Integrated Plasma Simulation of Ion Cyclotron and Lower Hybrid Range of Frequencies Actuators in Tokamaks[1] P.T. BONOLI, S. SHIRAIWA, J.C. WRIGHT, MIT - PSFC, R.W. HARVEY, CompX, D.B. BATCHELOR, L.A. BERRY, ORNL, JIN CHEN, F. POLI, C.E. KESSEL, S.C. JARDIN, PPPL — Recent upgrades to the ion cyclotron RF (ICRF) and lower hybrid RF (LHRF) components of the Integrated Plasma Simulator [1] have made it possible to simulate LH current drive in the presence of ICRF minority heating and mode conversion electron heating. The background plasma is evolved in these simulations using the TSC transport code [2]. The driven LH current density profiles are computed using advanced ray tracing (GENRAY) and Fokker Planck (CQL3D) [3] components and predictions from GENRAY/CQL3D are compared with a "reduced" model for LHCD (the LSC [4] code). The ICRF TORIC solver is used for minority heating with a simplified (bi-Maxwellian) model for the non-thermal ion tail. Simulation results will be presented for LHCD in the presence of ICRF heating in Alcator C-Mod.

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