition, we will discuss the role of 2D velocity space effects in the nonthermal electron distribution function on the LH power deposition.

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