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Titolo	Asteroseismology of Stellar Populations in the Milky Way [[electronic resource] /] / edited by Andrea Miglio, Patrick Eggenberger, Léo Girardi, Josefina Montalbán
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Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Ages of Stars: Methods and Uncertainties -- Solar-Like Oscillating Stars as Standard Clocks and Rulers for Galactic Studies -- Uncertainties in Stellar Evolution Models: Convective Overshoot -- Effects of Rotation on Stellar Evolution and Asteroseismology of Red Giants -- Open Clusters: Probes of Galaxy Evolution and Bench Tests of Stellar Models -- Exploiting the Open Clusters in the Kepler and CoRoT Fields -- Photometric Stellar Parameters for Asteroseismology and Galactic Studies -- Spectroscopic Constraints for Low-Mass Asteroseismic Targets -- Preliminary Evaluation of the Kepler Input Catalog Extinction Model Using Stellar Temperatures -- The APOKASC Catalog -- The Red Giants in NGC 6633 as Seen with CoRoT, HARPS 30 and SOPHIE -- "Rapid-Fire" Spectroscopy of Kepler Solar-Like Oscillators -- New Observational Constraints to Milky Way Chemodynamical Models -- The Expected Stellar Populations in the Kepler and CoRoT Fields -- Early Results from APOKASC -- The Metallicity Gradient of the Old Galactic Bulge Population -- 4MOST: 4m Multi Object Spectroscopic Telescope -- Mapping the Stellar Populations of the Milky Way with Gaia -- Uncertainties in Models of Stellar Structure and Evolution --

Photospheric Constraints, Current Uncertainties in Models of Stellar Atmospheres, and Spectroscopic Surveys.

Sommario/riassunto

The detection of radial and non-radial solar-like oscillations in thousands of G-K giants with CoRoT and Kepler is paving the road for detailed studies of stellar populations in the Galaxy. The available average seismic constraints allow largely model-independent determination of stellar radii and masses, and can be used to determine the position and age of thousands of stars in different regions of the Milky Way, and of giants belonging to open clusters. Such a close connection between stellar evolution, Galactic evolution, and asteroseismology opens a new very promising gate in our understanding of stars and galaxies. This book represents a natural progression from the collection of review papers presented in the book 'Red Giants as Probes of the Structure and Evolution of the Milky Way', which appeared in the Astrophysics and Space Science Proceedings series in 2012. This sequel volume contains review papers on spectroscopy, seismology of red giants, open questions in Galactic astrophysics, and discusses first results achieved by combining photometric/spectroscopic and seismic constraints on populations of stars observed by CoRoT and Kepler. The book also reports on discussions between expert researchers in Galactic evolution, specialists in stellar structure and asteroseismology, and key representatives of extensive ground-based spectroscopic surveys such as APOGEE and the ESO-GAIA Spectroscopic Survey, which would serve as a roadmap for future endeavours in this field of research.
