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NSTX ELM Pacing and L-H Threshold Experiments for ITER<sup>1</sup> J.M. CANIK, R. MAINGI, A.C. SONTAG, ORNL, S.P. GERHARDT, S. KAYE, R.E. BELL, D. GATES, R. GOLDSTON, B.P. LEBLANC, J. MENARD, J.-K. PARK, PPPL, T. EVANS, T. OSBORNE, GA, S. SABBAGH, Columbia U., E.A. UNTERBERG, ORISE/ORNL — We present a summary of recent edge-localized mode (ELM) pacing and L-H power threshold  $(P_{LH})$  experiments performed in NSTX in support of ITER. ELM triggering using 3D magnetic perturbations was used to perform pacing during ELM-free H-modes induced by lithium conditioning, mitigating the impurity accumulation typically observed in these conditions. The waveform of the applied field has been tailored to provide high reliability triggering at frequencies of >60 Hz to reduce the average ELM size. ELM pacing was also performed using vertical position oscillations, with the ELM frequency increased to  $\sim 30$  Hz from a natural frequency of  $\sim 15$  Hz. P<sub>LH</sub> is reduced by  $\sim 50\%$  at low triangularity, and also decreased by  $\sim 50\%$  during discharge with thick lithium wall coatings.  $P_{LH}$  was observed to increase strongly with plasma current during sustained H-modes. The influence of heating method, non-axisymmetric fields, and magnetic balance on  $P_{LH}$  will be presented.

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