Abstract Submitted
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Characterization of small transport events triggered with n=3 fields below the ELM destabilization threshold in NSTX J.D. LORE, ORISE, ORNL, J.M. CANIK, R. MAINGI, J.W. AHN, ORNL, E.D. FREDRICKSON, PPPL, A.G. MCLEAN, ORNL, F. SCOTTI, PPPL, V. SOUKHANOVSKII, LLNL, K. TRITZ, Johns Hopkins — ELMs can be reliably triggered in NSTX with the application of n=3 fields above a threshold level [1]. The destabilization threshold is a combination of the applied Amp-turns in the external coils, the length of the applied pulse, and the edge safety factor. Even for pulses below the threshold, however, a small perturbation in the divertor D_α emission is observed. We refer to this as a "transport response," characterized by small perturbations in the soft X-ray emission, divertor fluxes, and other diagnostic signals. Unfortunately these events appear to be insufficient to reduce the impurity accumulation observed in lithium-enhanced ELM-free H-modes. A characterization of these events will be presented, for applied n=3 fields of various amplitudes, pulse lengths and periods. Work supported by DE-AC05-00OR22725, DE-AC02-09CH11466 and by the Magnetic Fusion Energy fellowship from ORISE.

[1] Canik, J.M., *et al.*, Nucl. Fusion **50** (2010) 034012.

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