

Abstract Submitted
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Renyi Entropy of the Interacting Fermi Liquid JEREMY MCMINIS, NORM TUBMAN, University of Illinois — Entanglement properties, including the Renyi α -entropies and scaling laws, are becoming increasingly important in condensed matter physics. In this work we use variational quantum Monte Carlo to compute the Renyi α -entropies, their scaling laws, and the relationship between different α -entropies for one of the most important phases in condensed matter, the interacting Fermi liquid. Contrary to recent theoretical predictions, we find that interactions increase the prefactor for the α -entropy scaling laws for all particle interaction strengths and forms.

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