

Abstract Submitted
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Eigenvector Continuation for Two-Body Scattering¹ A.J. GARCIA,
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— We will be describing the theoretical implementation of eigenvector continuation (EVC) for the two-body scattering problem. EVC is a technique that relies on solutions to a Hamiltonian for several sets of known parameters to formulate a basis, which can be used to accurately interpolate and extrapolate solutions for the same Hamiltonian with different parameters. Until now, this has only been applied to the bound state problem. Using the Kohn variational method, we show that EVC can be adapted to scattering in coordinate space in the form of a simple matrix inversion. In addition, we discuss how to deal with ill-conditioned matrices that naturally arise. Furthermore, we generalize to include the Coulomb and non-local potentials, as well as extending the method to momentum space and coupled channels.

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