Abstract Submitted
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Excitation of ground state of Oxygen to a metastable state by electron impact HARI P. SAHA, University of Central Florida, Orlando, SWARAJ TAYAL, Clark-Atlanta University, Atlanta — We have made preliminary calculation for the excitation of oxygen atom from the ground $2p^4(^3P)$ to the mtastable $2p^3 3s(^5S)$ state. We have used the recently extended MCHF method for multi-open channels to calculate the excitation cross sections. The important electron correlation and polarization effects have been taken into account completely ab-initio by the extended MCHF method. We have also used the R-matrix method to calculate the same to compare with the MCHF results. We will present the comparison of both MCHF and R-matrix results with the available experimental and other theoretical calculations. These results will be useful for astrophysical applications.

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