

Abstract Submitted
for the DPP10 Meeting of
The American Physical Society

**Integrated Plasma Simulation of Lower Hybrid Current Drive
Modification of Sawtooth in Alcator C-Mod¹** P.T. BONOLI, A.E. HUB-
BARD, A.E. SCHMIDT, J.C. WRIGHT, PSFC - MIT, C.E. KESSEL, PPPL, D.B.
BATCHELOR, L.A. BERRY, ORNL, R.W. HARVEY, CompX, 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 poster we discuss simulations of these experiments using the Integrated Plasma Simulator (IPS) [2], through which driven current density profiles and hard x-ray spectra are computed using a 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 with the Porcelli sawtooth model [4].

[1] C. E. Kessel *et al*, Bull. of the Am. Phys. Soc. **53**, Poster PP6.00074 (2008).

[2] D. Batchelor *et al*, Journal of Physics: Conf. Series **125**, 012039 (2008).

[3] R. W. Harvey and M. G. McCoy, Proc. of the IAEA Tech. Comm. Mtg. on Sim. and Mod. of Therm. Plasmas, Montreal, Canada (1992).

[4] S. C. Jardin *et al*, Journal Comp. Phys. **66**, 481 (1986).

¹Work supported by DoE Contract Nos. DE-FC02-99ER54512 and DE-FC02-06ER54855.

Paul Bonoli
PSFC - MIT

Date submitted: 14 Jul 2010

Electronic form version 1.4