

WAVELETS WITH FRAME MULTIREOLUTION ANALYSIS

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Abstract

A frame multiresolution (FMRA for short) orthogonal wavelet is a single-function orthogonal wavelet such that the associated scaling space V_0 admits a normalized tight frame (under translations). In this paper, we prove that for any expansive matrix A with integer entries, there exist A -dilation FMRA orthogonal wavelets. FMRA orthogonal wavelets for some other expansive matrix with non integer entries are also discussed.