Abstract Submitted
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Excitation energies, radiative and autoionization rates, dielectronic satellite lines, and dielectronic recombination rates for excited states of Na-like W from Ne-like W[1] A.S. SAFRONOVA, U.I. SAFRONOVA, University of Nevada, Reno, P. BEIERSDORFER, LLNL — Energy levels, radiative transition probabilities, and autoionization rates for $2s^22p^53l'nl$, $2s2p^63l'nl$ (n=3- 7) and $2s^22p^54l'nl$, $2s2p^64l'nl$ (n=4-6) states in Na-like tungsten (W^{63+}) are calculated by the Cowan, HULLAC, and RMBPT codes. Autoionizing levels above the $2s^22p^6$ are threshold considered. 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 excited $2s^22p^6nl$ (n=3-7) states. Contributions from the excited level $2s^22p^53l'nl$, $2s2p^63l'nl$ (with $n \geq 8$) and $2s^22p^54l'nl$, $2s2p^64l'nl$ ($n \geq 7$) to the DR rate coefficients are estimated by extrapolation of all atomic parameters. The total DR rate coefficient is derived. These data as well as theoretical dielectronic satellite spectra are useful in diagnostic of high-temperature plasmas of the broad range of densities from Tokamak to HED plasmas.

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