Dielectronic recombination of $\mathbf{Xe^{8+}}$ ion and satellite lines of $\mathbf{Xe^{7+}}$

ion RAJAN BISTA, ULYANA SAFRONOVA, REINHARD BRUCH, University of Nevada, Reno, YURI RALCHENKO, NIST — The Hartree-Fock-Relativistic method (Cowan code) and the relativistic many-body perturbation theory are used to perform a large-scale calculation of atomic parameters for dielectronic recombination (DR) of Pd- like Xe^{8+}. The energy levels, radiative transition probabilities, and autoionization rates are reported for $4d^9 4fnl$, $4d^9 5l'nl$, (n=5-8), and $4d^9 6lnl$ (n=6-7) states in Ag-like Xe^{7+}. The partial and total DR rate coefficients are calculated with account of high-n states, and contribution of different atomic configurations to DR is discussed. The branching ratios and intensity factors are calculated for dielectronic satellite lines. The obtained results can be used for modeling of various Xe plasmas including those used in lithography applications.

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