

Abstract Submitted
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Using Similarity Renormalization Group Methods to Analyze Optical Potentials¹ MOSTOFA HISHAM, ANTHONY TROPIANO, R.J. FURNSTAHL, Ohio State Univ - Columbus — Similarity Renormalization Group (SRG) operations evolve Hamiltonians by continuous unitary transformations, driving hard potentials to softer potentials by decoupling high- and low-momentum components. Using a toy model, we examine properties of the optical potential through SRG transformations and we study the effects of commonly used approximation methods on the SRG-evolved potential. Furthermore, we see the prospects for using the SRG to decouple the projectile and target in high energy scattering.

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