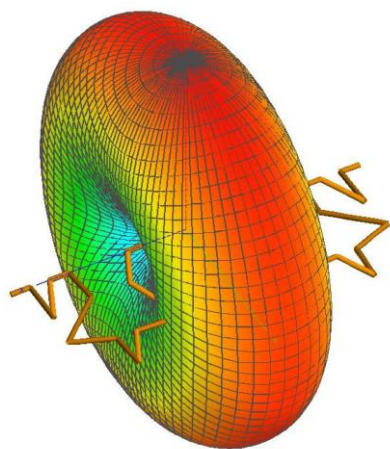## THE DEPARTMENT OF MATHEMATICAL SCIENCES PROUDLY PRESENTS

COLLOQUIUM

Fall 2021

Analysis and Partial Differential Equations over 3D Koch-type Fractal Crystals

Dr. A. Vélez Santiago

UPR-RUM

Oct-28-2021
10:30 am

Abstract

We will present an overview about the construction, properties and applications of a family of 3-dimensional Koch-type fractal crystals. To be more precise, we will discuss the construction and geometry of this family, and calculate the Hausdorff dimensions. Then, we establish the existence of monotonic sequences approximating from above and below the Hausdorff measures of the Koch crystals. At the end, we will present a direct application to Partial Differential Equations, particularly, the Robin boundary value problem.

link: meet.google.com/urm-rhmx-dhw

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