STCE Newsletter

24 Sep 2012 - 30 Sep 2012

Published by the STCE - this issue : 4 Oct 2012. Available online at http://www.stce.be/newsletter/ .

The Solar-Terrestrial Centre of Excellence (STCE) is a collaborative network of the Belgian Institute for Space Aeronomy, the Royal Observatory of Belgium and the Royal Meteorological Institute of Belgium.

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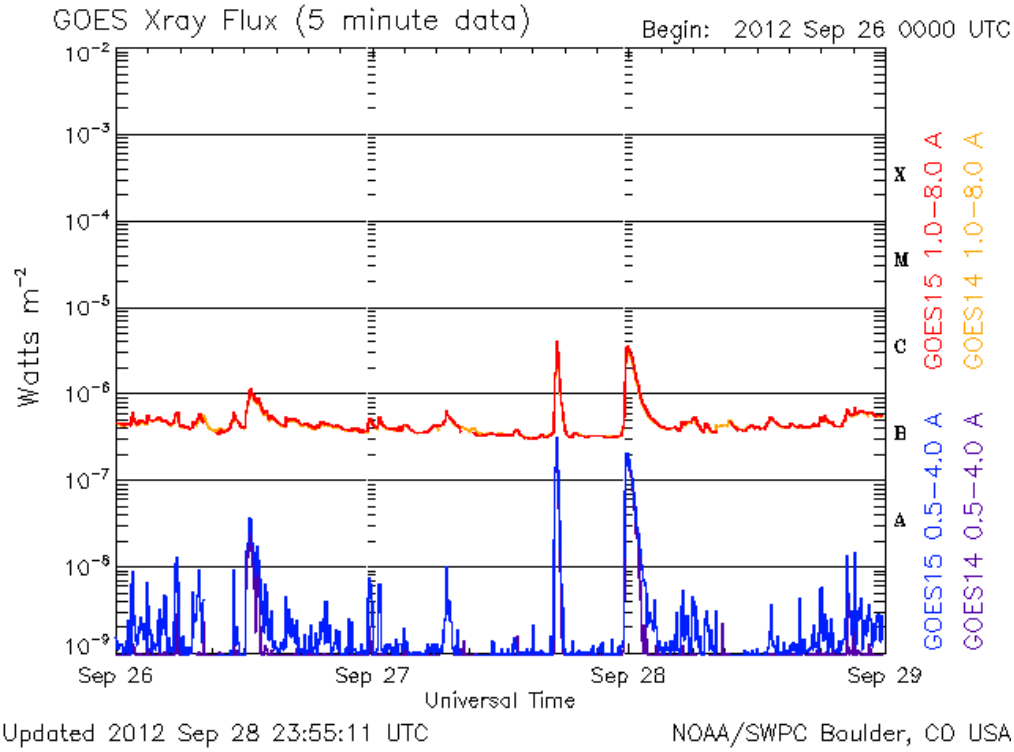
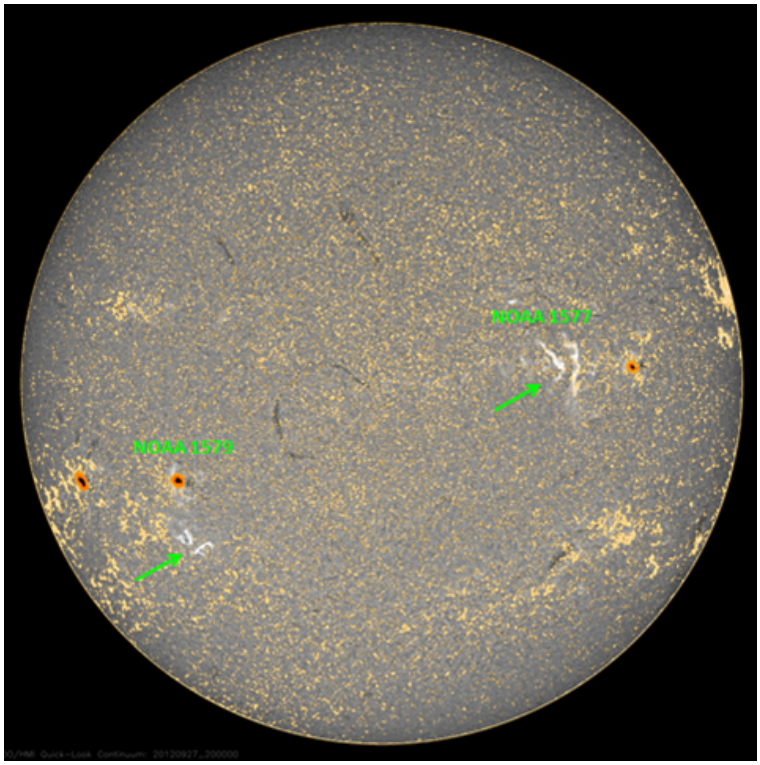
1. Twin Peaks (24 Sep 2012 - 30 Sep 2012)

