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Projected Cooling Algorithm for Quantum Computation

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The projected cooling algorithm is a quantum computing method that constructs the localized ground state of any Hamiltonian with interactions that vanish at large distances. We start with an initial state with support over a compact region of a large volume. We then drive the excited quantum states to disperse and measure the remaining portion of the wave function left behind. These characteristics make the projected cooling algorithm a promising tool for calculations of self-bound systems such as atomic nuclei.