

Abstract Submitted
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Making Effective Interactions More Effective¹ CALVIN JOHNSON,
San Diego State University — Modern effective interactions for nuclear structure calculations use phase-equivalent potentials, connected by specific choices of unitary transformations. I consider the most general transformation and constrain the generators with many-body data, aided by singular value decomposition. In a nontrivial application to a two-component fermion gas at the unitary limit; I get significant improvement with many-body data—up to a ten-fold reduction in the root-mean-square error on the ground state energies. I will also discuss the application to nuclear structure.

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Calvin Johnson
San Diego State University

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