

Abstract Submitted
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Comparisons of Differential Double Ionization of Ar by Positron and Electron Impact¹ O.G. DE LUCIO, J. GAVIN, R.D. DUBOIS, University of Missouri-Rolla, Rolla, MO 65409, A.C.F. SANTOS, Instituto de Fisica, Universidade Federal do Rio de Janeiro, Caixa Postal 68528, 21941-972 Rio de Janeiro, RJ, Brazil — Differential cross sections for single and multiple ionization of argon by 500 eV positrons and electrons are being measured. The goal of this work is to investigate projectile charge effects in the ionization kinematics. Using coincidences between projectiles which have lost specific amounts of energy and recoil ions, ratios of double to single ionization as a function of energy loss were studied. These data are being used to investigate interference between the TS1 and TS2 terms leading to double ionization. Using coincidences between ejected electrons and recoil ions, angular distributions for electron emission resulting from single and multiple ionization were studied. Ratios of the angular distributions provide insight into the relative importance of the TS1 and TS2 mechanism for double ionization. Initial analysis implies differences for positron and electron impact.

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