

1. Record Nr.	UNINA9910300535103321
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Titolo	Characterizing Space Plasmas : A Data Driven Approach // by George K. Parks
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2018
ISBN	3-319-90041-2
Edizione	[1st ed. 2018.]
Descrizione fisica	1 online resource (XX, 332 p. 95 illus., 47 illus. in color.)
Collana	Astronomy and Astrophysics Library, , 0941-7834
Disciplina	523.01
Soggetti	Astrophysics Plasma (Ionized gases) Solar system Mathematical physics Fluids Astrophysics and Astroparticles Plasma Physics Solar and Heliospheric Physics Theoretical Astrophysics Fluid- and Aerodynamics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Preface -- 1 Basic Equations and Concepts -- 2 Charged Particle Acceleration -- 3 Escaping Stellar Particles -- 4 Collisionless Shocks -- 5 Boundaries and Current Sheets -- 6 Electric Field and Current -- 7 Topics for Further Studies -- Index.
Sommario/riassunto	This didactic book uses a data-driven approach to connect measurements made by plasma instruments to the real world. This approach makes full use of the instruments' capability and examines the data at the most detailed level an experiment can provide. Students using this approach will learn what instruments can measure, and working with real-world data will pave their way to models consistent with these observations. While conceived as a teaching tool, the book contains a considerable amount of new information. It emphasizes

recent results, such as particle measurements made from the Cluster ion experiment, explores the consequences of new discoveries, and evaluates new trends or techniques in the field. At the same time, the author ensures that the physical concepts used to interpret the data are general and widely applicable. The topics included help readers understand basic problems fundamental to space plasma physics. Some are appearing for the first time in a space physics textbook. Others present different perspectives and interpretations of old problems and models that were previously considered incontestable. This book is essential reading for graduate students in space plasma physics, and a useful reference for the broader astrophysics community. .
