

1. Record Nr.	UNINA9910845095603321
Autore	Judge Philip
Titolo	The Problem of Coronal Heating : A Rosetta Stone for Electrodynamic Coupling in Cosmic Plasmas // by Philip Judge, James A. Ionson
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2024
ISBN	3-031-46273-4
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (275 pages)
Collana	Astrophysics and Space Science Library, , 2214-7985 ; ; 470
Altri autori (Persone)	IonsonJames A
Disciplina	523.7
Soggetti	Sun Plasma astrophysics Sampling (Statistics) Astronomy - Observations Solar Physics Astrophysical Plasma Methodology of Data Collection and Processing Astronomy, Observations and Techniques
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction -- Magneto-hydrodynamics -- Challenges -- Methodologies -- Seeking the Sun's Achilles' Heels -- Fresh approaches -- Closing thoughts.
Sommario/riassunto	This book reflects on 8 decades of research on one of the longest-standing unsolved problems in modern astrophysics: why does the Sun form a hot corona? The authors give a critical overview of the field and offer suggestions on how to bridge the chasm between what we can measure, and what we can calculate. They go back to basics to explain why the problem is difficult, where we have made progress and where we have not, to help the next generation of scientists devise novel techniques to crack such a long-lasting problem. A way forward is formulated centered around refutation, using Bayesian methods to propose and to try to reject hypotheses and models, and avoiding seduction by ``confirmation bias''. This book is aimed at physicists, students and researchers interested in understanding, learning from and solving the coronal heating problem, in an era of new dedicated

facilities such as the Parker Solar Probe and the Daniel K. Inouye Solar Telescope. The book will appeal to those interested in understanding research methods and how they are changing in the modern academic environment, particular in astrophysics and Earth sciences where remote sensing is essential.

---