

Abstract Submitted
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Relativistic configuration interaction calculations of transition energies and hyperfine quenching rates for Ne-like ions¹ M.H. CHEN, K.T. CHENG, Lawrence Livermore National Laboratory — Relativistic configuration interaction (RCI) calculations of Ne-like $2p^53s - 2p^6$ transition energies and hyperfine quenching rates have been performed. Large-scale CI expansions exceeding 600,000 configurations are realized with a new, parallel version of our RCI code. Since initial and final states are not in the same complex, we use $2p^53s$ potentials for the initial excited state and $2p^6$ potential for the final ground state to generate B-spline basis functions. Relaxation effects on transition energies thus calculated range from -0.5371 eV in Na^+ to -0.0077 eV in Xe^{44+} . Our results are compared with electron beam ion trap measurements of Ne-like W^{64+} [P. Beiersdorfer et al., Phys. Rev. A **86**, 012509 (2012)], with NIST database, and with other theoretical predictions.

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K. T. Cheng
Lawrence Livermore National Laboratory

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