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Simulation of cometary x rays in collisions of keV C^{5+} , C^{6+} , Ne^{8+} with CO , H_2 , and He KENNETH MILLER, QUENTIN KESSEL, WINTHROP SMITH, University of Connecticut, JURI SIMCIC, ARA CHUTJIAN, Jet Propulsion Laboratory — About 10 years ago, 50-1000 eV x rays were found to be emitted from comets in the inner solar system [1]. The x-rays result from charge exchange interactions between highly-charged heavy ions of the solar wind and gases emanating from the warming comet nucleus [2]. JPL's Highly Charged Ion Facility [3] and a UConn XUV spectrometer were used to measure relative line emission cross sections from ion-gas collisions of solar wind constituents with gas targets of cometary interest. Different target gases are found to affect the projectile (n,l) states following capture. We also report some preliminary data on the projectile velocity dependence of the cross sections, to compare with observations from space and with theoretical models [4]. 1. C. M. Lisse, et al., *Science*, **274**, 205 (1996). 2. T. E. Cravens, *Science*, **296**, 1042, (2002). 3. J. B. Greenwood, A. Chutjian, S. Smith, *Astrophysical J.* **259**, 605, (2000). 4. V. Kharchenko, A. Dalgarno, *Astrophysical J.* **554**, L99, (2001). This research is supported by NASA NCC5-601 and at JPL by arrangement with NASA.

Kenneth Miller
University of Connecticut

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