

Abstract Submitted  
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**Analysis of Lower Hybrid Current Drive Modification of Sawtooth in Alcator C-Mod**<sup>1</sup> P.T. BONOLI, A.E. HUBBARD, A.E. SCHMIDT, J.C. WRIGHT, PSFC - MIT, C.E. KESSEL, PPPL, D.B. BATCHELOR, L.A. BERRY, ORNL, R.W. HARVEY, CompX — 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 the injection of off-axis LH current drive power [1]. The LH driven current density profiles in these experiments are being simulated using a ray tracing code (GENRAY) and Fokker Planck code (CQL3D) [2] in order to ascertain the consistency of the simulated current density profiles with the requirements for sawtooth stabilization. Comparisons of simulated LHRF-generated hard x-ray spectra with experimental measurements will be shown. We will also discuss time dependent simulations of these experiments using an advanced parallel computing framework [3].

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

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

[3] D. Batchelor *et al*, J. of Phys. Conf. Series **125**, 012039 (2008).

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