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Evaluation of Electron Ionization Cross Sections for Carbon Fullerenes[1] SATYENDRA PAL, NEERAJ KUMAR, MMH College, Ghaziabad — Recently, we have introduced a semi empirical formulation for the calculation of partial and total integral ionization cross sections for $C_{60}$and C_{70} in the energy range from ionization threshold to 1000 eV which yielded results which were in satisfactory agreement with available experimental and theoretical data. Subsequently, we extended and generalized the same revisited JK semi empirical formulation for the evaluation of partial integral ionization cross sections for C_2 dimmer and C_3 trimmer. The major input data required in the formulation is the oscillator strength which is taken from the statistical sum of individual carbon atoms. The results are found in satisfactory agreement with the only theoretical calculation based on the modified additive rule (MAR). In addition to the partial integral ionization cross sections, we have also evaluated the ionization rate coefficients using the calculated ionization cross sections and Maxwell-Boltzmann distribution for the electrons as a function of energy.

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