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Plasma-Screening Effects on the Electron-Impact Ionization of Atoms / Molecules and Ions Embedded in Weak Plasma BHUSHIT VAISHNAV, VPMP Polytechnic, Gandhinagar, Gujarat, K.N. JOSHIPURA, S. GANGOPADHYAY, Dept. of Physics, Sardar Patel University, Vallabh Vidyanagar — Plasma screening effects on electron induced atomic collision properties have attracted considerable research attention, because of applications in inertial confinement fusion and X-ray lasers etc. The theoretical interest is to examine the ionization of atomic/molecular targets by the impact of electrons in plasma. Basically the electron scattering problem is treated in a semi-empirical approach in the complex scattering potential ionization contribution (CSP-ic), to calculate *total ionization cross section* as a dominant part of total inelastic cross sections. This approach has been successful for number of (free) atomic and molecular targets in [1]. This paper extends the method to the collision processes in plasma and the relative contribution of ionization has been identified. We consider He^+ ion embedded in weak plasma. The static potential of the e-He^+ system in plasma environment is derived by us. Results will be discussed in the Conference.
References: [1] K N Joshipura, Bhushit G Vaishnav and Sumona Gangopadhyay, Int. J. Mass. Spectrom. **261** (2007) 146.

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