

Contents

An Introduction to Binaural Processing	1
A. Kohlrausch, J. Braasch, D. Kolossa and J. Blauert	
The Auditory Modeling Toolbox	33
P. L. Søndergaard and P. Majdak	
Trends in Acquisition of Individual Head-Related Transfer Functions	57
G. Enzner, Chr. Antweiler and S. Spors	
Assessment of Sagittal-Plane Sound-Localization Performance in Spatial-Audio Applications	93
R. Baumgartner, P. Majdak and B. Laback	
Modeling Horizontal Localization of Complex Sounds in the Impaired and Aided Impaired Auditory System	121
N. Le Goff, J. M. Buchholz and T. Dau	
Binaural Scene Analysis with Multidimensional Statistical Filters	145
C. Spille, B. T. Meyer, M. Dietz and V. Hohmann	
Extracting Sound-Source-Distance Information from Binaural Signals	171
E. Georganti, T. May, S. van de Par and J. Mourjopoulos	
A Binaural Model that Analyses Acoustic Spaces and Stereophonic Reproduction Systems by Utilizing Head Rotations	201
J. Braasch, S. Clapp, A. Parks, T. Pastore and N. Xiang	
Binaural Systems in Robotics	225
S. Argentieri, A. Portello, M. Bernard, P. Danès and B. Gas	

Binaural Assessment of Multichannel Reproduction	255
H. Wierstorf, A. Raake and S. Spors	
Optimization of Binaural Algorithms for Maximum Predicted Speech Intelligibility	279
A. Schlesinger and Ch. Luther	
Modeling Sound Localization with Cochlear Implants	309
M. Nicoletti, Chr. Wirtz and W. Hemmert	
Binaural Assessment of Parametrically Coded Spatial Audio Signals	333
M. Takanen, O. Santala and V. Pulkki	
Binaural Dereverberation	359
A. Tsilfidis, A. Westermann, J. M. Buchholz, E. Georganti and J. Mourjopoulos	
Binaural Localization and Detection of Speakers in Complex Acoustic Scenes	397
T. May, S. van de Par and A. Kohlrausch	
Predicting Binaural Speech Intelligibility in Architectural Acoustics	427
J. F. Culling, M. Lavandier and S. Jelfs	
Assessment of Binaural–Proprioceptive Interaction in Human-Machine Interfaces	449
M. Stamm and M. E. Altinsoy	
Further Challenges and the Road Ahead	477
J. Blauert, D. Kolossa, K. Obermayer and K. Adiloğlu	
Index	503