

# **ELASTIC –ELASTIC SCATTERING OF ELECTRONS FROM IONS AND ATOMS<sup>1</sup>**

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A computer program, *Elastic*, is presented which calculates the elastic scattering cross section as a function of scattering angle for electrons colliding with ions or atoms. The scattering is computed in an independent particle approach through calculation of the scattering phase shifts for an electron encountering a parameterized model potential. The functional form of the potential implemented is approximately valid for all ions and atoms and has parameters that are based on a fit of Hartree–Fock orbital energies (R. H. Garvey, C. H. Jackman, A.E.S. Green, Phys. Rev. A 12 (1975) 1144). The user could easily modify the program to utilize other forms, however. An auxiliary program, *Green-pot*, is included which computes the parameters of the Garvey et al. potential for use in *Elastic*, for display and analysis of the potential, and for use in other applications.

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