

Abstract Submitted
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Multiple electron processes of He and Ne by proton impact PAVEL NIKOLAEVICH TEREKHIN, Instituto de Fisica Rosario (CONICET-UNR), Rosario, Argentina; NRC Kurchatov Institute, Moscow, Russia, PABLO MONTENEGRO, MICHELE QUINTO, JUAN MONTI, OMAR FOJON, ROBERTO RIVAROLA, Instituto de Fisica Rosario (CONICET-UNR), Rosario, Argentina — A detailed investigation of multiple electron processes (single and multiple ionization, single capture, transfer-ionization) of He and Ne is presented for proton impact at intermediate and high collision energies. Exclusive absolute cross sections for these processes have been obtained by calculation of transition probabilities in the independent electron and independent event models as a function of impact parameter in the framework of the continuum distorted wave-eikonal initial state theory. A binomial analysis is employed to calculate exclusive probabilities. The comparison with available theoretical and experimental results shows that exclusive probabilities are needed for a reliable description of the experimental data. The developed approach can be used for obtaining the input database for modeling multiple electron processes of charged particles passing through the matter.

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