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Titolo	Time-frequency analysis : concepts and methods / / edited by Franz Hlawatsch and Francois Auger
Pubbl/distr/stampa	London, : ISTE Hoboken, NJ, : Wiley, 2008
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Descrizione fisica	1 online resource (436 p.)
Collana	ISTE ; ; v.36
Altri autori (Persone)	HlawatschF (Franz) AugerFrancois
Disciplina	621.382/2
Soggetti	Signal processing - Mathematics Time-series analysis Frequency spectra
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Time-Frequency Analysis; Contents; Preface; First part. Fundamental Concepts and Methods; Chapter 1. Time-Frequency Energy Distributions: An Introduction; 1.1. Introduction; 1.2. Atoms; 1.3. Energy; 1.3.1. Distributions; 1.3.2. Devices; 1.3.3. Classes; 1.4. Correlations; 1.5. Probabilities; 1.6. Mechanics; 1.7. Measurements; 1.8. Geometries; 1.9. Conclusion; 1.10. Bibliography; Chapter 2. Instantaneous Frequency of a Signal; 2.1. Introduction; 2.2. Intuitive approaches; 2.3. Mathematical definitions; 2.3.1. Ambiguity of the problem; 2.3.2. Analytic signal and Hilbert transform 2.3.3. Application to the definition of instantaneous frequency2.3.4. Instantaneous methods; 2.4. Critical comparison of the different definitions; 2.4.1. Interest of linear filtering; 2.4.2. Bounds of the

quantities introduced; 2.4.3. Instantaneous nature; 2.4.4. Interpretation by the average; 2.5. Canonical pairs; 2.6. Phase signals; 2.6.1. Blaschke factors; 2.6.2. Oscillatory singularities; 2.7. Asymptotic phase signals; 2.7.1. Parabolic chirp; 2.7.2. Cubic chirp; 2.8. Conclusions; 2.9. Bibliography; Chapter 3. Linear Time-Frequency Analysis I: Fourier-Type Representations
3.1. Introduction3.2. Short-time Fourier analysis; 3.2.1. Short-time Fourier transform; 3.2.2. Time-frequency energy maps; 3.2.3. Role of the window; 3.2.4. Reconstruction/synthesis; 3.2.5. Redundancy; 3.3. Gabor transform; Weyl-Heisenberg and Wilson frames; 3.3.1. Sampling of the short-time Fourier transform; 3.3.2. Weyl-Heisenberg frames; 3.3.3. Zak transform and "critical" Weyl-Heisenberg frames; 3.3.4. Balian-Low theorem; 3.3.5. Wilson bases and frames, local cosine bases; 3.4. Dictionaries of time-frequency atoms; adaptive representations
3.4.1. Multi-scale dictionaries of time-frequency atoms3.4.2. Pursuit algorithm; 3.4.3. Time-frequency representation; 3.5. Applications to audio signals; 3.5.1. Analysis of superimposed structures; 3.5.2. Analysis of instantaneous frequency variations; 3.5.3. Transposition of an audio signal; 3.6. Discrete algorithms; 3.6.1. Fast Fourier transform; 3.6.2. Filter banks: fast convolution; 3.6.3. Discrete short-time Fourier transform; 3.6.4. Discrete Gabor transform; 3.7. Conclusion; 3.8. Acknowledgements; 3.9. Bibliography
Chapter 4. Linear Time-Frequency Analysis II: Wavelet-Type Representations4.1. Introduction: scale and frequency; 4.2. Continuous wavelet transform; 4.2.1. Analysis and synthesis; 4.2.2. Multiscale properties; 4.3. Discrete wavelet transform; 4.3.1. Multi-resolution analysis; 4.3.2. Mallat algorithm; 4.3.3. Graphical representation; 4.4. Filter banks and wavelets; 4.4.1. Generation of regular scaling functions; 4.4.2. Links with approximation theory; 4.4.3. Orthonormality and bi-orthonormality/perfect reconstruction; 4.4.4. Polyphase matrices and implementation
4.4.5. Design of wavelet filters with finite impulse response

Sommario/riassunto

Covering a period of about 25 years, during which time-frequency has undergone significant developments, this book is principally addressed to researchers and engineers interested in non-stationary signal analysis and processing. It is written by recognized experts in the field.

2. Record Nr. UNINA9910483792703321

Titolo	Structural Information and Communication Complexity : 23rd International Colloquium, SIROCCO 2016, Helsinki, Finland, July 19-21, 2016, Revised Selected Papers / / edited by Jukka Suomela
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2016
ISBN	3-319-48314-5
Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (XXIX, 408 p. 51 illus.)
Collana	Theoretical Computer Science and General Issues, , 2512-2029 ; ; 9988
Disciplina	004.36
Soggetti	Algorithms Computer networks Computer science - Mathematics Discrete mathematics Artificial intelligence - Data processing Computer Communication Networks Discrete Mathematics in Computer Science Data Science
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Message passing -- Shared memory -- Mobile agent -- Data dissemination and routing.
Sommario/riassunto	This book constitutes the refereed proceedings of the 23rd International Colloquium on Structural Information and Communication Complexity, SIROCCO 2016, held in Helsinki, Finland in July 2016. The 25 full papers presented were carefully reviewed and selected from 50 submissions. The papers are organized around the following topics: message passing; shared memory; mobile agent; data dissemination and routing.