1.	Record Nr.	UNINA9910360848703321
	Titolo	Computational Methods for Inverse Problems in Imaging / / edited by Marco Donatelli, Stefano Serra-Capizzano
	Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2019
	ISBN	3-030-32882-1
	Edizione	[1st ed. 2019.]
	Descrizione fisica	1 online resource (171 pages)
	Collana	Springer INdAM Series, , 2281-518X ; ; 36
	Disciplina	616.0754
	Soggetti	Computer mathematics Mathematical physics Applied mathematics Engineering mathematics Computational Mathematics and Numerical Analysis Mathematical Applications in the Physical Sciences Mathematical and Computational Engineering
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Nota di contenuto	1 Silvia Bonettini et al., Recent advances in variable metric first-order methods -- 2 Davide Bianchi et al., Structure preserving preconditioning for frame-based image deblurring -- 3 Pietro Dell'Acqua et al, Non-stationary structure-preserving preconditioning for image restoration -- 4 Sean Hon and Andy Wathen, Numerical investigation of the spectral distribution of Toeplitz-function sequences -- 5 Anna Maria Massone et al., The Hough transform and the impact of chronic leukemia on the compact bone tissue from CT-images analysis -- 6 Marco Prato et al., Multiple image deblurring with high dynamic-range Poisson data -- 7 Silvia Tozza and Maurizio Falcone, On the segmentation of astronomical images via level-set methods.
	Sommario/riassunto	This book presents recent mathematical methods in the area of inverse problems in imaging with a particular focus on the computational aspects and applications. The formulation of inverse problems in imaging requires accurate mathematical modeling in order to preserve

the significant features of the image. The book describes computational methods to efficiently address these problems based on new optimization algorithms for smooth and nonsmooth convex minimization, on the use of structured (numerical) linear algebra, and on multilevel techniques. It also discusses various current and challenging applications in fields such as astronomy, microscopy, and biomedical imaging. The book is intended for researchers and advanced graduate students interested in inverse problems and imaging.