

Abstract Submitted
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X-ray emission from collisions of O^{7+} with atomic and molecular gases in the 35 to 50 KeV range.¹ THOMAS EHRENREICH, CHRISTOPHER VERZANI, QUENTIN KESSEL, EDWARD POLLACK, WINTHROP W. SMITH, (University of Connecticut), STEVEN J. SMITH, SABBIR HOSSAIN, NADA DJURIC, ARA CHUTJIAN, (Jet Propulsion Laboratory, California Institute of Technology) — The solar winds are mainly comprised of protons and helium ions; however, the energetic x rays emitted from ion-comet interactions originate from the smaller fraction of heavier highly charged solar-wind ions (e.g., C, N, O, Mg, Fe ions), which have large electron-capture cross sections. One of the goals of this work is to provide high-resolution spectroscopic information for modeling of soft x-ray emission observed from solar-wind ion interactions with cometary gases. Using the JPL ECR ion source in conjunction with a grazing incidence XUV spectrometer, equipped with a CCD camera, x rays in the wavelength range from 2 to 40 nm have been measured in collisions of O^{7+} with CH_4 , CO, He, H_2 , and H_2O gases.

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