Abstract Submitted
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Electron Temperature Fluctuations Associated with the Weakly Coherent Mode in the Edge of I-mode Plasmas[1] A.E. WHITE, Massachusetts Institute of Technology, P. PHILLIPS, University of Texas, Austin, D.G. WHYTE, A.E. HUBBARD, C. SUNG, J.W. HUGHES, A. DOMINGUEZ, J. TERRY, Massachusetts Institute of Technology, I. CZIEGLER, University of California, San Diego, ALCATOR C-MOD TEAM — New measurements of electron temperature fluctuations associated with the weakly coherent mode (WCM) during improved mode, or I-mode plasmas at Alcator C-Mod are presented in this poster [A. E. White, et al. Nuclear Fusion, 51, 113005 (2011)]. The measurements are made with a 32-channel, high-resolution profile ECE radiometer. The WCM electron temperature fluctuations are localized to a 1 cm region inside the last closed flux surface. The WCM electron temperature fluctuation level is measured in several different I-mode discharges and is in the range 1-2%, which is up to an order of magnitude smaller than the WCM density fluctuation level. The WCM edge fluctuations observed in I-mode are believed to play a role in increasing particle transport but not energy transport in the edge of I-mode plasmas. The large difference between normalized density and electron temperature fluctuation amplitudes provides new evidence that the WCM fluctuations can separately affect energy and particle transport.

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A. E. White
Massachusetts Institute of Technology

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