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Title: Approximation on the Cantor set and other related fractals

Abstract:

The aim of this talk will be to consider (Diophantine) approximation on general ''Cantor-like'' fractals. In 2007, Levesley, Salp, and Velani considered the problem of approximating points in the middle-third Cantor set at a given rate of approximation by rational numbers which have denominators which are powers of 3. They showed that the Hausdorff measure of the set in question is either zero or full according to, respectively, the convergence or divergence of a certain sum which is dependent on the specified rate of approximation. In this talk, I will discuss an analogue of this result for more general ''Cantor-like'' fractals (specifically, for self-conformal sets satisfying the open set condition). This talk is based on joint work with Balázs Bárány (Budapest).