

Polynomial configurations in fractal sets.

Izabella Laba, University of British Columbia

We prove that if μ is a measure on \mathbb{R}^n obeying the appropriate ball condition and Fourier decay assumption (in particular, the Hausdorff dimension of its support must be sufficiently close to n), then the support of μ must contain certain configurations defined by non-degenerate matrix systems with a polynomial term. This extends the earlier work of Chen, Laba and Pramanik to a new polynomial setting.

(Joint work with Kevin Henriot and Malabika Pramanik.)