

Abstract Submitted
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Simulation analysis of current profile broadening via lower hybrid current drive in the EAST tokamak¹ P. T. BONOLI, S. SHIRAIWA, MIT-PSFC, A. M. GAROFALO, M. LANCTOT, General Atomics, X. Z. GONG, B. DING, S. DING, G. LI, M. LI, H. LIU, B. LYU, J. QIAN, C. YANG, ASIPP, C. HOLCOMB, LLNL, J. MCCLENAGHAN, ORNL — Experiments on EAST have recently demonstrated broadening of the current profile via the application of LHCD with systematic scans yielding lower internal inductance with higher density [1]. The radial penetration of LH waves is expected to decrease as the density increases as refractive effects become more important. In this paper we present analyses of these discharges using the GENRAY / CQL3D ray tracing / Fokker Planck model to investigate if the expected decrease in radial penetration at higher density is responsible for the profile of LHCD becoming more off-axis. This analysis will also investigate the effect of minor modifications in the incident wave spectrum on the damping location of the LH waves. [1] A. M. Garofalo et al, 26th IAEA Fusion Energy Conference, 17-22 October 2016, Kyoto, Japan.

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Paul Bonoli
MIT-PSFC

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