

Abstract Submitted
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Transition Probabilities for a Relativistic One-Electron Atom

GERARDO GONZALEZ, STEVE ALEXANDER, Southwestern University — Using Variational Monte Carlo methods we have calculated trial wave function forms for a number of one-electron atoms with $Z=92$. In order to incorporate relativistic effects, our trial wave functions satisfy both the 2-component Dirac equation and the 4-component Dirac equation. With these trial wave functions we have calculated a number of simple expectation values as well as several M1, E1, M2 and E2 transition probabilities. We compare our results with those of generated by other methods.

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