

CALCULATIONS OF ENERGY LEVELS, OSCILLATOR STRENGTHS, TRANSITION PROBABILITIES AND LIFETIMES OF THE C-LIKE ION K XIV

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Energy levels, oscillator strengths, transition probabilities and lifetimes for the multicharged carbon like K XIV ion have been calculated with the configuration expansion: $2s^2 2p^2$, $2s^2 2p 3p$, $2s^2 2p 4p$, $2s^2 2p 4f$, $2s 2p^3$, $2s^2 2p 3s$, $2s^2 2p 4s$, $2s^2 2p 5s$, $2s^2 2p 3d$ and $2s^2 2p 4d$. Two methods were used in the calculations: the Hartree-Fock pseudo-relativistic approach using the Cowan atomic structure code and the Thomas-Fermi-Dirac-Amaldi potential approach using AUTOSTRUCTURE code. Results have been compared with available experimental data from NIST database. There is great lack on atomic structure data of K XIV and obtained new data will be important for plasma diagnostic and astrophysical modeling.