

Abstract Submitted
for the DAMOP09 Meeting of
The American Physical Society

Strong Field Ionization of Ne^{n+} ($n \leq 3$) for an Ultrafast, 400 nm Laser Field¹ BRUCE L. WEN, NAGITHA EKANAYAKE, JANE WAESCHE, SAMANTHA WHITE, ADAM WATTS, TEDDY STANEV, BARRY C. WALKER, University of Delaware — Total ionization yields are reported for neon (Ne^+ to Ne^{3+}) at intensities from 10^{14} W/cm² to 10^{17} W/cm² for a 400 nm laser field. Sequential ionization processes are modeled by tunneling ionization and shown to be accurate within a factor of two near saturation for Ne^+ and Ne^{2+} . Non-sequential multi-electron ionization is observed for the ionization yield of Ne^{2+} and Ne^{3+} . The ratio of ion yields from 800 nm and 400 nm laser fields for neon charge states for Ne^{2+} and Ne^{3+} show non-sequential ionization for a 400 nm laser field is different when compared to that for an 800 nm laser field. A semi-classical, 3D relativistic rescattering model is compared to the data.

¹This work is supported by the National Science Foundation (Grants No.0757953).

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Date submitted: 23 Jan 2009

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