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Sorting Category: 6.6.2 (Experimental)

Reduction of Tile Heating, Particle, and Carbon Sources With the New DIII-D Divertor-2000[1] C.J. LASNIER, LLNL, AND THE DIII-D TEAM — We have installed a new divertor baffle, cryopump, and inner wall graphite tiles in DIII-D for improved density control in high-triangularity AT discharges. Particle exhaust and core ionization measurements agree with modeling predictions. Tile shaping near the pump has reduced carbon sources and tile edge heating by distributing heat flux toroidally. The new tiles were contoured, and aligned to adjacent tiles with much greater precision than previously. Infrared camera views of these locations show the heating of tile edges is greatly reduced. A lower carbon content of the plasma has been observed, and we attribute this in part to the changes in the tile design and installation. We show the predictions of tile edge temperatures from the code used to design the tiles, and compare with measurements of the tile temperatures during plasma discharges with conditions similar to those assumed in the design. We compare the amount of erosion on tiles which are well aligned with that on poorly aligned tiles.

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[X] Prefer Oral Session
[ ] Prefer Poster Session

Special instructions: 13th Oral presentation in DIII-D Session (follows Colchin)

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