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Applying the Eigenvector Continuation Method for Two-Body Scattering in Momentum Space[1] PATRICK MILLICAN, ALBERTO GARCIA, RICHARD FURNSTAHL, XILIN ZHANG, Ohio State Univ - Columbus — In previous work we implemented eigenvector continuation (EC) for two-body scattering in coordinate space using the Kohn variational method. EC is a technique that uses eigensolutions for several sets of known parameters to form a basis that can be used to accurately interpolate and extrapolate solutions for the same Hamiltonian with different parameters. We applied EC to Hamiltonians for multiple physical potentials with different traits. EC was shown to be computationally efficient for exploring parameter space, making it attractive to use as an emulator in data science. Here we will demonstrate that EC is also viable as an emulator for two-body scattering when formulated in momentum space by applying it to a variety of potentials.

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