

## Winter Meeting 2024



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# Anomalous quantum transport in fractal lattices

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Fractal lattices are self-similar structures with repeated patterns on different scales. Here, we study the dynamical properties of one fractal lattice, the Sierpiński gasket. This system exhibits an inverse power-law behavior in the level spacing distribution. We find that the Sierpiński gasket has a sub-diffusive transport in certain regimes. From the point of view of technological applications, we demonstrate that the sub-diffusive behavior in the gasket can be used as a quantum memory.

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