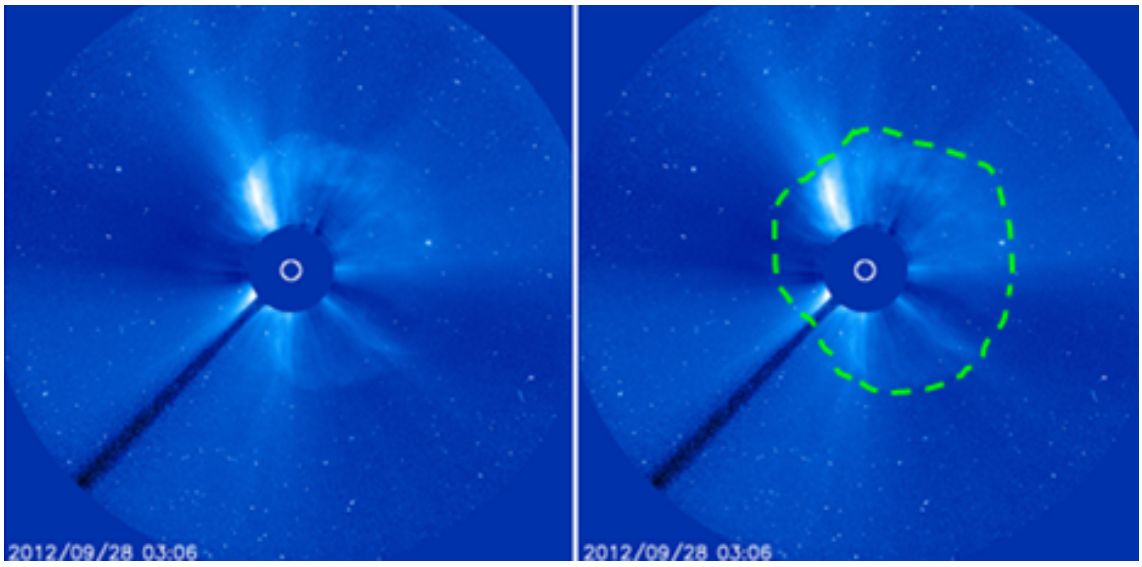
On 27 September, the Sun produced 2 almost identical, small solar flares: A C4.4-flare peaking at 17:20UT, and a C3.7-flare at 23:57UT. However, except for their near-equal strength, these eruptions differed quite a bit from each other, and they had also a very different impact on Earth.



The flares took place in 2 different regions. The C4-flare occurred 10° south of NOAA 1579's main spot, in a region void of sunspots and with no filament visible in the chromosphere (H-alpha). The C3-flare occurred in the small sunspot region NOAA 1577, was preceded by a filament eruption, and was followed by a small proton event. The image underneath depicts the location of the flares in relation to the sunspot groups. It is a GONG H-alpha image (http://halpha.nso.edu/) on which the two flares are indicated, overlaid by a transparent SDO/HMI-image (http://sdo.gsfc.nasa.gov/). In both cases, one can see bright parallel patches in H-alpha (a so-called "parallel ribbon flare").

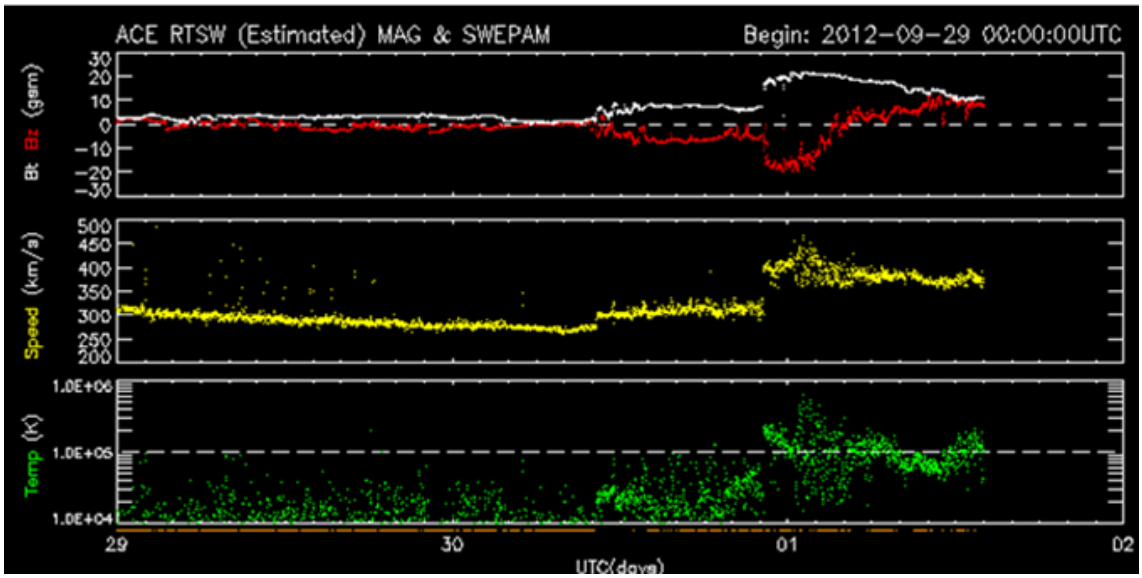


A movie (http://www.youtube.com/watch?v=tRLYW-YTxSw), running from 27 September at 15:00UT till 28 September at 03:00UT, shows both eruptions in full action. The H-alpha clip is supplemented with imagery from SDO/AIA 304 and 171, as well as from SOHO's coronagraphs (http://sohowww.nascom.nasa.gov/). It is clear that only during the second eruption material was ejected into space. This can be seen in the SDO/AIA 304 clip as a dark cloud leaving the solar surface, and obviously in the SOHO-movie as a halo expanding from the Sun, meaning that the particle cloud was directed straight towards Earth.



