1. Record Nr. UNINA9910300404903321

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Titolo	Atomic Diffusion in Stars / / by Georges Michaud, Georges Alecian, Jacques Richer
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2015
ISBN	3-319-19854-8
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (333 p.)
Collana	Astronomy and Astrophysics Library, , 0941-7834
Disciplina	523.01
Soggetti	Astrophysics Nuclear physics Cosmology Astrophysics and Astroparticles Particle and Nuclear Physics
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	Preface -- Observational Motivation and Brief History -- Part I: Physics of Transport Processes -- Atomic Transport: Diffusion Equations -- Radiative Accelerations -- Transport Coefficients -- Diffusion in Magnetic Fields -- Light Induced Drift -- Macroscopic Transport Processes -- Part II: Abundance Anomalies in Stellar Evolution -- Upper Main Sequence Stars of Pop I -- Lower Main Sequence Stars of Pop I -- Population II Dwarfs -- Giants -- Horizontal-Branch Stars -- White Dwarfs -- Neutron Stars -- Part III: Appendices -- Evaluation of Collision Integrals -- Definition of the linlog Function -- List of Astronomical Objects -- References -- Index.
Sommario/riassunto	This book gives an overview of atomic diffusion, a fundamental physical process, as applied to all types of stars, from the main sequence to neutron stars. The superficial abundances of stars as well as their evolution can be significantly affected. The authors show where atomic diffusion plays an essential role and how it can be implemented in modelling. In Part I, the authors describe the tools that are required to include atomic diffusion in models of stellar interiors and atmospheres. An important role is played by the gradient of partial

radiative pressure, or radiative acceleration, which is usually neglected in stellar evolution. In Part II, the authors systematically review the contribution of atomic diffusion to each evolutionary step. The dominant effects of atomic diffusion are accompanied by more subtle effects on a large number of structural properties throughout evolution. One of the goals of this book is to provide the means for the astrophysicist or graduate student to evaluate the importance of atomic diffusion in a given star.