Spectral Decimation for Families of Laplacians on the Sierpinski Gasket
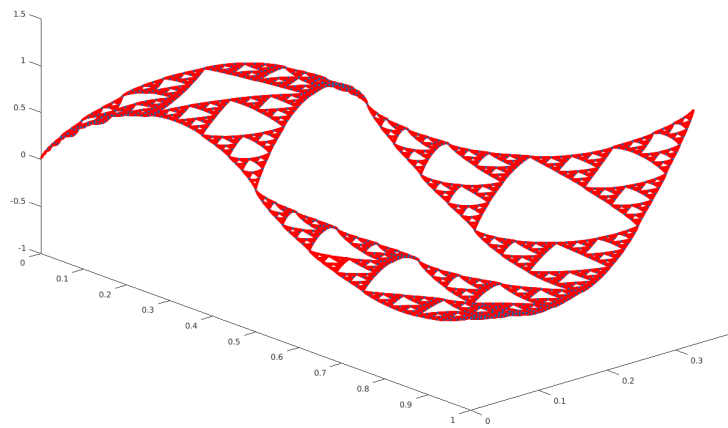
Undergraduate Math Club
CORNELL UNIVERSITY

SPEAKER

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ABSTRACT

The standard Laplacian on the Sierpinski gasket (SG) is well-studied in the theory of analysis on fractals. We can explicitly construct eigenfunctions and eigenvalues on SG through a method called *spectral decimation*, by considering SG as a limit of graph approximations and taking the limits of the eigenfunctions and eigenvalues of these graphs. I will show that this method can be generalized to a broader, one-parameter family of Laplacians as well as discuss applications in obtaining solutions to spacetime equations on SG. This talk is based on work done through the SPUR program under the supervision of Prof Strichartz.

NOV 20 at 4:45pm

Malott 532 ⋆ Refreshments