

# Solar Prominence

A solar prominence is a large feature extending out from the Sun's surface that consists of plasma trapped by magnetic field lines.



# Solar Prominence

**Royal Greenwich Observatory**



## **Solar Prominence:**

**Solar Prominences** Jean-Claude Vial, Oddbjørn Engvold, 2014-11-24 This volume presents the latest research results on solar prominences including new developments on e.g. chirality, fine structure, magnetism, diagnostic tools, and relevant solar plasma physics. In 1875, solar prominences as seen out of the solar limb were described by P. A. Secchi in his book *Le Soleil* as gigantic pink or peach flower coloured flames. The development of spectroscopy, coronagraphy, and polarimetry brought tremendous observational advances in the twentieth century. The authors present and discuss exciting new challenges resulting from observations made by space and ground based telescopes in the 1990s and the first decade of the 21st century concerning the diagnostics of prominences, their formation, their life time, and their eruption along with their impact in the heliosphere including the Earth. The book starts with a general introduction of the prominence object with some historical background on observations and instrumentation. In the next chapter, the various forms of prominences are described with a thorough attempt of classification. Their thermodynamic and velocity properties are then derived with emphasis on the methods and their limits used. This goes from the simplest optically thin case to the heavy radiative treatment of plasmas out of local thermodynamic equilibrium. The following chapters are devoted to the magnetic field measurements and indirect derivation. A new branch of diagnostic tools, the seismology, is presented along with some MHD basics. This allows to better understand the propagation of waves, the energy and force equilibria. Both small scale and large scale studies and their relationship are presented. The importance of the newly discovered cavities is stressed in the context of prominence destabilization. The issues of prominence formation and eruption, their connection with flares and Coronal Mass Ejections, and their impact on the Earth are addressed on the basis of the latest results. Finally, an exciting new area of research is unveiled with the newly discovered evidence of similar manifestations in the Universe and their possible impact on the habitability of exoplanets. References to the basic physics where necessary are provided, and the proposed web sites addresses will allow the reader to load exciting movies. The book is aimed at advanced students in astrophysics, post graduates, solar physicists, and more generally astrophysicists. Amateurs will enjoy the many new images which go with the text.

[General Bibliography of Solar Prominence Research, 1880-1970](#) Josip Kleczek, Jean-Louis Leroy, Frank Quimby Orrall, 1972

[A Handbook of Solar Eclipses](#) Isabel Martin Lewis, 1924

**Nuclear Science Abstracts**, 1974 NSA is a comprehensive collection of international nuclear science and technology literature for the period 1948 through 1976, pre-dating the prestigious INIS database which began in 1970. NSA existed as a printed product, Volumes 1-33, initially created by DOE's predecessor, the U.S. Atomic Energy Commission (AEC). NSA includes citations to scientific and technical reports from the AEC, the U.S. Energy Research and Development Administration, and its contractors, plus other agencies and international organizations, universities, and industrial and research organizations. References to books, conference proceedings, papers, patents, dissertations, engineering drawings, and journal articles from worldwide sources are also included. Abstracts and full text are provided if available.

**Solar Prominences** Einar Tandberg-Hanssen, 1974-07-31 o beaute sans seconde Seule semblable li toi SOLEIL pour tout le monde JEAN FRANCOIS SARASIN 1615 1654 The last decade has seen the publication of monographs covering most areas of solar activity flares Smith and Smith 1963 sunspots Bray and Loughhead 1964 and the corona Billings 1966 Consequently of all the major manifestations of solar activity only prominences are without a comprehensive and unified treatment in the current literature The present book is written in an attempt to remedy this situation and to furnish an account of some of the most spectacular and most beautiful aspects of solar activity Our ultimate aim is an understanding of the physical processes involved I hope that this book may provide if only a small step toward this goal After an historical introduction and some general definitions Chapter I proceeds with an account of several classification schemes for prominences Most of the observational material is presented in Chapter II and forms the basis on which different models of prominences are built in Chapter III Chapters IV and V give most of the physics of prominences treating as they do the formation and stability of these objects The interaction of prominences with other manifestations of solar activity is the subject of Chapter VI and the final Chapter VII considers prominences in the larger context as an integral part of the corona

**The Astrophysical Journal**, 1921 Letters to the Editor issued as Part 2 and separately paged from v 148 1967 Beginning in 2009 the Letters published only online Astronomical and Magnetical and Meteorological Observations Made at the Royal Observatory, Greenwich, in the Year ..., 1882 **Physics of Solar Prominences** International Astronomical Union, 1979 **Literature 1989, Part 1** Astronomisches Rechen-Institut, 2013-11-11 From the reviews Astronomy and Astrophysics Abstracts has appeared in semi annual volumes since 1969 and it has already become one of the fundamental publications in the fields of astronomy astrophysics and neighbouring sciences It is the most important English language abstracting journal in the mentioned branches The abstracts are classified under more than a hundred subject categories thus permitting a quick survey of the whole extended material The AAA is a valuable and important publication for all students and scientists working in the fields of astronomy and related sciences As such it represents a necessary ingredient of any astronomical library all over the world Space Science Review Dividing the whole field plus related subjects into 108 categories each work is numbered and most are accompanied by brief abstracts Fairly comprehensive cross referencing links relevant papers to more than one category and exhaustive author and subject indices are to be found at the back making the catalogues easy to use The series appears to be so complete in its coverage and always less than a year out of date that I shall certainly have to make a little more space on those shelves for future volumes The Observatory Magazine **Results of the Spectroscopic and Photographic Observations** Royal Greenwich Observatory, 1883 **Monthly Notices of the Royal Astronomical Society** Royal Astronomical Society, 1922 Portfolio of 8 charts accompanies v 83 **Popular Astronomy** William Wallace Payne, Charlotte R. Willard, Herbert Couper Wilson, Ralph Elmer Wilson, Curvin Henry Gingrich, 1912 *Popular Astronomy*, 1917 *Literature 1979, Part 1* Siegfried Böhme, Ute Esser, Professor Dr. Walter

Fricke, Inge Heinrich, Wilfried Hofmann, Dietlinde Krahn, Dorothea Rosa, Dr. Lutz D. Schmadel, Gert Zech, 2013-04-18

**Journal of the British Astronomical Association** British Astronomical Association, 1893 List of members 1890 1913  
bound with v 1 23 **Journal** British Astronomical Association, 1893 Bulletin Kodaikanal (India). Observatory, 1921

**Kodaikanal Observatory Bulletins**, 1921 **Bulletin** Kodaikanal Observatory, 1923 **Lick Observatory Bulletins**  
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and 71 lutetium or lu lanthanum symbol ln atomic number 57 cerium symbol ce atomic number 58 praseodymium symbol pr atomic number 59 neodymium symbol nd atomic number 60 promethium symbol pm

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