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Geometry of a fractal curtain – stacking Cantor sets

In this talk we will explore some geometric properties of a beautiful set constructed by stacking central Cantor sets with continuously varying scaling factors. We find explicit formulas for the areas of all the gaps, find the Hausdorff and box-counting dimensions, and show that it consists of an uncountable number of smooth curves. Our derivation of the formulas for the gap areas is simple enough to be explained to first-year calculus students.