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Confined Atomic Systems in Charged Environments

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The discovery and development of quantum confinement triggered the study of the influence of the environment on quantum systems. Under such conditions, rearrangement of orbitals occurs in atoms and molecules, leading to changes in physical and chemical properties. This therefore leads us to study hydrogénoïde or artificial atomic systems (quantum dots QD) in plasmas.
We study this systems by using the Killingbeck potential as a confining potential and solve the Schrodinger equation for this potential analytically to find the exact expressions of both energies and eigenfunctions.

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