

Abstract Submitted
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Calculation of the ionization energy change due to neighboring charges occurring in laser-cluster interactions EDWARD ACKAD, JEFF WHITE, Southern Illinois University Edwardsville — Single-photon ionization is the initial mechanism by which a nanoplasma is formed during laser-cluster interactions in the VUV and beyond. While the photo-ionization cross-sections for gasses are well known, how to treat the ionization in charged, rare-gas clusters remains an open question. Using DFT, we model the effect of a cluster background field on an atom, solving for the ionization energy of the quantum system. We then propose a simple, semi-classical model which may be used in practice for large scale laser-cluster hybrid simulations.

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