

Abstract Submitted
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Momentum space evolution of chiral three-nucleon forces¹ KAI HEBELER, The Ohio State University — A framework to evolve three-nucleon (3N) forces in a plane-wave basis with the Similarity Renormalization Group (SRG) is presented and applied to consistent interactions derived from chiral effective field theory at next-to-next-to-leading order (N²LO). We demonstrate the unitarity of the SRG transformation, show the decoupling of low and high momenta, and present the first investigation of universality in chiral 3N forces at low resolution scales. The momentum-space-evolved 3N forces are consistent and can be directly combined with the standard SRG-evolved two-nucleon interactions for ab-initio calculations of nuclear structure and reactions.

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