1.	Record Nr.	UNINA9910437862903321
	Titolo	Astrostatistical Challenges for the New Astronomy [[electronic resource] /] / edited by Joseph M. Hilbe
	Pubbl/distr/stampa	New York, NY : , : Springer New York : , : Imprint : Springer, , 2013
	ISBN	1-283-90970-7 1-4614-3508-0
	Edizione	[1st ed. 2013.]
	Descrizione fisica	1 online resource (246 p.)
	Collana	Springer Series in Astrostatistics, , 2199-1030 ; ; 1
	Disciplina	520.15195
	Soggetti	Statistics Astronomy Astrophysics Statistical Theory and Methods Statistics and Computing/Statistics Programs Astronomy, Astrophysics and Cosmology
	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.
	Nota di contenuto	Joseph Hilbe, Jet Propulsion Laboratory and Arizona State University, Astrostatistics: A brief history and view to the future -- Thomas Loredo, Cornell Univ, Bayesian astrostatistics: A backward look to the future -- Stefano Andreon, INAF-Osservatorio Astronomico di Brera, Italy, Understanding better (some) astronomical data using Bayesian methods -- Martin Kunz, Institute for Theoretical Physics, Univ of Geneva, BEAMS: separating the wheat from the chaff in supernova analysis -- Benjamin Wandelt, Institut d'Astrophysique de Paris, Université Pierre et Marie Curie, France, Cosmostatistics -- Roberto Trotta, Astrophysics Group, Dept of Physics, Imperial College London (with Farhan Feroz (Cambridge), Mike Hobson (Cambridge), and Roberto Ruiz de Austri (Univ of Valencia, Spain), Recent advances in Bayesian inference in cosmology and astroparticle physics thanks to the Multinest Algorithm -- Phillip Gregory, Department of Astronomy, Univ of British Columbia, Canada, Extrasolar planets via Bayesian model fitting -- Marc Henrion, Dept of Mathematics, Imperial College, London, UK (with Daniel Mortlock (Imperial), Axel Gandy (Imperial), and

David J. Hand (Imperial)), Subspace methods for anomaly detection in high dimensional astronomical databases -- Asis Kumar Chattopadhyay, Dept of Statistics, Univ of Calcutta, India (with Tanuka Chattyopadhyay, Tuli De, and Saptarshi Mondal), Independent Component Analysis for dimension reduction classification: Hough transform and CASH Algorithm -- Marisa March, Astrophysics Group, Dept of Physics, Imperial College London (with Roberto Trotta), Improved cosmological constraints from a Bayesian hierarchical model of supernova type Ia
data

Sommario/riassunto	Astrostatistical Challenges for the New Astronomy presents a collection of monographs authored by several of the disciplines leading astrostatisticians, i.e. by researchers from the fields of statistics and astronomy-astrophysics having in interest in the statistical analysis of astronomical and cosmological data. Eight of the ten monographs are enhancements of presentations given by the authors as invited or special topics in astrostatistics papers at the ISI World Statistics Congress (2011, Dublin, Ireland). The opening chapter, by the editor, was adapted from an invited seminar given at Los Alamos National Laboratory (2011) on the history and current state of the discipline; the second chapter by Thomas Loredo was adapted from his invited presentation at the Statistical Challenges in Modern Astronomy V conference (2011, Pennsylvania State University), presenting insights regarding frequentist and Bayesian methods of estimation in astrostatistical analysis. The remaining monographs are research papers discussing various topics in astrostatistics. The monographs provide the reader with an excellent overview of the current state astrostatistical research, and offer guidelines as to subjects of future research.