

**Abstract Submitted for the 54th Annual Meeting
Division of Plasma Physics
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Category Number and Subject: 5.6.2. DIII-D Tokamak

Theory Experiment

Overview of Recent DIII-D Experimental Results,*

P. Gohil, *General Atomics* and the DIII-D Team – Recent DIII-D experiments have addressed critical ITER issues, increased our understanding of plasma transport physics, and improved the physics basis for steady state operation. These experiments have utilized several new diagnostic and hardware capabilities, such as real time steering of the ECH launcher mirrors, 75 Hz pellet ELM pacing IR/visible periscopes and high-resolution profile reflectometry. Progress in several key areas of research will be presented: understanding transport induced by 3-D field perturbations at the plasma edge; determining reliable alternative techniques for ELM control that do not require internal coils, such as QH-mode and pellet pacing; improved control of runaway electrons and disruption control through pellet injection; increased understanding of core transport and model validation; improved operation of steady state, high β_N plasmas; investigations into improving divertor performance through changes in the magnetic divertor geometry; and new results on high Z material erosion.

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