In the evening of 30 September, the cloud struck the Earth's magnetic field. Solar wind speed jumped from 300 to about 400 km/s, and the interplanetary magnetic field turned strongly southward (data from ACE - http://www.swpc.noaa.gov/ace/MAG_SWEPAM_3d.html). This resulted globally in major

geomagnetic storm conditions (only minor storming recorded in Dourbes). Aurorae were seen in Scandinavia, Scotland, Ireland, along the American-Canadian border and Alaska.

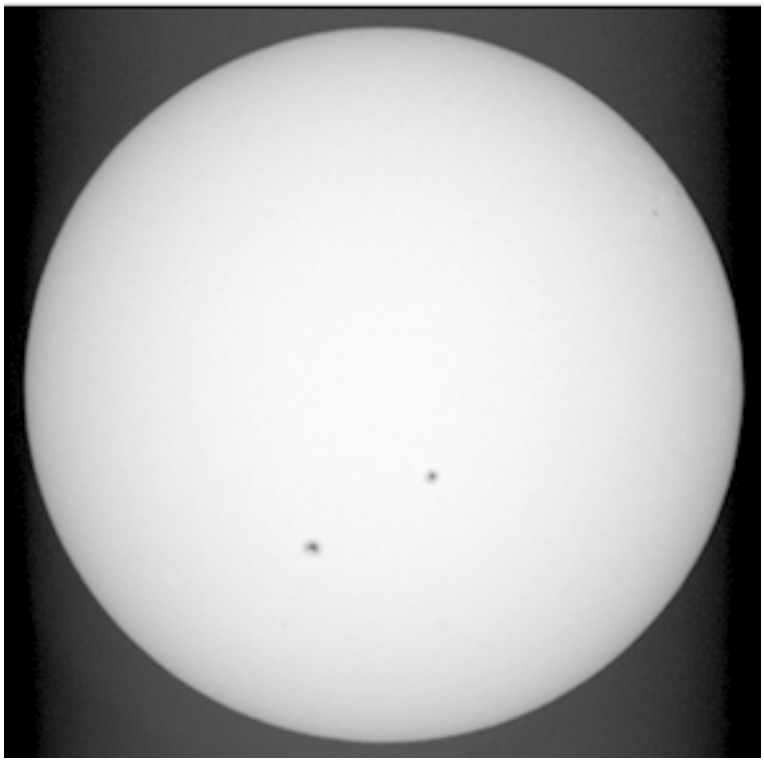


2. Review of solar activity (24 Sep 2012 - 30 Sep 2012)

This week, the Sun's appearance was dominated by 2 single sunspots on the southern hemisphere, NOAA 1579 and NOAA 1582 (the biggest of the two). See USET white light image underneath (http://www.sidc.oma.be/uset/).

As such, the flaring activity was rather low during the week, with mostly C-class flares and a M1.3 class flare on September 30, 04:33UT (peak time), which occurred in NOAA Active Region 1583, close to the northwest limb.

However, the most significant event was a C3.7 flare, taking place in NOAA Active Region 1577, on September 27, 23:36UT (peak time). It triggered a mild proton event (>10 MeV protons) and was associated with a coronal EUV wave and a halo Coronal Mass Ejection (CME).



3. Noticeable Solar Events (24 Sep 2012 - 30 Sep 2012)

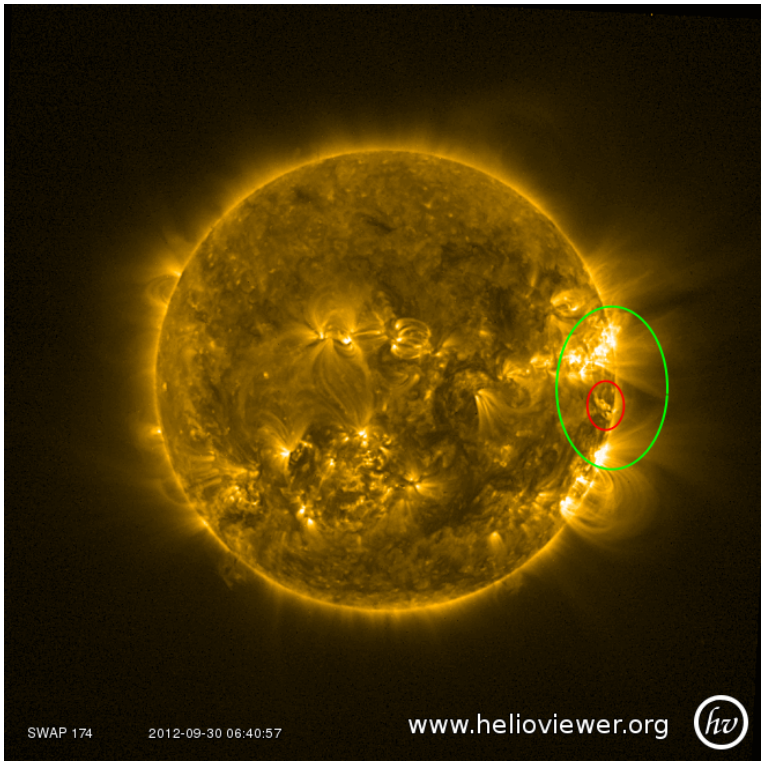
DAY	BEGIN	MAX	END	LOC	XRAY	OP	10CM	TYPE	Cat	NOAA	NOTE
30	0427	0433	0442	N13W75	M1.3		0			1583	

