

1. Record Nr.	UNINA9910822663203321
Autore	Moreau Eric
Titolo	Blind identification and separation of complex-valued signals // Eric Moreau, Tulay Adal
Pubbl/distr/stampa	London : , : ISTE, , 2013
ISBN	1-118-57977-1 1-118-57974-7 1-118-57973-9
Descrizione fisica	1 online resource (108 p.)
Collana	Focus : digital signal and image processing series, , 2051-2481
Altri autori (Persone)	AdaliTulay
Disciplina	108
Soggetti	Signal processing - Statistical methods
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	Cover; Title Page; Contents; Preface; Acknowledgments; Chapter 1. Mathematical Preliminaries; 1.1. Introduction; 1.2. Linear mixing model; 1.3. Problem definition; 1.4. Statistics; 1.4.1. Statistics of random variables and random vectors; 1.4.2. Differential entropy of complex random vectors; 1.4.3. Statistics of random processes; 1.4.4. Complex matrix decompositions; 1.5. Optimization: Wirtinger calculus; 1.5.1. Scalar case; 1.5.2. Vector case; 1.5.3. Matrix case; 1.5.4. Summary; Chapter 2. Estimation by Joint Diagonalization; 2.1. Introduction 3.2.1. Mutual information and mutual information rate minimization 3.2.2. Maximum likelihood; 3.2.3. Identifiability of the complex ICA model; 3.3. Algorithms; 3.3.1. ML ICA: unconstrained W; 3.3.2. Complex maximization of non-Gaussianity: ML ICA with unitary W; 3.3.3. Density matching; 3.3.4. A flexible complex ICA algorithm: Entropy bound minimization; 3.4. Summary; Bibliography; Index
Sommario/riassunto	Blind identification consists of estimating a multi-dimensional system only through the use of its output, and source separation, the blind estimation of the inverse of the system. Estimation is generally carried out using different statistics of the output. The authors of this book consider the blind identification and source separation problem in the complex-domain, where the available statistical properties are richer and include non-circularity of the sources - underlying components.

They define identifiability conditions and present state-of-the-art algorithms that are based on algebra
