Integrated Plasma Simulation of Lower Hybrid Current Drive Modification of Sawtooth in Alcator C-Mod[*] P. T. Bonoli, J. C. Wright, PSFC-MIT, C. E. Kessel, PPPL, D. B. Batchelor, L. A. Berry, ORNL, R. W. Harvey, CompX, and the CSWIM Team.

Experiments were performed in Alcator C-Mod, where the onset time for sawteeth was delayed significantly (up to 0.5 s) relative to ohmically heated plasmas, through injection of off-axis LH current drive power [1]. In this paper we discuss simulations of these experiments using an advanced computing framework (the Integrated Plasma Simulator (IPS) [2]), through which driven current density profiles and hard x-ray spectra are computed using an advanced ray tracing code (GENRAY) and Fokker Planck code (CQL3D) [3], that are executed repeatedly in time. The background plasma is evolved in these simulations using the TSC transport code and the Porcelli sawtooth model [4] is used to evolve the sawteeth. We will compare the predictions from this advanced model with TSC simulations that employ predictions from a "reduced" LHCD model – the LSC code [5].

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