LOC: approximate heliographic location
XRAY: X-ray flare class
OP: optical flare class
10CM: peak 10 cm radio flux
TYPE: radio burst type
Cat: Catania sunspot group number
NOAA: NOAA active region number

4. PROBA2 Observations (24 Sep 2012 - 30 Sep 2012)

This week, the Sun's activity level was *Low* with a minimum (*Very Low*) on Friday. Then, activity increased with more than a dozen C-flares both on Saturday and Sunday, as well as an M1.3 flare (*Moderate*) on Sunday, near the west limb.

The M1.3 flare impacted the green area shown in the picture below. It was closely followed by a C2.9 flare, which triggered the transfer of some material from NOAA Active Region 1577, located north of the equator, towards NOAA Active Region 1576, south of the equator (see red circle in the picture below).



A movie of the M1.3 flare can be found here: http://proba2.oma.be/swap/data/mpg/movies/campaign_movies/2012_09_30_03_04_17_2012_09_30_08_57_27_SWAP_174-hq.mp4.

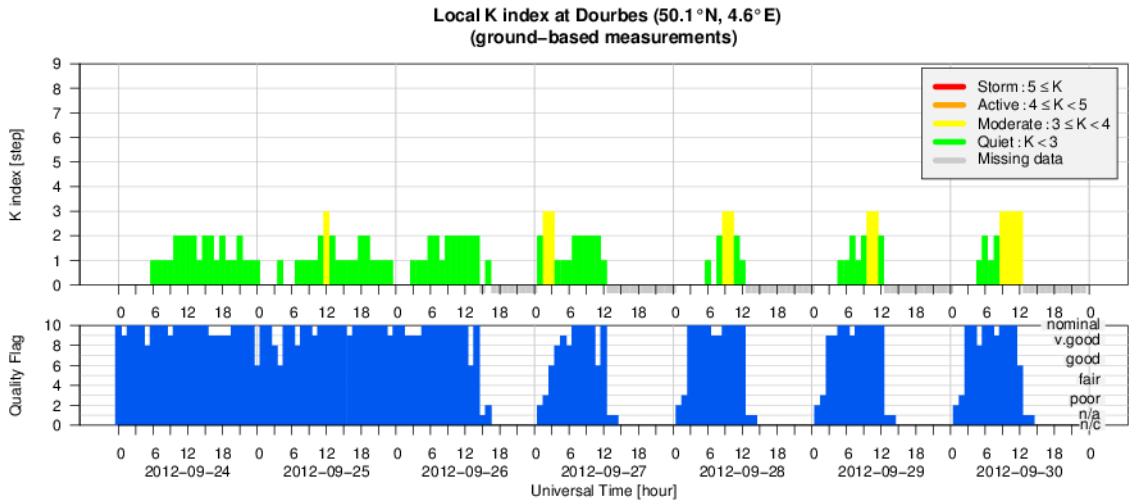
In order to view the activity of this week in more detail, we suggest to go to the following website from which all the daily (normal and difference) movies can be accessed: http://proba2.oma.be/ssa.
This page also lists the recorded flaring events.

5. Review of geomagnetic activity (24 Sep 2012 - 30 Sep 2012)

Geomagnetic activity was low during the week. The peak of activity was observed on September 30.

Starting with a weak shock signature observed by ACE around 10:00UT, it was soon followed by a strong shock around 22:00UT from the arrival of the aforementioned CME. This resulted in unsettled to active conditions late on September 30, and evolving into storm conditions at planetary levels early on 1 October.

6. Geomagnetic Observations at Dourbes (24 Sep 2012 - 30 Sep 2012)



7. New documents in the European Space Weather Portal Repository

See http://www.spaceweather.eu/en/repository

ESWW9 SWWT SALE abstracts

The SALE Executive is pleased to announce that a set of high level talks on various aspects of the energetic particle radiation hazard to aviation crews and personnel aboard spacecraft in LEO will be presented at a meeting of the Spacecraft, Aircraft and Launcher Environments group during Space Weather Week in Brussels, Belgium (8 November, 2012). Abstracts of these talks are attached and EVERYONE is cordially invited to attend on this very special occasion.
http://www.spaceweather.eu/en/repository/show?id=252

Solar Orbiter 5 Workshop - Session 1: Review on Helioseismology and Helioseismology with Solar Orbiter

