

Session COSPAR interessant solaires et plasmiciens

Chers collègues,

You are cordially invited to a cross-disciplinary session "Cool Material in the Hot Solar Corona (Prominences & Coronal Rain) and Non-solar Analogs" at the 42nd COSPAR Scientific Assembly, hosted by Caltech/JPL in beautiful Pasadena, California, USA, 14-22 July, 2018. This session brings together the solar, astrophysical, space and laboratory plasma physics communities to explore these fascinating phenomena, with the celebration of the 60th anniversary of COSPAR's inception (<http://cospar2018.org>). We have an excellent group of invited speakers and welcome interdisciplinary contributions from all the aforementioned disciplines. Please find below more details:

Session D2.2/E3.2, "Cool Material in the Hot Solar Corona (Prominences & Coronal Rain) and Non-solar Analogs"

(<https://www.cospar-assembly.org/admin/sessioninfo.php?session=714>)

Duration: Two half-day sessions

Important Dates (<https://www.cospar-assembly.org/>):

Feb 09*, 2018 at 23:59 CET, *Abstract* (and financial support application)*deadline

Apr 27, 2018: Early registration fee deadline

Rationale:

The solar corona is hot and tenuous. Yet, it hosts a variety of mysteriously cool and dense plasmas in two distinct forms - prominences and coronal rain. What they have in common is catastrophic radiative cooling of hot coronal plasma in thermal non-equilibrium states, forming the return flow of the chromosphere-corona mass cycle, which provides critical clues to the fundamental problem of coronal heating. What distinguishes them is the magnetic field that delineates these phenomena, e.g., twisted non-potential fields trapping prominences vs. simple loops draining coronal rain. Such cool material is not always quiescent as one might expect and can be associated with violent eruptions: some prominences form the cores of coronal mass ejections (CMEs) that produce space-weather disturbances, while some coronal rain occurs as the aftermath of solar flares due to the high density driven by intense heating and evaporation of the chromosphere. We invite contributions on a broad range of topics in three categories: (1) observational or modeling investigations of prominences and coronal rain, including their formation and dynamic evolution, magnetic and plasma environments, roles in the coronal circulation of mass and energy, relevant physical processes such as ion-neutral coupling and magnetic reconnection in partially ionized plasmas, diagnostic applications (e.g., coronal seismology), and space-weather consequences and predictive potential; (2) current or future observing capabilities and instrumentation (e.g., ALMA, DKIST) pertinent to addressing outstanding questions on these phenomena; (3) cross-disciplinary topics concerning physically similar processes or phenomena in laboratory plasmas, planetary magnetospheres, stellar atmospheres, or elsewhere in the universe, such as various plasma instabilities (e.g., Rayleigh-Taylor, Kelvin-Helmholtz) and thermal instability in molecular clouds and cluster of galaxies.

Confirmed Invited Speakers:

Magnus Haw (Caltech, USA; lab plasma), Takafumi Kaneko (Nagoya Univ., Japan), Judy Karpen (NASA/GSFC, USA), Sara Martin (Helio Research, USA), Tom Schad (NSO, USA), Prateek Sharma (Indian Institute of Science, India; astrophysical), Jaume Terradas (Universitat de les Illes Balears, Spain), Erwin Verwichte (Univ. Warwick, UK)

Scientific Organizers:

Wei Liu (LMSAL/BAERI, USA), Patrick Antolin (Univ. of St Andrews, UK)

Scientific Organizing Committee:

Paul Bellan (Caltech, USA), Thomas Berger (NOAA, USA), P. F. Chen (Nanjing Univ., China), Oddbjorn Engvold (Univ. of Oslo, Norway), Holly Gilbert

(NASA/GSFC, USA), Olga Panasenco (Advanced Heliophysics, USA), Jean-Claude Vial
(Institut d'astrophysique Spatiale, France)