A New Characterization of 3-Interval Wavelet Sets

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Abstract:

$E \subset R$ is a wavelet set if and only if $\{E + 2\pi n\}_{n \in Z}$ is a measurable partition of R and $\{ 2^n E \}_{n \in Z}$ is a 2-dilation ``tiler" of R(modulo sets of measure zero). It is of much interest to classify and characterize wavelet sets with different intervals. I will present a new characterization of 3-interval wavelet sets. The classification leads towards results with dilation other than 2 as well as multiple dilation wavelet sets.