Abstract Submitted
for the DAMOP05 Meeting of
The American Physical Society

Autoionization of He by partially stripped ion impact[1] SEBASTIAN OTRANTO, RONALD OLSON, University of Missouri-Rolla — The autoionization of He by ion impact can be considered a two step process in which the atom is first excited to an autoionizing state and afterwards decays emitting one electron to the continuum. Several theoretical methods have been developed in order to predict the position of the autoionization peak and the profile of the "Coulomb focusing peak." For the latter, the enhancement in the impinging ion direction arises by the postcollisional interaction between the emitted electron and the receding projectile. Previous studies have considered He^+ projectiles with a pure Coulomb potential. In this work, we present the new features that partially stripped ions will leave on the main visible structures of the doubly differential cross sections (i.e. the autoionization and binary rings). These energy and angular profiles are also compared with those obtained with pure Coulombic ions.

[1]Work supported by DOE - Office of Fusion Energy Sciences

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Date submitted: 01 Feb 2005 Electronic form version 1.4