Invited talk in the session Solar Magnetism and the Solar Cycle.
http://www.spaceweather.eu/en/repository/show?id=253

eHEROES - Solar Cycle 24, zonnecyclus in het vizier

Presentatie over de 24ste zonnecyclus voor leden van de volkssterrenwacht Urania in het kader van hun wekelijkse voordrachten. Een basiskennis is vereist.
http://www.spaceweather.eu/en/repository/show?id=254

eHEROES - de Zon

Presentatie over de zon voor leden van de volkssterrenwacht MIRA in het kader van een cursus sterrenkunde. Een basiskennis is vereist.
http://www.spaceweather.eu/en/repository/show?id=255

Solar Orbiter 5 Workshop - Session 1: Solar Magnetic Field Reversal and the Role of the Dynamo Families

Talk in the session Solar magnetism and the solar cycle

http://www.spaceweather.eu/en/repository/show?id=256

Solar Orbiter 5 Workshop - Session 1: Planning for Helioseismology with SO/PHI

Talk in the session Solar Magnetism and the Solar Cycle
http://www.spaceweather.eu/en/repository/show?id=257

Solar Orbiter 5 Workshop - Session 1: Small Magnetic Elements, Bright Points and Solar Irradiance

Talk in the session Solar Magnetism and the Solar Cycle
http://www.spaceweather.eu/en/repository/show?id=258

Solar Orbiter 5 Workshop - Session 1: The Solar Cycle as seen in the Heliospheric Magnetic Field

Talk in the session Solar Magnetism and the Solar Cycle
http://www.spaceweather.eu/en/repository/show?id=259

Solar Orbiter 5 Workshop - Session 1: The heliospheric magnetic flux density through several solar cycles

Talk in the session Solar Magnetism and the Solar Cycle
http://www.spaceweather.eu/en/repository/show?id=260

Solar Orbiter 5 Workshop - Session 2 - Part I: Ejection of Cool Plasma into the Corona - Comparison of 1D and 3D Loop Models

Talk in the session Processes of slow/steady energy release in the solar atmosphere and heliosphere
http://www.spaceweather.eu/en/repository/show?id=261

Solar Orbiter 5 Workshop - Session 2 - Part I: Outflow Velocity Structure in the Upper Transition Region and Corona

Talk in the session Processes of slow/steady energy release in the solar atmosphere and heliosphere
http://www.spaceweather.eu/en/repository/show?id=262

Solar Orbiter 5 Workshop - Session 2 - Part I: Interchange Reconnection in a Turbulent Corona

Talk in the session Processes of slow/steady energy release in the solar atmosphere and heliosphere
http://www.spaceweather.eu/en/repository/show?id=263

Solar Orbiter 5 Workshop - Session 2 - Part II: Slow Solar Wind Coronal Sources: Comparison between two Solar Minima (UVCS/SOHO)

Talk in the session Processes of slow/steady energy release in the solar atmosphere and heliosphere
http://www.spaceweather.eu/en/repository/show?id=264

Solar Orbiter 5 Workshop - Session 2 - Part II: The Helium corona as observed by the HERSCHEL Sounding Rocket

Talk in the session Processes of slow/steady energy release in the solar atmosphere and heliosphere
http://www.spaceweather.eu/en/repository/show?id=265

Solar Orbiter 5 Workshop - Session 2 - Part II: Linking in-situ Measurements with SPICE

Talk in the session Processes of slow/steady energy release in the solar atmosphere and heliosphere
http://www.spaceweather.eu/en/repository/show?id=266

Solar Orbiter 5 Workshop - Session 2 - Part II: Understanding the Nature of the Solar Wind in the Solar Orbiter Era

Invited talk in the session Processes of slow/steady energy release in the solar atmosphere and heliosphere
http://www.spaceweather.eu/en/repository/show?id=267

Solar Orbiter 5 Workshop - Session 2 - Part II: Kinetic Processes in the Solar Wind

Invited talk in the session Processes of slow/steady energy release in the solar atmosphere and heliosphere
http://www.spaceweather.eu/en/repository/show?id=268

Solar Orbiter 5 Workshop - Session 2 - Part II: SWAP/PROBA2 Observations of the Largescale, Longterm Evolution of the EUV Corona

Talk in the session Processes of slow/steady energy release in the solar atmosphere and heliosphere
http://www.spaceweather.eu/en/repository/show?id=269

Solar Orbiter 5 Workshop - Session 3 - Part I: Physics of Solar Flares

Invited talk in the session Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=270

Solar Orbiter 5 Workshop - Session 3 - Part I: Direct Imaging and Spectroscopy of Flare Accelerated Electron Beams with STIX

Talk in the session Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=271

Solar Orbiter 5 Workshop - Session 3 - Part I: Pre-flare Signatures in Large Flares

Talk in the session Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=272

Solar Orbiter 5 Workshop - Session 3 - Part I: Observations of CME's In the Outer Corona

Invited talk in the session Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=273

Solar Orbiter 5 Workshop - Session 3 - Part I: Changes in the Photospheric Magnetic Field during CMEs

Talk in the session Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=274

Solar Orbiter 5 Workshop - Session 3 - Part II: CMEs: Taking Magnetic Helicity from Low Corona into Interplanetary Space

Talk in the session Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=275

Solar Orbiter 5 Workshop - Session 3 - Part II: Observation of a Post-CME Current Sheet with SOHO/UVCS and RHESSI

Talk in the session Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=276

Solar Orbiter 5 Workshop - Session 3 - Part II: Magnetic Cloud-erosion by Magnetic reconnection during propagation, geom. imp.

