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Explicit Salem Sets

Fractals with matching Hausdorff and Fourier dimension are called Salem sets. Salem sets represent an important general setting for the Fourier restriction problem. Salem sets are ubiquitous amongst random sets, but explicit examples of Salem sets are exceedingly rare. I will discuss my recent result which generalizes theorems of Kaufman and Bluhm and yields new explicit families of Salem sets. I will also discuss applications to metrical Diophantine approximation and directions for further study.