

1. Record Nr.	UNINA9910300376403321
Autore	Bland-Hawthorn Joss
Titolo	The Origin of the Galaxy and Local Group : Saas-Fee Advanced Course 37 Swiss Society for Astrophysics and Astronomy // by Joss Bland-Hawthorn, Kenneth Freeman, Francesca Matteucci ; edited by Ben Moore
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2014
ISBN	3-642-41720-5
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (240 p.)
Collana	Saas-Fee Advanced Course, , 1861-7980 ; ; 37
Classificazione	39.42
Disciplina	521.582
Soggetti	Astronomy Astrophysics Astronomy, Astrophysics and Cosmology Milky Way
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 at the end of each chapters and index.
Nota di contenuto	""Preface""; ""Contents""; ""1 Near Field Cosmology: The Origin of the Galaxy and the Local Group""; ""1.1 Prologue""; ""1.2 Far Field Cosmology""; ""1.2.1 The Cosmic Microwave Background""; ""1.2.2 The First Stars""; ""1.2.3 The First Black Holes""; ""1.2.4 The First Dark Haloes""; ""1.2.5 Reionization and the First Galaxies""; ""1.3 Lessons from Galaxy Redshift Surveys""; ""1.3.1 Evolution and Environment""; ""1.3.2 Accretion and Feedback""; ""1.3.3 Baryon Inventory and Metal Enrichment""; ""1.3.4 Chemical Evolution in Galaxies"" ""1.3.5 Milky Way and Local Group Analogues in the Real Universe"" 1.3.6 Milky Way and Local Group Analogues in Simulated Universes""; ""1.4 Gas Accretion onto Galaxies""; ""1.4.1 Introduction""; ""1.4.2 Earliest Epoch of Gas Accretion""; ""1.4.3 Early Ideas on Galaxy Accretion""; ""1.4.4 Accretion Shocks""; ""1.4.5 Cooling Flows""; ""1.4.6 Cold Flows""; ""1.4.7 Warm Flows""; ""1.4.8 Accretion via Major and Minor Mergers""; ""1.4.9 Accretion of High Velocity Clouds""; ""1.5 Near Field Cosmology""; ""1.5.1 Introduction""; ""1.5.2 A Working Model of How the Galaxy Formed"" ""1.5.3 Timescales and Fossils""""1.5.4 Stellar Age Dating""; ""1.5.5

Goals of Near Field Cosmology"; "1.6 Structure of the Galaxy"; "1.6.1 The Bulge"; "1.6.2 The Disk"; "1.6.3 The Stellar Halo"; "1.6.4 The Dark Halo"; "1.7 Signatures of Galaxy Formation"; "1.7.1 Zero Order Signatures: Information Preserved Since Dark Matter Virialized"; "1.7.2 First Order Signatures: Information Preserved Since the Main Epoch of Baryon Dissipation"; "1.7.3 Second Order Signatures: Major Processes Involved in Subsequent Evolution"; "1.8 Reconstructing the Past Through Chemical Tagging"
 "1.8.1 Unravelling a Dissipative Process"; "1.8.2 How Many Star Clusters?"; "1.8.3 Cluster Chemistry"; "1.8.4 Chemical Homogeneity"; "1.8.5 Unique Chemical Signatures"; "1.8.6 Primary Requirements of Chemical Tagging"; "1.8.7 Candidates for Chemical Tagging"; "1.8.8 Short-Term Goal: Size and Structure in a Multi-Dimensional C-Space"; "1.8.9 Long-Term Goal: Reconstructing Ancient Star Groups from Unique Chemical Signatures"; "1.9 Epilogue: Challenges for the Future"; "1.9.1 The Limitations of Near Field Cosmology: Are We Really Putting Λ CDM to the Test?"; "1.9.2 Future Surveys"; "B.1 Data Needed for Galactic Archaeology"; "B.2 Sources of Data"; "B.3 Sources of Models"; "References"; "2 Chemical Evolution of the Milky Way and Its Satellites"; "2.1 How to Model Galactic Chemical Evolution"; "2.1.1 The Initial Conditions"; "2.1.2 Birthrate Function"; "2.1.3 Stellar Yields"; "2.1.4 Gas Flows"; "2.2 Basic Equations for Chemical Evolution"; "2.2.1 Yields per Stellar Generation"; "2.2.2 Analytical Models"; "2.2.3 Detailed Numerical Models"; "2.3 The Milky Way"; "2.3.1 The Formation of the Milky Way"; "2.3.2 The Two-Infall Model"

Sommario/riassunto

This volume contains the updated and expanded lecture notes of the 37th Saas-Fee Advanced Course organised by the Swiss Society for Astrophysics and Astronomy. It offers the most comprehensive and up to date review of one of the hottest research topics in astrophysics - how our Milky Way galaxy formed. Joss Bland-Hawthorn & Ken Freeman lectured on Near Field Cosmology - The Origin of the Galaxy and the Local Group. Francesca Matteucci's chapter is on Chemical evolution of the Milky Way and its Satellites. As designed by the SSAA, books in this series – and this one too – are targeted at graduate and PhD students and young researchers in astronomy, astrophysics and cosmology. Lecturers and researchers entering the field will also benefit from the book.
