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Quantum Monte Carlo Calculations of Entanglement¹ NORM TUBMAN, JEREMY MCMINIS, University of Illinois Urbana-Champaign — Spatial entanglement properties have become increasingly important in physics which includes studies in diverse fields such as condensed matter physics, astrophysics, and quantum computation. One of the important outstanding problems in the field of entanglement is to understand the effect of many body interactions. Recent advances in quantum Monte Carlo have facilitated such studies over a range of Hamiltonians that were previously inaccessible by other techniques. We apply these techniques to interacting molecular and condensed matter systems and discuss the effect interactions have on entanglement properties.

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