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Spatial impression; 3.5 Limitations of the human auditory system
3.5.1 Just-noticeable differences in interaural cues3.5.2 Spectro-temporal decomposition; 3.5.3 Localization accuracy of single sources; 3.5.4 Localization accuracy of concurrent sources; 3.5.5 Localization accuracy when reflections are present; 3.6 Source localization in complex listening situations; 3.6.1 Cue selection model; 3.6.2 Simulation examples; 3.7 Conclusions; 4 Spatial Audio Coding; 4.1 Introduction; 4.2 Related techniques; 4.2.1 Pseudostereophonic processes; 4.2.2 Intensity stereo coding; 4.3 Binaural Cue Coding (BCC); 4.3.1 Time-frequency processing
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5.4.4 Parameter quantization and coding5.5 Parametric stereo decoder; 5.5.1 Analysis filterbank; 5.5.2 Decorrelation; 5.5.3 Matrixing; 5.5.4 Interpolation; 5.5.5 Synthesis filterbanks; 5.5.6 Parametric stereo in enhanced aacPlus; 5.6 Conclusions; 6 MPEG Surround; 6.1 Introduction; 6.2 Spatial audio coding; 6.2.1 Concept; 6.2.2 Elementary building blocks; 6.3 MPEG Surround encoder; 6.3.1 Structure; 6.3.2 Pre- and post-gains; 6.3.3 Time-frequency decomposition; 6.3.4 Spatial encoder; 6.3.5 Parameter quantization and coding; 6.3.6 Coding of residual signals; 6.4 MPEG Surround decoder
6.4.1 Structure

Sommario/riassunto

This book collects a wealth of information about spatial audio coding into one comprehensible volume. It is a thorough reference to the 3GPP and MPEG Parametric Stereo standards and the MPEG Surround multi-channel audio coding standard. It describes key developments in coding techniques, which is an important factor in the optimization of advanced entertainment, communications and signal processing applications. Until recently, technologies for coding audio signals, such as redundancy reduction and sophisticated source and receiver models did not incorporate spatial characteristics of sou