Talk in the session Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=277

Solar Orbiter 5 Workshop - Session 3 - Part II: Energetic Particle Acceleration on the Sun and in the Heliosphere

Invited talk in the session Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=278

Solar Orbiter 5 Workshop - Session 3 - Part II: Solar Energetic Particle Events and their Parent Activity - Statistical Rel.

Talk in the session Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=279

Solar Orbiter 5 Workshop - Session 3 - Part III: Influence Interplanetary Shock on Heliocentrical Radial Var. of Gradual SEP

Talk in the session Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=281

Solar Orbiter 5 Workshop - Session 3 - Part III: Observations of Solar Wind Coherent Structures During SEP Dropouts Events

Talk in the session Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=282

Solar Orbiter 5 Workshop - Session 4: Solar Flare Forecasting from Solar Orbiter Observations

Talk in the session Data assimilation, visualization and analysis
http://www.spaceweather.eu/en/repository/show?id=283

Solar Orbiter 5 Workshop - Session 4: Modeling the Corona and Solar Wind using Synchronic Maps

Invited talk in session Data assimilation, visualization and analysis
http://www.spaceweather.eu/en/repository/show?id=285

Solar Orbiter 5 Workshop - Session 4: Dust detection with radio instruments: RPW experiment onboard Solar Orbiter

Talk in session Data assimilation, visualization and analysis
http://www.spaceweather.eu/en/repository/show?id=286

Solar Orbiter 5 Workshop - Session 4: Visualizing the Sun and Heliosphere in 3D

Talk in session Data assimilation, visualization and analysis
http://www.spaceweather.eu/en/repository/show?id=287

Solar Orbiter 5 Workshop - Session 4: Pushing Solar Image Compression to its Limit

Talk in session Data assimilation, visualization and analysis
http://www.spaceweather.eu/en/repository/show?id=288

Solar Orbiter 5 Workshop - Session 4: Exploring Heterogeneous Solar Data

Invited talk in session Data assimilation, visualization and analysis
http://www.spaceweather.eu/en/repository/show?id=289

Solar Orbiter 5 Workshop - Session 1: The Solar Dynamo

Invited talk given in the Session Solar Magnetism and the solar cycle
http://www.spaceweather.eu/en/repository/show?id=290

Solar Orbiter 5 Workshop - Session 3 - Part II: Recent Advances in Understanding the Nature of CMEs by Combining Solar Observati

Talk in the session Eruptive processes in the solar atmosphere and their manifestations in the heliosphere.
http://www.spaceweather.eu/en/repository/show?id=291

Solar Orbiter 5 Workshop - Session 4: Mass Estimates of Rapidly-moving Prominence Material from High-cadence EUV Images

Talk in session Data assimilation, visualization and analysis
http://www.spaceweather.eu/en/repository/show?id=292

Solar Orbiter 5 Workshop - Session 2 - Part II: The Slow Solar Wind Structure Revealed by Periodic Analysis of WhiteLight Images

Talk given in the Session Processes of slow/steady energy release in the solar atmosphere and heliosphere
http://www.spaceweather.eu/en/repository/show?id=293

Solar Orbiter 5 Workshop - Session 3 - Part I: CME Eruption and Accompanying Phenomena Observed in the Low Corona

Invited talk in the session Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=294

Solar Orbiter 5 Workshop - Session 3 - Part II: Evidence for Rayleigh-Taylor plasma instabilities at the front of solar CMEs

Talk in the session Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=295

Solar Orbiter 5 Workshop - Session 3 - Part III: Radial Dependence of Solar Energetic Particle Intensities

Talk in the session Eruptive processes in the solar atmosphere and their manifestations in the heliosphere

http://www.spaceweather.eu/en/repository/show?id=280

8. Future Events

For more details, see http://www.spaceweather.eu/en/event/future

UN/Ecuador Workshop on the International Space Weather Initiative in Ecuador

Start : 2012-10-08 - End : 2012-10-12
Initiated in 1990, the United Nations Basic Space Science Initiative (UNBSSI) has contributed to the international and regional development of astronomy and space science through annual workshops organized under the umbrella of the United Nations, focusing specifically on the International Heliophysical Year 2007 (IHY, 2005-2009) and the International Space Weather Initiative (ISWI, 2010-2012). UNBSSI has led to the establishment of planetariums, astronomical telescope facilities, and IHY/ISWI instrument arrays worldwide, particularly in developing nations. ISWI is envisioned to continue the tradition of IHY in the worldwide deployment of space weather monitoring instrument arrays. To date, ISWI contributes to the observation of space weather through 18 instrument arrays with close to 1000 operating instruments in more than 100 nations supported by designated national ISWI coordinators.
The first workshop on ISWI was held in Helwan, Egypt and hosted by the Helwan University, Egypt, in 2010, particularly for the benefit of nations in Western Asia. In 2011 the United Nations/Nigeria Workshop on ISWI was hosted by the Centre for Basic Space Science of the University of Nigeria at Nsukka, Nigeria, particularly for the benefit of nations in Africa. The third ISWI workshop will be hosted by Ecuador in 2012 for the region of Latin America and the Caribbean.
Website:
http://iswiecuador.epn.edu.ec/

