

Abstract Submitted  
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**Monte Carlo Impurity Studies of Carbon Dynamics  
in the DIII-D Divertor and Scrape-off Layer<sup>1</sup>**

T.E. EVANS,  
W.P. WEST, General Atomics, D.F. FINKENTHAL, Palomar College,  
K.S. LEUENROTH, Rensselaer Polytechnic Institute, R.C. ISLER, Oak  
Ridge National Laboratory — In DIII-D measured sources of carbon  
influx in the divertor have decreased with time and the number of  
boronizations. Over this same period the plasma core carbon content has  
essentially remained constant. In order to better understand these ob-  
servations the Monte Carlo Impurity (MCI) code is being used to study  
carbon sputtering and transport from the DIII-D divertor and wall. A  
comparison with spectroscopic measurements is also being made. Initial  
results show that standard chemical sputtering models yield too much  
carbon radiation in the DIII-D divertor and are unable to reproduce  
the observed carbon source variation. By spatially reducing chemical  
sputtering yields to simulate the effect of boron migration over a series  
of plasma discharges we obtain more realistic levels of carbon radiation  
in the divertor but can not yet explain a constant core carbon content.  
Details of these studies will be presented and preliminary results from  
wall source simulation will be discussed.

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Prefer Oral Session  
 Prefer Poster Session

T.E. Evans  
evans@fusion.gat.com  
General Atomics

Special instructions: DIII-D Poster Session 2, immediately following WP West

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