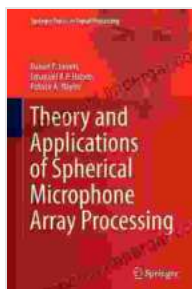


Theory and Applications of Spherical Microphone Array Processing: A Journey into the Realm of Sound

Prepare to delve into the fascinating world of sound capture and processing with the groundbreaking book, *Theory and Applications of Spherical Microphone Array Processing*, published by Springer. This comprehensive guide unlocks the secrets of spherical microphone arrays, empowering you with the knowledge to harness their full potential for a wide range of applications.

Spherical microphone arrays are captivating devices that offer unparalleled flexibility and accuracy in capturing sound. Unlike traditional microphone configurations, they can capture sound from all directions simultaneously, enabling the creation of immersive and realistic audio experiences.

Theory and Applications of Spherical Microphone Array Processing takes you on an enriching journey, meticulously covering the foundational principles of spherical microphone arrays, including:



Theory and Applications of Spherical Microphone Array Processing (Springer Topics in Signal Processing Book 9)

★★★★★ 5 out of 5

Language : English
File size : 11453 KB
Text-to-Speech : Enabled
Screen Reader : Supported
Enhanced typesetting : Enabled
Print length : 366 pages



- **Array Geometry:** Understand the different configurations of spherical microphone arrays and their impact on sound capture.
- **Signal Processing:** Delve into the signal processing techniques specifically designed for spherical microphone arrays, including beamforming and sound source localization.
- **Acoustic Modeling:** Gain insights into the acoustic modeling of spherical microphone arrays, enabling you to predict their performance in various environments.

Beyond the theoretical foundations, the book delves into practical applications, showcasing the immense versatility of spherical microphone arrays. Explore:

- **Spatial Audio Recording:** Create immersive and realistic spatial audio recordings for virtual reality, augmented reality, and more.
- **Directional Filtering:** Enhance speech intelligibility and reduce noise in challenging acoustic environments.
- **Noise Cancellation:** Develop effective noise cancellation systems to improve the quality of audio signals.

Written by leading experts in the field, *Theory and Applications of Spherical Microphone Array Processing* offers exclusive insights and real-world examples to illustrate the practical implementation of these technologies.

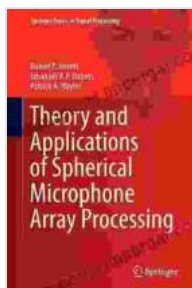
- **Case Studies:** Examine detailed case studies that demonstrate the successful application of spherical microphone arrays in various industries.
- **MATLAB® Exercises:** Engage in hands-on learning with MATLAB® exercises that reinforce the theoretical concepts.
- **Supplementary Materials:** Access invaluable supplementary materials, including datasets and software tools, to enhance your understanding and facilitate your research.

Theory and Applications of Spherical Microphone Array Processing is an indispensable resource for researchers, engineers, and practitioners working in fields such as:

- Audio Signal Processing
- Acoustics
- Speech Enhancement
- Sound Source Localization
- Virtual and Augmented Reality

Whether you're an aspiring researcher seeking a comprehensive foundation, an experienced practitioner yearning to expand your knowledge, or an enthusiast captivated by the realm of sound, this book will empower you with the expertise to unlock the full potential of spherical microphone arrays.

Join the chorus of experts who have embraced the transformative power of spherical microphone arrays. Free Download your copy of Theory and Applications of Spherical Microphone Array Processing today and embark on an extraordinary auditory adventure.



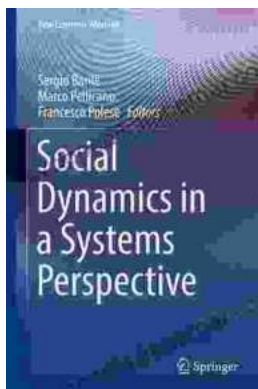
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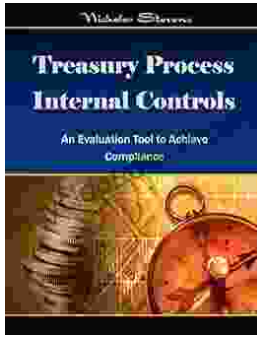
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