

Potential Energy Curves for the Interaction of a Positron with Noble Gas Atoms

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Treating a positron as a light nucleus and the complex positron-atom within the quasi-molecule approximation [1], we have obtained adiabatic potential energy curves for its scattering by the He and Ne atoms. Different elastic and inelastic processes that contribute to the total scattering cross section are then rationalized in standard molecular terms of dissociation and nonadiabatic couplings. The procedure is extensible to other atoms and hopefully to molecules. Supported by CNPq, Capes and Fapemig

1. J. R. Mohallem et al, J. Phys. B: At. Mol. Opt. Phys. 37 (2004) 1045.