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**Measurements of Divertor Impurity Emissions on DIII-D,**<sup>1</sup> R.D. WOOD, S.L. ALLEN, M.E. FENSTERMACHER, C.J. LASNIER, Lawrence Livermore National Laboratory, R.C. ISLER, M.R. WADE, Oak Ridge National Laboratory, A.W. LEONARD, M.J. SCHAFFER, W.P. WEST, General Atomics — On DIII-D, visible and ultraviolet spectroscopy are used to characterize divertor emissions. Carbon emissions during ELMing H-mode and D<sub>2</sub> radiative divertor operations account for 50%–80% of the total radiated power in the divertor with the remainder from deuterium.<sup>2,3</sup> In the case of neon injection with D<sub>2</sub> puffing and pumping, the strong radiating zone near the X-point consists of 80% carbon and less than 20% neon. With nitrogen injection, about half of the total radiated power comes from nitrogen. In all these cases, the total radiated power derived from spectroscopy is in good agreement with bolometer measurements. Details of the spectroscopic analysis and a comparison of these data with two-dimensional radiated power density distribution and visible TV data will be presented.

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<sup>2</sup>R.D. Wood, *et al.*, 22nd EPS Conference on Controlled Fusion and Plasma Physics, Kiev, Ukraine, 1996.

<sup>3</sup>R.C. Isler, *et al.*, submitted to Physics of Plasmas, 1996.

Prefer Oral Session  
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