

Polynomial eigenfunctions associated to affine IFS

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To any IFS on $X = \mathbb{R}^n$ or \mathbb{C}^n with affine transformations, an operator acting on the space of continuous functions on X can be associated by duality. For the case $n = 1$ we can explicitly determine all polynomial eigenfunctions and their eigenvalues. These are related to the invariant measure of the IFS. As an example, we consider the operator of this kind associated to Bernoulli convolutions and show how it yields polynomial approximations of the convolution measure in case of absolute continuity.