

**Quantum Monte Carlo study of the repulsive Hubbard model  
on a Sierpinski gasket**

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We employ the Determinant Quantum Monte Carlo method to analyze the thermodynamic properties of the repulsive Hubbard model on a Sierpinski gasket. We calculate the temperature dependence of energy, specific heat and various magnetic properties. The electron concentration at a constant value of chemical potential varies strongly with temperature. Therefore, to obtain the temperature dependences for a fixed electron concentration, the chemical potential that leads to the desired concentration is computed. In addition, we discuss the fermion sign problem for this system.

9.7 cm

13.4 cm

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