Computational Applications of the Eigenvector Continuation Method to Scattering[1] P.J. MILLICAN, R.J. FURNSTAHL, A.J. GARCIA, XILIN ZHANG, Ohio State University — The previous talk laid the theoretical groundwork for applying the eigenvector continuation (EVC) method to scattering problems in nuclear physics. Here, we present results for EVC as applied to various physical scattering scenarios in coordinate space—the square well (with and without a Coulomb interaction), the Minnesota potential (for the 1S0 and 3S1 states), p-alpha scattering (for the S1/2 and P3/2 states), and alpha-Pb scattering with a complex optical potential—as well as in momentum space. Computational issues that arise, including matrix ill-conditioning and careful selection of basis parameters, are also discussed.

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