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Results from the New High-Triangularity Upper Pump and Baffle on DIII-D¹ S.L. ALLEN, LLNL, C.M. GREENFIELD, General Atomics, AND THE DIII-D TEAM, Oak Ridge National Laboratory, UCSD, Sandia National Laboratory — In this paper we present an overview of results from operation with the new upper divertor baffle and pump on DIII-D. This is the first stage of a full double null installation designed to be compatible with Advanced Tokamak operation. The baffles are designed to control the core fueling and the detailed shape was guided by UEDGE and DEGAS modeling. The upper divertor is optimized for high-triangularity ($\delta \simeq 0.7$) operation and can be compared with the lower low-triangularity divertor ($\delta \sim 0.3$). We have achieved similar density control ($I_p/n_e \simeq 2.5$) with both divertors, but the upper divertor shows a different sensitivity of exhaust to strike point location because of the divertor shape. We have investigated the density control with the direction of the ∇B drift and have found the exhaust to be similar, but the impurity levels are increased in the case of ∇B towards the divertor plate. Plasma performance results from ELMing and ELM-free discharges will be presented.

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