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UNIVERSIDAD DEL VALLE
Departamento de Física &
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Using time-domain simulations to investigate the coherent photoexcitation in semiconductor nanostructures

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Abstract:

We will describe the use of a powerful numerical tool to obtain quantum states of semiconductor nanostructures and the time evolution of them. The variety of systems investigated shows how flexible and effective the method is. The scheme for the calculation of the eigenvalues and eigenvectors is a modified version of the split-operator approach to propagate the wave functions. A detailed account of the numerical method will be given and applied to several semiconductor systems. Results of the photocurrent of infrared photodetectors will be discussed.

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