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Higher-order feasible building blocks for lattice structure of oversampled linear-phase perfect reconstruction filter banks. (English) Zbl 1178.94116
Signal Process. 89, No. 9, 1694-1703 (2009).

Summary: This paper proposes new building blocks for the lattice structure of oversampled linear-phase perfect reconstruction filter banks (OLPPRFBs). The structure is an extended version of higher-order feasible building blocks for critically sampled LPPRFBs. It uses fewer number of building blocks and design parameters than those of traditional OLPPRFBs, whereas frequency characteristics of the new OLPPRFBs are comparable to those of traditional one. Furthermore, the building block structures for arbitrary number of channels and downsampling factors are presented.

MSC:

94A12 Signal theory (characterization, reconstruction, filtering, etc.)

93E11 Filtering in stochastic control theory

Cited in **2** Documents

Keywords:

lattice structure; linear-phase; oversampled filter banks; perfect reconstruction; parameterization; higher-order feasible building block

Full Text: [DOI](#)

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