



THE UNIVERSITY OF CHICAGO

COMPUTATIONAL AND APPLIED MATHEMATICS STUDENT SEMINAR

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Analysis on Fractals: Laplacian and Eigenvalue Problems

THURSDAY, March 14, 2019, at 1:00 PM
Jones 226, 5747 South Ellis Avenue

ABSTRACT

Fractals are objects that are self-similar, for example, the snowflake. In this talk, we will show how to do ‘analysis’ on fractal objects, namely, how to define integration, Laplacian operators, etc., on simple fractal objects like the Sierpinski Gasket. We will then perform spectral analysis on some new special type of fractals, such as the Hanoi attractor, and more complicated SG’s. We will show the spectral asymptotics of these fractals, namely the asymptotics of the eigenvalue counting function, both numerically and theoretically.