The shrinking target problem and recurrence for generic self-affine sets.

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Abstract

The shrinking target problem in dynamical systems studies the sizes of points that fall into a specified set of "targets" infinitely often. These limsup sets have attracted a lot of attention over the past few years, but not much is known for non-conformal systems. Koivusalo and Ramirez proved that the Hausdorff dimension of recurrent sets for a shrinking (cylinder) target with fixed centre is generically given by the zero of a modified pressure. In this talk we present a new result which removes many of their technical assumptions and provides a more general formula for the Hausdorff dimension of recurrent sets for shrinking (cylinder) target sets with arbitrary centres.

(Joint work with Balázs Bárány)