

1131-37-142

Tushar Das* (tdas@uwlax.edu). *Does every expanding repeller have an ergodic invariant measure of full Hausdorff dimension?*

We construct a self-affine sponge in \mathbb{R}^3 coming from an affine iterated function system whose coordinate subspace projections satisfy the strong separation condition, and whose dynamical dimension, i.e. the supremum of the Hausdorff dimensions of its invariant measures, is strictly less than its Hausdorff dimension. More generally, we prove a variational principle that computes the Hausdorff and dynamical dimensions of a large class of self-affine sponges. We end with several open questions that arise naturally in the wake of our results. This work is joint with David Simmons (York). (Received July 11, 2017)