

Abstract Submitted
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Status of Charge Exchange Cross Section Measurements for Highly Charged Ions on Atomic Hydrogen¹ I.N. DRAGANIC, C.C. HAVENER, D.R. SCHULTZ, Physics Division, Oak Ridge National Laboratory, Oak Ridge, TN 37831, D.G. SEELY, Department of Physics, Albion College, Albion, MI 49224, P.C. SCHULTZ, Department of Physics and Astronomy, University of Georgia, Athens, GA 30602 — Total cross sections of charge exchange (CX) for C^{5+} , N^{6+} , and O^{7+} ions on ground state atomic hydrogen are measured in an extended collision energy range of 1 - 20,000 eV/u. Absolute CX measurements are performed using an improved merged-beams technique with intense highly charged ion beams extracted from a 14.5 GHz ECR ion source mounted on a high voltage platform. In order to improve the problematic H^+ signal collection for these exoergic CX collisions at low relative energies, a new double focusing electrostatic analyzer was installed. Experimental CX data are in good agreement with all previous Hoven relative measurements at higher collision energies. We compare our results with the most recent molecular orbital close-coupling (MOCC) and atomic orbital close-coupling (AOCC) theoretical calculations.

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