STCE Newsletter

14 Nov 2011 - 11 Dec 2011

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

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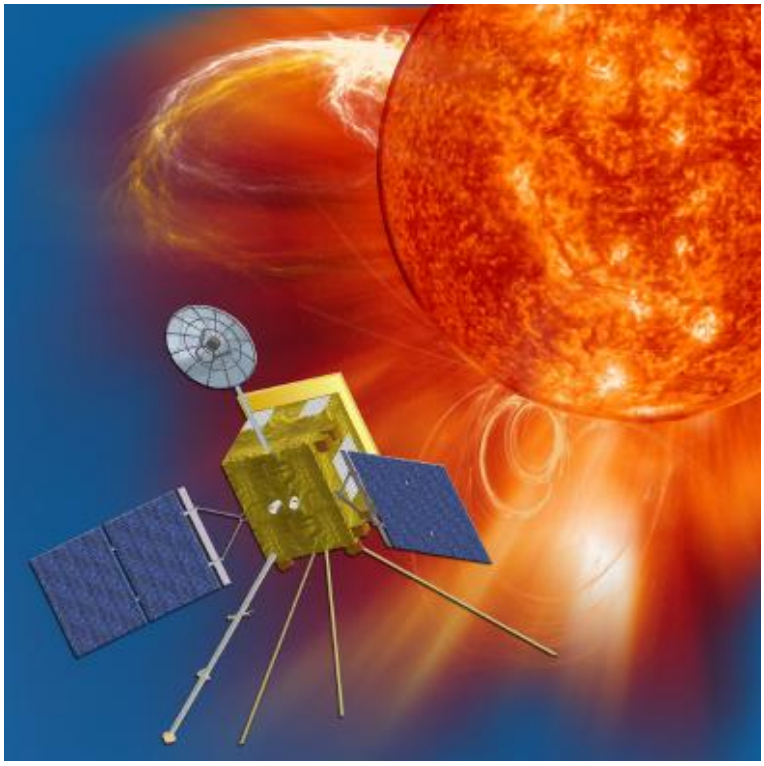
1. Solar Orbiter approved (5 Dec 2011 - 11 Dec 2011)

In October 2011, Solar Orbiter was selected by ESA as a future space mission. The launch of the spacecraft 'Solar Orbiter' is foreseen in 2017. It took more than 10 years to come from the original mission idea to being selected. Many international teams are now busy with the actual preparation of the satellite and the instruments on board. It's quite an extended and literally heavy task - the spacecraft mass is around 1800 kg. For comparison PROBA2 weights only 130 kg.



Solar Orbiter is a solar and heliospheric mission with special features. It will take the spacecraft around 3 years to cruise to its orbit around the Sun. It will take 150 days to complete an orbit, around 20 orbits are foreseen. Each orbit has 3 time windows of 10 days long each, during which Solar Orbiter will have the chance to image the Sun from close by - from closer then ever before.

Together with our Belgian, as well as British, French, German and Swiss partners, the STCE team is ready to take the challenge on building a new generation solar extreme ultraviolet imager, EUI. Ali Benmoussa, Boris Giordianengo and Samuel Gissot, took already care of the radiation testing and calibration of the prototypes of the EUI detectors. Bogdan Nicula will make sure that the hardware and software are on a speaking level with the telescope. Andrei Zhukov was involved in the EUI project from its beginning. He took care of a firm scientific base of the project. David Berghmans makes sure that the EUI science, techniques and future operations are synchronised with other instruments onboard Solar Orbiter.