Space Weather and Challenges for Modern Society in Oslo, Norway

Start : 2012-10-22 - End : 2012-10-24
2012 - 2013 is expected to be years with high solar activity. This can trigger larger solar storms which can generate geomagnetic induced currents (GIC) on the earth. GIC can affect the normal operation of specific industrial operations and critical infrastructure (e.g power grids, telecom, navigation systems, etc).
During space weather events, like solar storms, electric currents in the magnetosphere and ionosphere experience large variations, which manifest also in the earth's magnetic field. These variations induce currents (GIC) in conductors operated on the surface of the earth. Electric transmission grids and buried pipelines are common examples of such conductor systems. GIC can cause problems, such as increased corrosion of pipeline steel and may disturb and possible damaged high-voltage power transformers and it can also have damaging effects on communication systems, navigation systems and oil and gas operations.
Vulnerable industries are the oil and gas industry, railways, telecommunication industry, navigation industry and not at least the society, which is very vulnerable concerning short or long term interruption of critical infrastructure.
The conference will focus on increasing the general knowledge of solar storms, space weather and GIC and the possible consequences for different industries and critical infrastructure, and look into reasonable means of protection, and consider possible early warning solutions.
Website:
http://www.tiems.info/about-tiems/oslo-conference-2012.html

Ninth European Space Weather Week in Brussels, Belgium

Start : 2012-11-05 - End : 2012-11-09
We are pleased to announce that the Ninth European Space Weather Week will take place at the AcadÃ©mie Royale de Belgique, Brussels, Belgium between 5 and 9 November 2012.
This meeting is being jointly organised by the Solar-Terrestrial Centre of Excellence (STCE), ESA , the SWWT and the COST ES0803 communities. The local organisation is done by the STCE. This event

will continue to build on the advances made during the first eight European Space Weather Weeks held between 2004 and 2011.
Website:
http://www.sidc.be/esww9/

International Symposium on Solar-Terrestrial Physics in Pune, India

Start : 2012-11-06 - End : 2012-11-09
The International Symposium on Solar-Terrestrial Physics will be held during November 6 - 9, 2012 at the Indian Institute of Science, Education and Research, Pune, India. This meeting under the aegis of the SCOSTEP is expected to draw leading scientists from around the world in the increasingly important, interdisciplinary fields of Solar activity and its impact on geospace and life on the Earth. With major observational solar facilities being planned in India, this meeting is especially pertinent in the Indian context.
The meeting is expected to involve professional scientists as well as graduate students, and will have a mixture of invited and contributed talks and posters. There will also be a one-day tutorial for the benefit of young people beginning work in the field of solar-terrestrial physics.
Website:
http://www.iiserpune.ac.in/~isstp2012/

Eclipse on the Coral Sea: Cycle 24 Ascending in Palm Cove, Queensland (Australia)

Start : 2012-11-12 - End : 2012-11-16
As we emerge from one of the deepest and longest solar minima on record, with a new and powerful eye on the Sun -SDO- we invite all those with an interest is solar activity to gather in beautiful Palm Cove, Australia to review and assess our current knowledge and understanding of our magnetic star , and to experience the awe and wonder of a total solar eclipse on November 14, 2012.
Website:
http://moca.monash.edu/eclipse/

Total solar eclipse

Start : 2012-11-13 - End : 2012-11-13
For more information:
http://eclipse.gsfc.nasa.gov/OH/OH2012.html#SE2012Nov13T

EC Space Conference in Larnaca, Cyprus

Start : 2012-11-15 - End : 2012-11-16
The European Commission will organise the 'Let's embrace space - FP7 Space Conference 2012', in cooperation with the Cypriot EU Presidency, on 15 and 16 November 2012 in Larnaca, Cyprus.
This scientific conference will present the current status and results of the 3rd call of FP7 space research, and also discuss future options for European research in the space field. In doing so, the conference will aim at demonstrating the evolution and use of space tools for a sustainable economic and environmental development in a European and global context.
Website:
http://www.fp7-space.eu/news-119.phtm

Solar Physics with Radio Observations in Aichi, Japan

Start : 2012-11-20 - End : 2012-11-23
Nobeyama Radioheliograph (NoRH) has been observing the Sun since 1992. This year is the 20th year of science operation. Instruments are still in good shape and producing images of the Sun every day with the same quality as the beginning. Due to the nature of the instrument and long and uniform observations, data can be used for wide variety of solar physics and also for solar terrestrial physics. To mark the 20 years of operation, we will organize a symposium to summarize what has been done with NoRH and to

discuss what we should do in the future. Papers to be presented in the meeting will be mainly concerned with the results from NoRH and future plans.
Website:
http://st4a.stelab.nagoya-u.ac.jp/SPRO2012/

