Abstract Submitted
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Operator Evolution Using SRG Flow Equations for Few-Body Systems[1] E.R. ANDERSON, Ohio State Univ., S.K. BOGNER, Michigan State Univ., R.J. FURNSTAHL, E.D. JURGENSON, R.J. PERRY, Ohio State Univ. — The Similarity Renormalization Group (SRG) flow equations are a series of unitary transformations which can be used to to achieve different patterns of decoupling in a Hamiltonian. An SRG transformation applied to internucleon interactions leads to greatly improved convergence properties while preserving observables. Not only does it provide a way to consistently evolve many-body potentials, but also other operators.[2] Here, a method to implement SRG evolved few-body operators is applied to both model and realistic calculations. Properties of the corresponding observables are explored for both long- and short- range operators. Methods to improve their convergence in a truncated model space are also considered.

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[2]S.K. Bogner, R.J. Furnstahl, and R.J. Perry, Phys. Rev. C 75 (2007) 061001.

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