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**Anomalous quantum transport in presence of self-similar spectra.** (English) Zbl 1076.82531  
*Ann. Inst. Henri Poincaré, Phys. Théor.* 71, No. 5, 539-559 (1999).

Summary: We consider finite-difference Hamiltonians given by Jacobi matrices with self-similar spectra of the Cantor type and prove upper bounds on the diffusion exponents which show that the quantum motion in these models is anomalous diffusive. For Julia matrices, this bound is expressed only in terms of the generalized dimensions of the spectral measures.

**MSC:**

- 82C44** Dynamics of disordered systems (random Ising systems, etc.) in time- Cited in 4 Documents  
dependent statistical mechanics
- 47B36** Jacobi (tridiagonal) operators (matrices) and generalizations
- 47N50** Applications of operator theory in the physical sciences
- 81Q99** General mathematical topics and methods in quantum theory

**Full Text:** [Numdam](#) [EuDML](#)

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