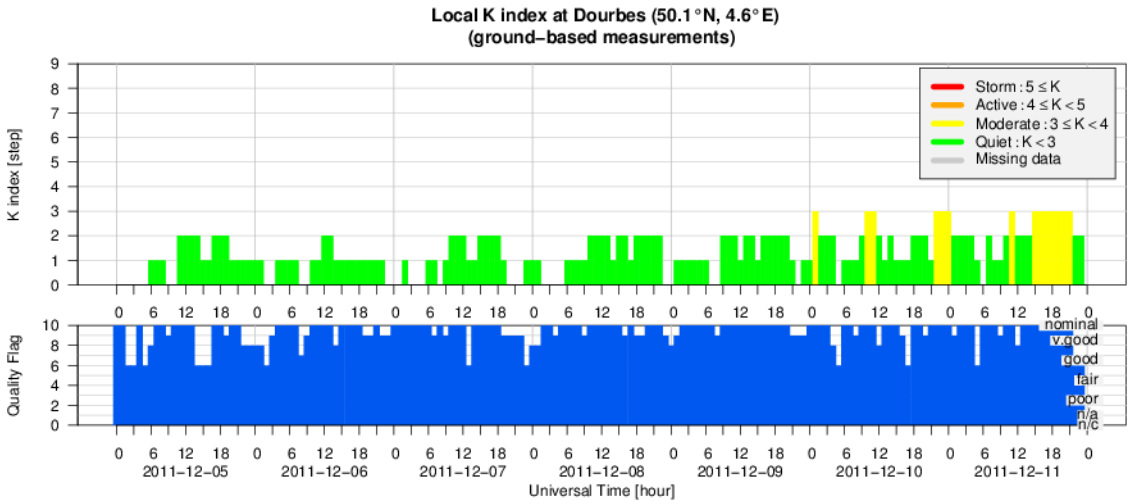
What makes EUI different from other solar imagers onboard other space missions? First of all, EUI is capable of picturing the solar poles. The poles of the Sun have never been seen before from a good perspective. Other EUI tricks: full Sun images in combination with high-resolution images up to 3.5 times better than SDO and TRACE.

With Solar Orbiter, scientists want to reveal the secrets of the solar wind. How is the solar plasma speeding up after it is ejected from the solar surface? Do we have to dig deeper into the Sun to find the origin of the solar wind? Perhaps EUI can capture the process of solar wind acceleration. It's important

to get to know the origin of the solar wind since it affects the Earth and its magnetic shielding. The solar wind is an important, maybe the most important ingredient of Space Weather. We are confident that EUI in joint observations with the other instruments on Solar Orbiter can give us a more clear scientific understanding of the solar wind.

More info about the mission and the partners can be found on http://eui.oma.be

2. Geomagnetic Observations at Dourbes (5 Dec 2011 - 11 Dec 2011)



3. Humain Observations (5 Dec 2011 - 11 Dec 2011)

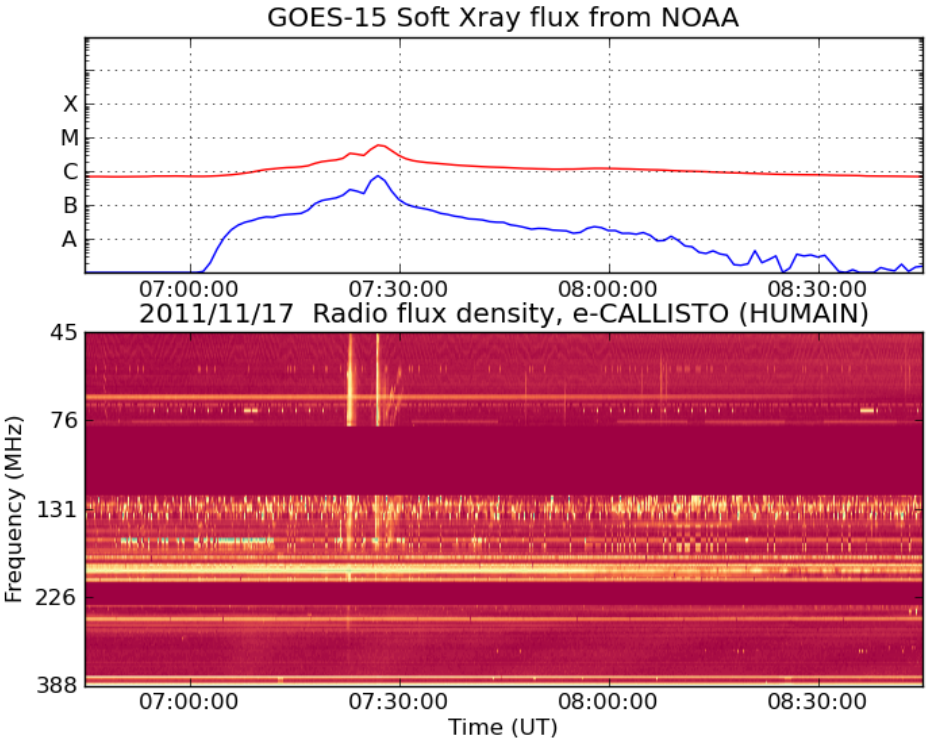
A short presentation of the Humain solar radio observations

