Department of Mathematics
The Chinese University of Hong Kong

數學系
香港中文大學

Analysis Seminar

Resonance between planar self-affine measures

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Abstract: In the 1960s, Furstenberg conjectured that the sum of times-n and times-m invariant sets on the line should have the maximal Hausdorff dimension whenever n and m are not integer powers of each other. Since then, the conjecture has been proved and extended to other dynamical systems, in the form that the sum of two dynamical systems should always have the maximal dimension unless there is some kind of arithmetic resonance between the dynamics. I will present an extension of this principle to the plane: The convolution of two self-affine measures with strong separation, hyperbolicity and domination has the maximal Hausdorff dimension unless there is algebraic resonance between the eigenvalues of the linear parts of the defining affine contractions.

Date: 18 February 2023 (Saturday)
Time: 11:00 a.m. – 12:00 nn.
Venue: Rm 222, Lady Shaw Building,
        The Chinese University of Hong Kong, Shatin

All are Welcome!