

Construction of Finite Woven Frames through Bounded Linear Operators

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Abstract : Two frames in a Hilbert space are called woven or weaving if all possible merge combinations between them generate frames of the Hilbert space with uniform frame bounds. Weaving frames are powerful tools in wireless sensor networks which require distributed data processing. Considering the practical applications, this article deals with finite woven frames. We provide methods of constructing finite woven frames, in particular, bounded linear operators are used to construct woven frames from a given frame. Several examples are discussed. We also introduce the notion of woven frame sequences and characterize them through the concepts of gaps and angles between spaces.

Keywords : frames, woven frames, gap, angle

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