

Abstract Submitted
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Pumping Efficiency and Particle Control in DIII-D¹

J.G. WATKINS, SNL, M.A. MAHDAVI, T.C. LUCE, T.W. PETRIE, GA, M.R. WADE, R.J. COLCHIN, R.C. ISLER, L.W. OWEN, ORNL, S.L. ALLEN, M.E. FENSTERMACHER, C.J. LASNIER, G.D. PORTER, LLNL, R. MAINGI, PPPL, R.A. MOYER, D.L. RUDAKOV, UCSD, P.G. STANGEBY, U. Toronto — This paper describes the performance of the new upper divertor pumping system used for particle control of high triangularity discharges in DIII-D. A new cryopump (pumping speed ~ 18000 T-l/s) was installed in the upper divertor private flux region. Densities less than 30% of the Greenwald limit have been achieved. The particle removal efficiency of the pumps (defined as the particle exhaust/total target plate ion current) has been measured and will be shown as a function of strike point position and flux expansion. Each pump shows the maximum removal efficiency ($\sim 10\%$) when the strike point is near the baffle entrance. The direction of the magnetic field (and ExB drift) affects the total particle removal efficiency. Upper pumping is also effective in high triangularity, balanced double-null plasmas.

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Prefer Oral Session
Prefer Poster Session

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Special instructions: 3rd poster in Divertor Session (before Wolf, after Boedo)

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