Abstract Submitted
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Laboratory Measurement of 50-300eV X rays from Collisions of S, Ne ions with molecules of Cometary Interest.[1] KENNETH MILLER, CHRISTOPHER VERZANI, ANNE WRIGLEY, QUENTIN KESSEL, WINTHROP SMITH, University of Connecticut, STEVE SMITH, SABBIR HOSSAIN, ARA CHUTJIAN, Jet Propulsion Laboratory — Approximately 90 percent of the observed cometary x rays have energies in the 50 – 300 eV range. It is assumed these x rays may be the result of electron capture to excited states, similar to the explanation of the 250 – 700 eV cometary x-ray lines being due to the transfer of electrons from cometary gases (CO, H_2O, etc.). The present data are consistent with this interpretation. We present here spectra obtained, using solar wind-type ions such as Ne^{7+}, Ne^{8+}, S^{9+}, and O^{6+} from the JPL ECR ion source. Our spectra suggest that charge transfer to these highly-charged solar wind species contributes significantly to cometary x-ray spectra in the 50-300eV energy range.

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