

Abstract Submitted  
for the DPP15 Meeting of  
The American Physical Society

**ELM suppression in high-purity DIII-D helium plasmas<sup>1</sup>** T.E. EVANS, P. GOHIL, R.J. GROEBNER, T.H. OSBORNE, GA, A. LOARTE, ITER, E. UNTERBERG, ORNL, B. GRIERSON, PPPL, M. FENSTERMACHER, LLNL — ELM suppression in He plasmas with D core concentrations of less than 20% have been obtained in ECR heated, ITER Similar Shaped plasmas with low pedestal toroidal rotation ( $v_\phi < 10$  km/s). Here,  $n=3$  RMP fields are used to suppress large type-I ELMs at power levels marginally above the PL-H threshold ( $P_{ECRH}=2.9$  MW). ELM suppression in He plasmas has also been obtained using balanced co- and counter-Ip injected D neutral beams, with  $P_{NBI}=1.7$  MW which is near the  $P_{L-H}$  threshold, resulting in  $v_\phi \sim 0$ . The electron perpendicular rotation frequency during ELM suppression does not cross zero, assuming no uncertainty in the measurement, but remains slightly negative, with an average frequency of -5 krad/s, between 0.80 and 0.94 in normalized poloidal flux. This suggests that magnetic island screening is weak or nonexistent from the top of the H-mode pedestal inward to surfaces relatively deep in the core plasma.

<sup>1</sup>Work supported by the U.S. DOE, Office of Science, under DE-FC02-04ER54698, DE-AC05-00OR22725, DE-AC02-09CH11466, DE-AC52-07NA27344

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Date submitted: 22 Jul 2015

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