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Visible spectroscopy of collisions of solar-wind ions on gas targets of astrophysical interest KENNETH MILLER, CHRISTOPHER VERZANI, ANNE WRIGLEY, PHILLIP GEE, QUENTIN KESSEL, WINTHROP SMITH, University of Connecticut, Storrs — In 1996 the ROSAT satellite discovered x-ray emission from comets. It has been established that the primary mechanism for the emission of cometary x-rays is charge exchange during collisions of highly-charged solar-wind ions with neutral gases of cometary atmospheres. The x-ray spectra from collisions of O^{q+}, C^{q+}, Ne^{q+}, and S^{q+} with CO were investigated at Jet Propulsion Laboratory. We present a complimentary investigation of visible spectra from these collisions. Our 2 MV Van de Graaff accelerator was used to produce ions of O^{q+}, C^{q+}, Ne^{q+}, and S^{q+} (q = 1 to a max of 5 for O) to collide with neutral targets of CO and H_2O. The research at the University of Connecticut has been sponsored by NASA EPSCoR Grant NCC5-601.

Kenneth Miller
University of Connecticut, Storrs

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