Abstract Submitted
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Ro-vibrational Charge Exchange Cross Sections in C $^{4+}$ and H_2 Scattering at Low Energies[1] DWAYNE C. JOSEPH, Department of Physics, Florida A&M University, Tallahassee, Florida-32307., BIDHAN C. SAHA, Department of Physics, Florida A&M University, Tallahassee, FL-32307., ROBERT J. BUENKER, Fachbereich C-Mathematik und Naturwissenschaften, Bergische Universitat Wuppertal, D-42097 Wuppertal, Germany. — We report the calculation for electron capture during C $^{4+}$ collisions with molecular hydrogen at low incident energies. Using the multi reference single- and double-excitation (MRD-CI) method [1] we calculate all adiabatic potential energy curves and the non-adiabatic coupling matrix elements. We use quantum close coupling method [2] to evaluate various excitation cross sections. Details will be presented at the meeting. [1] R. J. Buenker and S. D. Peyerimhoff, Thoer. Chim. Acta 35, 33 (1974). [2] B. C. Saha, in Electron-Molecule Scattering and Photoionization, edt P. G. Burke and J. B. West, p 221 (1988).

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