Abstract Submitted
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MCHF Studies of Partial Photoionization Cross section of Atomic Fluorine HARI P. SAHA, University of Central Florida, Orlando — We will present results of theoretical investigation on the partial and total photoionization cross sections between the ^1D and ^1S thresholds of atomic fluorine using the multi-configuration Hartree-Fock method of bound and continuum wave functions. The $2p^4(^1S)ns, md$ series observed by experiment through their decay into the allowed $2p^4(^3P)kl$ and $2p^4(^1D)kl$ ionization channels are carefully identified. The $2s2p^6\ ^2S$ resonance is seen to interact strongly with the nearby $2p^4(^1S)4s\ ^2S$ resonance. The results are compared with the available experimental and theoretical data. The energy positions of the resonance series $2p^4(^1S)ns, md$ as well as $2s2p^6\ ^2S$ are found to be in very good agreement with experimental observations.

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