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The Calculations of Oscillator Strengths and Transition Probabilities for Atomic Fluorine

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Keywords
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Abstract: Oscillator strengths for transitions between individual lines belonging to some doublet and quartet terms, and multiplet transition probabilities of atomic fluorine have been calculated using weakest bound electron potential model theory (WBEPMT). In the determination of relevant parameters, we employed numerical non-relativistic Hartree-Fock (NRHF) wave functions for expectation values of radii and the necessary energy values have been taken from experimental energy data in the literature. Oscillator strengths and transition probabilities obtained in this work have been compared to experimental and theoretical values given in the literature.

Key Words: Transition probabilities, oscillator strengths, the weakest bound electron potential model theory, atomic fluorine.

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