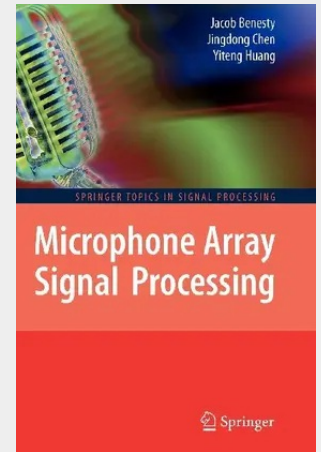


Microphone Array Signal Processing

In the past few years we have written and edited several books in the area of acoustic and speech signal processing. The reason behind this endeavor is that there were almost no books available in the literature when we first started while there was (and still is) a real need to publish manuscripts summarizing the most useful ideas, concepts, results, and state-of-the-art algorithms in this important area of research. According to all the feedback we have received so far, we can say that we were right in doing this. Recently, several other researchers have followed us in this journey and have published interesting books with their own visions and perspectives. The idea of writing a book on Microphone Array Signal Processing comes from discussions we have had with many colleagues and friends. As a consequence of these discussions, we came up with the conclusion that, again, there is an urgent need for a monograph that carefully explains the theory and implementation of microphone arrays. While there are many manuscripts on antenna arrays from a narrowband perspective (narrowband signals and narrowband processing), the literature is quite scarce when it comes to sensor arrays explained from a truly broadband perspective. Many algorithms for speech applications were simply borrowed from narrowband antenna arrays. However, a direct application of narrowband ideas to broadband speech processing may not be necessarily appropriate and can lead to many misunderstandings.

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181,89 €

169,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9783642097348

Medium: Buch

ISBN: 978-3-642-09734-8

Verlag: Springer

Erscheinungstermin: 30.11.2010

Sprache(n): Englisch

Auflage: 1. Auflage. Softcover version of original hardcover Auflage 2008

Serie: Springer Topics in Signal Processing

Produktform: Kartoniert

Gewicht: 388 g

Seiten: 240

Format (B x H): 155 x 235 mm

