Integrated Plasma Simulation of Lower Hybrid Current Drive Modification of Sawtooth[1] P.T. BONOLI, MIT - PSFC, J.C. WRIGHT, MIT-PSFC, C.E. KESSEL, PPPL, D.B. BATCHELOR, L.A. BERRY, ORNL, R.W. HARVEY, CompX, SWIM TEAM, RF SCIDAC TEAM — It has been shown in Alcator C-Mod that the onset time for sawteeth can be delayed significantly (up to 0.5 s) relative to ohmically heated plasmas, through the injection of off-axis LH current drive power [1]. We are simulating these experiments using the Integrated Plasma Simulator (IPS) [2], through which driven current density profiles are computed using a ray tracing code (GENRAY) and Fokker Planck code (CQL3D) [3]. These modules are executed repeatedly as the background plasma is evolved using the TSC transport code with the Porcelli sawtooth model [4]. Predictions of the driven LH current profiles will be compared with simpler "reduced" models for LHCD such as the LSC code which is implemented in TSC.

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