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Progress Report

ENERGY LEVELS, OSCILLATOR STRENGTHS AND TRANSITION PROBABILITIES FOR THE Ti II ION

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In this work, energy levels, oscillator strengths and transition probabilities for the Ti II ion are calculated by the Hartree-Fock pseudo-Relativistic (HFR) method using the Cowan (CW) atomic structure code and by the Thomas-Fermi-Dirac-Amaldi (TFDA) method using the AUTOSTRUCTURE (AS) atomic structure code.

We used the terms and levels generated by the 12 configurations: $3d^2$ ns (n=4-6), $3d^2$ np (n=4,5), $3d^2$ nd (n=4,5), $3d^2$ 4f, 3d 4s np (n=4,5), 3d $4s^2$, $3d^3$.

We improved our *ab initio* calculated data by using the semi-empirical methods in the CW and AS atomic structure codes. We also compared with other theoretical and experimental results and obtained new data for this ion.