

Abstract Submitted  
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**Reduced-model (SOLT) simulations of an EDA H-mode shot at Alcator C-Mod**<sup>1</sup> D.A. RUSSELL, D.A. D'IPPOLITO, J.R. MYRA, Lodestar Research Corporation, B. LABOMBARD, J.L. TERRY, PSFC, S.J. ZWEBEN, PPPL — Reduced-model scrape-off layer turbulence (SOLT) simulations of an Enhanced D-Alpha (EDA) H-mode observed at C-Mod were conducted to explore observed variations in scrape-off-layer (SOL) width. The amplitude of a mean poloidal flow was varied to control the level of turbulence in the simulation and to reproduce the observed heat flux across the separatrix. SOL width decreased with increasing input power and with increasing separatrix temperature in both experiment and simulation, consistent with the strong temperature dependence of *collision-limited* parallel heat flux. A persistent quasi-coherent mode (QCM) dominates the SOLT turbulence. The wavelength of the SOLT QCM is comparable to that of the QCM consistently observed on C-Mod during EDA operation. The SOLT QCM consists of a quasi-stationary string of vortices, located just inside the separatrix, poloidally convected by the mean flow and occasionally emitting blobs into the SOL. The mode frequency is dominated by the Doppler shift of this convected pattern. Analysis reveals underlying drift-interchange and Kelvin-Helmholtz instabilities.

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