

Finite Tight Frames in Walsh Analysis

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It is well known that the characters of Vilenkin groups can be interpreted as generalized Walsh functions. There are three types of compactly supported wavelet frames on the p -adic Vilenkin group: (1) MRA-based tight frames, (2) frames obtained from the Daubechies-type "admissible condition", and (3) frames based on the Walsh-Dirichlet type kernels (see [1,2] and references therein). Using Walsh matrices and the discrete Vilenkin-Chrestenson transform, we will present finite tight frames that consist of p -ary shifts of suitably chosen of periodic sequences. Some examples of such frames are given in [3] and [4].

References

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