Tracing the Connections in Solar Eruptive Events in Petaluma, CA, USA

Start : 2012-11-30 - End : 2012-12-05
The overarching objective of the conference is to examine the connections amongst the phenomena that lead to solar eruptive events. The current state of themes includes:
* Measuring the Coronal Magnetic Field;
* Connections to, and Reactions of, the Large-Scale Corona;
* Large-scale Magnetic Connectivity of Active Regions;
* Transfer of Energy to, and Storage of Energy in, the Corona;
* The High-Energy Particle - Flare - CME connection.
Working groups will address topics such as:
* Energy Transfer throughout a Solar Eruptive Event;
* Global Energetics of an Ensemble of Events;
* Coronal Influences to the Lower Atmosphere;
* CME Initiation and Type II Bursts;
* The Release of Energetic Particles in the Low Corona;
* Flows vs. Waves;
* Microflares/Nanoflares.
Website:
http://hessi.ssl.berkeley.edu/petaluma/index.shtml

Earth-Sun System Exploration 5 in Kona, Hawai'i USA

Start : 2013-01-13 - End : 2013-01-19
Information coming soon!
Website:
http://sd-www.jhuapl.edu/Aurora/ESSE/index.html

2013 LWS Solar Dynamics Observatory Science Workshop in Cambridge, MD (USA)

Start : 2013-03-03 - End : 2013-03-08
Living With a Star 's Solar Dynamics Observatory invites you to its 2013 Science Workshop to be held March 3-8, 2013 at the Hyatt Regency Chesapeake Bay in Cambridge, MD (http://chesapeakebay.hyatt.com/). The workshop is a follow-on to the 'Many Spectra of Solar Activity' workshop held May 1-5, 2011 in Squaw Valley, CA.
Scientific sessions will feature a broad spectrum of science topics fundamental to SDO's science investigations: Atmospheric Imaging Assembly (AIA), EUV Variability Experiment (EVE), and Helioseismic and Magnetic Imager (HMI), as well as the overlap between SDO and other scientific missions and activities.
Website:
http://lws-sdo-workshops.org/

Chapman Conference on Fundamental Properties and Processes of Magnetotails in Reykjavik, Iceland

Start : 2013-03-10 - End : 2013-03-15
Spacecraft observations have established that all magnetized planets in our solar system interact strongly with the solar wind and possess well-developed magnetotails. Magnetotails are the site for many dynamic processes critical to the circulation of mass, energy and magnetic flux. The great differences in solar wind conditions, planetary rotation rates, ionospheric conductivity, and physical dimensions from Mercury's small magnetosphere to the giant magnetospheres of Jupiter and Saturn provide an

outstanding opportunity to extend our understanding of the influence of these factors. Therefore, this Chapman conference will provide a forum in which various communities can come together and discuss recent achievements of observational, theoretical, and modeling studies with the objective to develop a deeper understanding of fundamental properties and processes of planetary magnetotails through a comparative examination.

Annular solar eclipse

Start : 2013-05-10 - End : 2013-05-10
For more information:
http://eclipse.gsfc.nasa.gov/SEplot/SEplot2001/SE2013May10A.GIF

IAU Symposium: Nature of prominences and their role in space weather in Paris, France

Start : 2013-06-10 - End : 2013-06-16
Topics:
* Prominences : formation, dynamics
* Prominence plasma properties, including prominence seismology
* Magnetic field : measurements, topology, support
* Large-scale patterns and cyclic evolution
* Prominence destabilization, CMEs, reconstruction in 3D
* ICMEs in the heliosphere, magnetic clouds; their impact on the Earth environment
* Stellar quiescent and eruptive prominences and stellar CME
* Requirements for future instrumentation and prospects for future missions
Website:
http://www.iau.org/science/meetings/future/symposia/1065/

CESRA Workshop 2013: New eyes looking at solar activity: Challenges for theory and simulations in Prague, Czech Republic.

Start : 2013-06-24 - End : 2013-06-29
Solar cycle 24 has opened a new era in solar radio physics as we now have instruments that can probe solar processes from sub-millimeter to kilometer waves. ALMA and LOFAR are entering full-operation state and observations of the Sun will be made in the near future.
At the same time extensive use is being made of radio spectrometers in space, STEREO /WAVES and Wind -WAVES, and existing and upgraded ground-based instruments like Nobeyama Radioheliograph, Nancay Radioheliograph, Ratan, SSRT, and many others. These instruments provide data that enable studies of both energetic particles and thermal plasma , enhancing our knowledge of solar eruptions and acceleration and propagation of particles, all through the solar chromosphere and corona and into interplanetary space.
The CESRA 2013 Workshop will highlight these new observational capabilities and discuss the theoretical issues connected to solar radio emission and interplanetary radio physics.
Website:
http://wave.asu.cas.cz/cesra2013/

2013 Meeting of the Solar Physics Division of the AAS

Start : 2013-07-08 - End : 2013-07-11
The 2013 meeting of the AAS/SPD will be July 8-11 (and possibly July 12), hosted by the Solar Physics Group of Montana State University, in Bozeman, Montana.
Website:
http://solar.physics.montana.edu/SPD/

Hybrid solar eclipse

Start : 2013-11-03 - End : 2013-11-03
For more information:

http://eclipse.gsfc.nasa.gov/SEplot/SEplot2001/SE2013Nov03H.GIF