Abstract Submitted
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Elastic electron scattering from carbon dioxide ALLAN STAUFFER, York University, TAPASI DAS, RAJESH SRIVASTAVA, Indian Institute of Technology - Roorkee — We have derived a method to obtain the spherically symmetric part of the static interaction between an electron and an arbitrary molecule represented by Gaussian wave functions [1]. Adding polarization-correlation and local exchange potentials provides a total potential that represents electrons scattering from the molecule averaged over all spatial orientations. We will present results for electron scattering from the linear molecule CO_2 using such a potential. Since this molecule has no permanent dipole moment, we expect our method to produce accurate results for elastic scattering. We will compare our results with existing experimental and theoretical data for this process to assess the accuracy of the method.

[1] Tapasi Das, A D Stauffer and Rajesh Srivastava, Eur. Phys. J. D **68**, 4, 102 (2014)

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