
ROLE OF POTENTIAL MODEL IN HIGH-ORDER HARMONIC GENERATION IN SPATIALLY INHOMOGENEOUS LASERS

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Abstract

In numerical calculation, to solve the time-dependent Schrodinger equation with divergent potential terms as Coulomb singularity, there are some ways in which smoothing the singularity or using a nonsingular potential is widely used. In strong field physics, the role of Coulomb effects in high-order harmonic generation [1] as well as the effect of the atomic potential form on the ionization [2] have been reported. This study is to examine the manifestation of two Coulomb forms: short-range and long-range models in the harmonic spectra from argon atom subjected to a spatially inhomogeneous laser field.

References

- [1] V. A. Birulia et al., *Phys. Rev. A* **99**, 043413 (2019).
 - [2] M. Gajda et al., *Phys. Rev. A* **46**, 1638 (1992).
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