

Abstract Submitted
for the DAMOP11 Meeting of
The American Physical Society

Charge Exchange in $O^{7+}+H$ collisions¹ J.L. NOLTE, Y. WU, P.C. STANCIL, University of Georgia, R.J. BUENKER, Bergische Universitaet Wuppertal, D.R. SCHULTZ, Y. HUI, I.N. DRAGANIC, C.C. HAVENER, Oak Ridge National Laboratory — Charge exchange between heavy solar wind ions and interstellar neutrals is thought to be a dominant contributor to the heliospheric component of the soft x-ray background, as the highly charged resultant ion emits an x-ray photon through the electron's cascade to the ground state. In this study we calculate n -, l -, S -resolved charge capture cross sections into the dominant $n = 4, 5$ and 6 manifolds for the system $O^{7+}+H$, over a range of collision energies 0.01-50 keV/u, using the molecular orbital close coupling method. We compare our results with classical trajectory Monte Carlo, atomic orbital close coupling, and experimental results.

¹This work is partially supported by NASA grants NNX09AV46G, NNG09WF24I, and NNH07ZDA001N.

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Date submitted: 07 Feb 2011

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