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In-Medium Similarity Renormalization Group studies of nuclear matter TITUS MORRIS, SCOTT BOGNER, Michigan State University — Ab initio calculations of infinite matter are crucial for both density functional theory and predictions of neutron star properties. The In-Medium Similarity Renormalization Group (IM-SRG) has recently been applied successfully to several finite nuclei. The method's polynomial scaling and its ability to handle non-local interactions make it a good method for calculating infinite matter. Promising results for a one-dimensional model of nuclear matter are discussed, with special emphasis on the ability to include three-body forces in a computationally efficient manner.

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