

Abstract Submitted  
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**Determination of ionization cross sections and rate coefficients for C60 by electron impact**<sup>1</sup> SATYENDRA PAL, ANSHU, NEERAJ KUMAR, KESHAV KUMAR, M.M.H. College, Ghaziabad — The modified semiempirical formulation for the calculations for the partial ionization cross sections of molecules by electron impact has been extended and generalized to the calculations of the cross sections for the dissociative ionization of fullerene C60. The secondary electron energy and angle dependent cross sections for the production of various dissociative ions C+60-2n (n=1-8) in electron dissociation of C60 are evaluated at fixed incident electron energies of 100 and 200eV. The integral partial ionization cross sections and their weighted sum i.e. total cross sections in the energy range varying from ionization threshold to 1000eV are also evaluated. The counting/total ionization cross sections along with the partial dissociative ionization cross sections are found in satisfactory agreement (within the composite error bars) with the available experimental data. The ionization rate coefficients at a function of energy are also derived using the present calculations for ionization cross sections and the Boltzmann distribution function of energy of the electron.

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