

Abstract Submitted  
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**Understanding the Evolution of Three-Body Forces via Similarity Renormalization Group**<sup>1</sup> KYLE WENDT, RICHARD FURNSTAHL, ROBERT PERRY, The Ohio State University — The Similarity Renormalization Group (SRG) is a continuous series of unitary transformations. When the relative kinetic energy ( $T_{\text{rel}}$ ) is used in the SRG generator, high- and low- momentum scales are decoupled, but at a cost of induced many-body forces. For few-body nuclei or when including only short-range initial three-body forces, the four-body (and possibly higher) forces have been kept small. However, recent evolutions with long-range initial three-body forces, indicate that induced many- body forces gain significant strength for larger nuclei. We present some novel methods for examining the SRG evolution as well as results from model calculations where we have attempted to control these induced forces.

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