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Electron Capture in Slow Collisions of Si4+ With Atomic Hydrogen[1] D.C. JOSEPH, J.P. GU, B.C. SAHA, Department of Physics, Florida A&M University — In recent years the charge transfer involving Si4+ and H at low energies has drawn considerable attention both theoretically and experimentally due to its importance not only in astronomical environments but also in modern semiconductor industries. Accurate information regarding its molecular structures and interactions are essential to understand the low energy collision dynamics. Ab initio calculations are performed using the multireference single- and double-excitation configuration-interaction (MRD-CI) method to evaluate potential energies. State selective cross sections are calculate using fully quantum and semi-classical molecular-orbital close coupling (MOCC) methods in the adiabatic representation. Detail results will be presented in the conference.

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B. C. Saha
Department of Physics, Florida A&M University

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