

Dimension of stationary measures for affine iterated function systems

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Abstract

In this talk, we investigate the local dimensions of certain fractal measures. We prove the exact dimensionality of ergodic stationary measures for any contractive affine iterated function systems in \mathbb{R}^n . These measures are the push-forwards of the ergodic measures in the symbolic space under the coding map, and include all the self-affine measures. We also establish the Ledrappier-Young like dimension formula. This completes several previous results. Applications are given to the dimension of self-affine sets. Part of the results extends to average-contractive affine iterated function systems.