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☐ Theory ☒ Experiment

Overview of Recent DIII-D Experimental Results,* C.M. Greenfield for the DIII-D National Team, GA –The 2007 DIII-D experimental campaign focuses on resolving issues of importance to the ongoing ITER Design Review. Recent experiments have established the importance of island overlap for ELM suppression and confirmed the previous observation of a low rotation threshold for RWM stabilization in AT plasmas with $\beta_N \approx 4$, providing critical information for the design of internal coil systems for RWM and ELM control in ITER. Experiments simulating the ITER startup scenario with an outer wall limited plasma exhibit high internal inductance during the current ramp, potentially presenting challenges for vertical stability in ITER. Studies performed in the high performance hybrid scenario establish that pedestal pressure increases with triangularity and plasma β , but with little dependence on plasma rotation. Increasing T_e/T_i with ECH results in increased low to intermediate k fluctuations, but little change in confinement. In other studies, radial profiles of electron temperature and density fluctuations have been simultaneously measured, and are observed to behave similarly.

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