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2.5.1 Design example; 2.6 DFT filter banks; 2.6.1 Design example; 2.7 A note on cosine modulation; 2.8 Summary; References; 3 Second-order characterization of multirate filter banks
3.1 Correlation-domain formulation3.1.1 Critical decimation; 3.2 Cross spectrum; 3.2.1 Subband spectrum; 3.3 Orthogonality at zero lag; 3.3.1 Paraunitary condition; 3.4 Case study: Subband orthogonality of cosine-modulated filter banks; 3.4.1 Correlation-domain analysis; 3.4.2 MATLAB simulations; 3.5 Summary; References; 4 Subband adaptive filters; 4.1 Subband adaptive filtering; 4.1.1 Computational reduction; 4.1.2 Spectral dynamic range; 4.2 Subband adaptive filter structures; 4.2.1 Open-loop structures; 4.2.2 Closed-loop structures; 4.3 Aliasing, band-edge effects and solutions
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5.1.2 SAF with variable step sizes5.1.3 SAF with selective coefficient update; 5.2 Oversampled and nonuniform subband adaptive filters; 5.2.1 Oversampled subband adaptive filtering; 5.2.2 Nonuniform subband adaptive filtering; 5.3 Filter bank design; 5.3.1 Generalized DFT filter banks; 5.3.2 Single-sideband modulation filter banks; 5.3.3 Filter design criteria for DFT filter banks; 5.3.4 Quadrature mirror filter banks; 5.3.5 Pseudo-quadrature mirror filter banks; 5.3.6 Conjugate quadrature filter banks; 5.4 Case study: Proportionate subband adaptive filtering
5.4.1 Multiband structure with proportionate adaptation

Sommario/riassunto

Subband adaptive filtering is rapidly becoming one of the most effective techniques for reducing computational complexity and improving the convergence rate of algorithms in adaptive signal processing applications. This book provides an introductory, yet extensive guide on the theory of various subband adaptive filtering techniques. For beginners, the authors discuss the basic principles that underlie the design and implementation of subband adaptive filters. For advanced readers, a comprehensive coverage of recent developments, such as multiband tap-weight adaptation, delayless architectures,