Abstract Submitted
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Scaling of H-mode Pedestal and ELM Characteristics With Gyroradius[1] T.H. OSBORNE, R.J. GROEBNER, A.W. LEONARD, P.B. SNYDER, GA, M.N.A. BEURSKENS, L.D. HORTON, P. LOMAS, S. SAARELMA, EURATOM/UKAEA, L. FRASSINETTI, Assoc. EURATOM-VR, I. NUNES, Centro de Fusao Nuclear, JET-EFDA TEAM, DIII-D TEAM — The dependence of the H-mode pedestal structure and ELMs on gyroradius ($\rho^* = \rho/a$) was examined in experiments combining data from the JET and DIII-D to produce a factor of 4 variation in ρ^*, while keeping the plasma shape, q, normalized pressure (β), collisionality, Mach number, and T_i/T_e at the pedestal top constant. In this scan, the width of the steep gradient region of T_e and n_e, Δ, was independent of ρ^* within uncertainties, $\Delta/a \sim (\rho^*)^{0.0\pm0.15}$. The pedestal pressures and widths were in quantitative agreement with the EPED1 model in which the pedestal structure is set by combining the peeling-ballooning and kinetic ballooning stability thresholds. The ELM energy loss normalized to the pedestal energy decreased from 40% to 10% as ρ^* decreased by a factor of 2 in DIII-D, but the trend did not continue in smaller ρ^* on JET.

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