

ON FRAME WAVELET SETS AND SOME
RELATED TOPICS

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Abstract

A special type of frame wavelets in $L^2(\mathbb{R})$ or $L^2(\mathbb{R}^d)$ consists of those whose Fourier transforms are defined by set theoretic functions. The corresponding sets involved are called frame wavelet sets. The seemingly simple structure of the frame wavelets induced by frame wavelet sets turns to be quite rich and complicated. The study of such frame wavelets can serve as a platform for the study of more general frame wavelets. In this paper, we review many recent results on frame wavelet sets and results obtained through the use of frame wavelet sets. We also pose some open questions in these related topics.