

Abstract Submitted  
for the DPP96 Meeting of  
The American Physical Society

Sorting Category: 5.1.1.2 (Experimental)

**Neutral and Low-Charge-State Helium and Neon Spectroscopy Measurements During Radiative Divertor Experiments on DIII-D,**<sup>1</sup> G.R. MCKEE, JR., Oak Ridge Institute for Science Education, D.L. HILLIS, R.C. ISLER, C.C. KLEPPER, M.R. WADE, Oak Ridge National Laboratory, N.H. BROOKS, W.P. WEST, General Atomics — A new diagnostic has been installed on the DIII-D tokamak to analyze helium exhaust, neon, or other radiating impurity species during radiative divertor experiments. A multichord, wide-format, low-noise CCD camera has been installed on the Multichannel Divertor Spectrometer, and an array of impurity filter scopes is being implemented. The CCD provides spatially-resolved spectral measurements of up to 13 vertically viewing channels (seven radial and six toroidal) within the divertor region at ~50 ms time resolution. Initial results show that the NeI line emission rise time during neon gas injection varies with spatial location in the divertor. An impurity filter scope array can measure line emission from up to 5 impurity species simultaneously every 0.5 ms to observe impurity response to ELMs or other fast phenomena. These diagnostics will provide basic data needed to validate divertor impurity transport codes.

<sup>1</sup>Work supported by U.S. DOE Contract Nos. DE-AC03-89ER51114 and DE-AC05-96OR22464.

Prefer Oral Session  
 Prefer Poster Session

George R. McKee, Jr.  
mckee@gav.gat.com  
c/o General Atomics

Special instructions: P-2-14

Date submitted: August 1, 1996

Electronic form version 1.1