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**Robert S. Strichartz\*** ([str@math.cornell.edu](mailto:str@math.cornell.edu)), Math Dept, Malott Hall, Cornell University, Ithaca, NY 14883. *Quantum mechanics on fractals.*

While there is no obvious way to extend classical mechanics to the setting of fractals, once you have a Laplacian on a fractal you can consider analogs of the Schrodinger equation. This is fractal quantum mechanics! In this talk I will discuss 3 recent works in this area: the harmonic oscillator on infinite blowups of the Sierpinski gasket (joint work with Edward Fan and Zuhair Khandker), the Coulomb potential (Hydrogen atom) on products of such fractals, and a recurrence phenomenon for solutions of the free Schrodinger equation (similar results hold for the acoustic wave equation). (Received August 13, 2008)