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Semi-classical electron dynamics and the generation of below threshold harmonics¹ JAMES HOSTETTER, Louisana State University

We study the generation of below threshold harmonics in a model atom. We extend the three-step semi-classical model of high harmonic generation (HHG) to include effects of the atomic potential which necessarily plays an important role. We explore the generalization of semi-classical trajectories in the presence of the potential. We show that the long trajectory readily generalizes to below threshold HG. We also discuss that this is in good agreement with fully quantum mechanical calculations as well as with recent experimental results.

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