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Application of Different Similarity Renormalization Group Transformations to Nucleon-Nucleon Interactions<sup>1</sup> MEGAN L. COMINS, The Ohio State University — Using a Similarity Renormalization Group (SRG) transformation, Hamiltonians are driven to a band-diagonal form in momentum representation, with the low energy and high energy parts decoupled. Several different SRG transformations are applied to a wide range of realistic nucleon-nucleon interactions. The rate at which these potentials converge towards the diagonal and the degree to which high and low energies decouple are explored using two-body scattering and few-body bound state calculations. The results for these SRG evolution schemes are also compared to the results of the  $V_{lowk}$  method.

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