

Energy and spectrum of Sierpinski gasket type fractals

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The spectral analysis on certain symmetric fractals can be completely described in terms of complex dynamics of a polynomial or a rational function. The examples of such fractals include one dimensional fractals and the familiar Sierpinski gasket. We will discuss some related questions, such as the spectral type of the lattice Laplacian, spectral zeta function and complex spectral dimension. Also we will discuss analysis in harmonic coordinates, and a construction of random non self-similar Sierpinski gaskets.