

Abstract Submitted
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Modeling of Lower Hybrid Experiments on Alcator C-Mod¹ J. LIPTAC, P. BONOLI, R. PARKER, B. LABOMBARD, V. TANG, MIT PSFC, Y. PEYSSON, J. DECKER, CEA Cadarache, R. HARVEY, CompX — Correct interpretation of lower hybrid current drive experiments requires detailed modeling of coupling, power deposition, and hard x-ray emission. Results from a LH coupling code[1] are compared to measurements of the reflection coefficients using local plasma parameters at the grill. Simulation of current drive experiments and the resulting hard x-ray spectra are performed using the Fokker-Planck codes CQL3D[2] and DKE[3] coupled to ray tracing. Results from CQL3D and DKE are compared for different antenna phasings in which the forward parallel refractive index is varied from 2 to 3. Simulations are also used to investigate the use of “compound” launcher spectra to control the location of LH current generation. [1] M. Brambilla, Nuclear Fusion(16) 1, 1976 p47 [2] R. Harvey and M. McCoy, GA-A20978, 1992 [3] J. Decker and Y. Peysson, EUR-CEA-FC-1736, 2004

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