

Abstract

In this research we will investigate the scattering process occurred by charged particles from an infinite charged wire by means of simulation.

The expressions for the scattering potential as a function of normal distance from the wire, scattering angle as a function of impact parameter, and differential scattering cross section as a function of scattering angle has been derived.

The ratio between linear charge density of the wire and total energy of the scattered particles has been introduced. The scattering angle as a function of impact parameter and differential scattering cross section as a function of scattering angle has been calculated and successfully fitted with Lagrange interpolation formula. The obtained fitting data has been employed to obtain the ratio between linear charge density and total energy.

