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Excitation energies, radiative and autoionization rates, dielectronic satellite lines, and dielectronic recombination rates for excited states of Ag-like W from Pd-like W[1] W.R. JOHNSON, University of Notre Dame, U.I. SAFRONOVA, A.S. SAFRONOVA, University of Nevada, Reno
— Energy levels, radiative transition probabilities, and autoionization rates for [Kr]$4d^9 4fnl$, [Kr]$4d^9 5l'nl$, (n=5-8), and [Kr]$4d^9 6lnl$ (n=6-7) states in Ag-like tungsten (W^{27+}) are calculated using the relativistic many-body perturbation theory method (RMBPT code), the Multiconfiguration relativistic Hebrew University Lawrence Atomic Code (HULLAC code), and the Hartree-Fock-Relativistic method (COWAN code). We continue systematic studies of RMBPT data for tungsten ions and important comparison with other codes. Branching ratios relative to the first threshold and intensity factors are calculated for satellite lines, and dielectronic recombination (DR) rate coefficients are determined for the singly-excited [Kr]$4d^{10}nl$ (n=5-7). The total DR rate coefficient is derived as a function of electron temperature. These atomic data are important in modeling of N-shell radiation spectra of heavy ions generated in various collision as well as plasma experiments. The tungsten data are particulary important for fusion application.

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