Title: The size of sum sets

Abstract:

Given two sets E and F on the line, the sum set $E + F$ is $\{x + y : x \in E \text{ and } y \in F\}$. The iterated sum sets are $E^1 := E$, $E^2 := E + E$, $E^3 = E + E + E$, and so on. We shall survey some results about the relative size of these iterated sets, and describe a striking recent result of Körner about their possible Hausdorff dimensions. We base this on the account in the recent little book of Maria Roginskaya Advanced Basics of Geometric Measure Theory.