

Abstract Submitted
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Carbon Co-Deposition Studies in DIII-D L- and H-Mode Plasmas and Implications to the ITER Tritium Inventory¹ A.G. MCLEAN, J.W. DAVIS, P.C. STANGEBY, A.A. HAASZ, U. Toronto, S.L. ALLEN, R. ELLIS, M.E. FENSTERMACHER, M. GROTH, LLNL, W.R. WAMPLER, SNL, D.G. WHYTE, U. Wisconsin, N.H. BROOKS, R.L. LEE, W.P. WEST, C.P.C. WONG, GA, A. NAGY, PPPL, D.L. RUDAKOV, UCSD, V. PHILLIPS, IPP-Juelich, G.F. MATTHEWS, JET — A carbon-13 tracer injection experiment into ITER-like lower single-null partially detached ELMy H-mode plasma was carried out on DIII-D. 2.2×10^{22} ^{13}C atoms were injected as $^{13}\text{CH}_4$ in a toroidally symmetric way in 17 identical 5s shots. Residual gas analysis of effluent during He glow indicated that $\sim 1\%$ of ^{13}C atoms escaped as $^{13}\text{CD}_4$. 64 tiles were removed from the vessel for NRA analysis at Sandia Labs and the Univ. of Wisc. Simulation of the experiment with OEDGE and UEDGE is underway to interpret the tracer deposition pattern and better understand where tritiated hydrocarbons will collect in ITER. The Univ. of Toronto will perform oxygen baking to judge its use as a tritium removal technique.

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