In the solar corona, a large amount of magnetic energy is stored over periods of hours up to days by stressing the magnetic field configuration in restricted volumes, mainly within active regions. A process of rapid energy release, causing extensive plasma heating and non-thermal particle acceleration is called a solar flare. Coronal mass ejections (CMEs) are ejections of plasma confined in erupting magnetic structures, propagating from the inner solar corona into the interplanetary space.

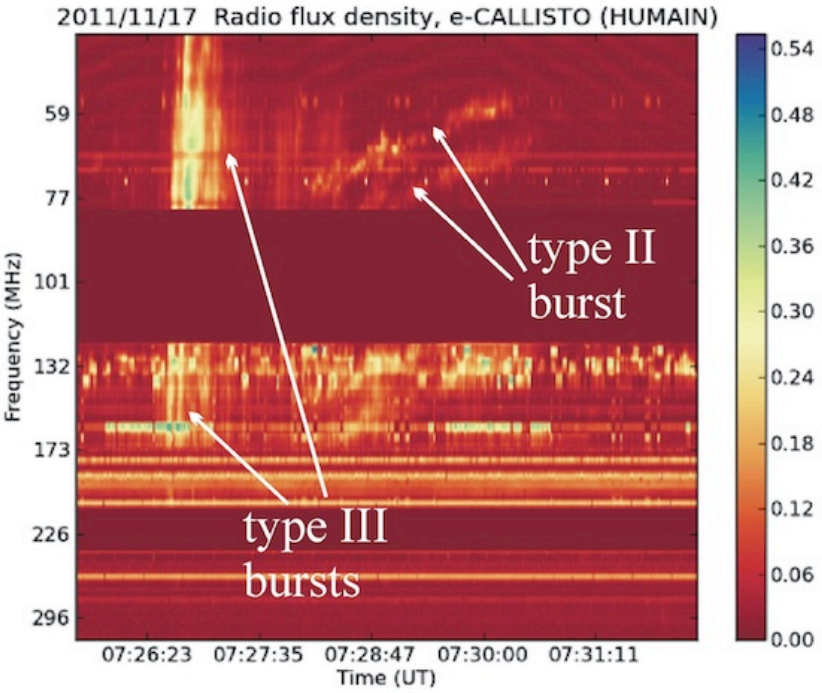
The major energy release during the flare/CME process is followed by the formation of large scale disturbances and shock waves that travel through the corona and the interplanetary space. Electrons accelerated by the propagating MHD shock waves, radiate at the local plasma frequency and/or its harmonics and can be observed in a dynamic radio spectrum as type II radio emission. Radio observations cover a broad frequency domain, and since different wavelengths correspond to different heights in the solar atmosphere, radio events can be traced from the low corona up to large distances in the interplanetary medium.

The Humain observations, which started in 2008, provide real-time information on the propagation of coronal shock waves, which can continue to the outer corona and eventually be geoeffective. More generally, these observations provide information on the different phases of solar eruptive events.

In the future, we will report here noticeable events observed with the different solar instruments operated in Humain. An example is shown here, with a event observed by the Callisto spectrograph on November 17th 2011.



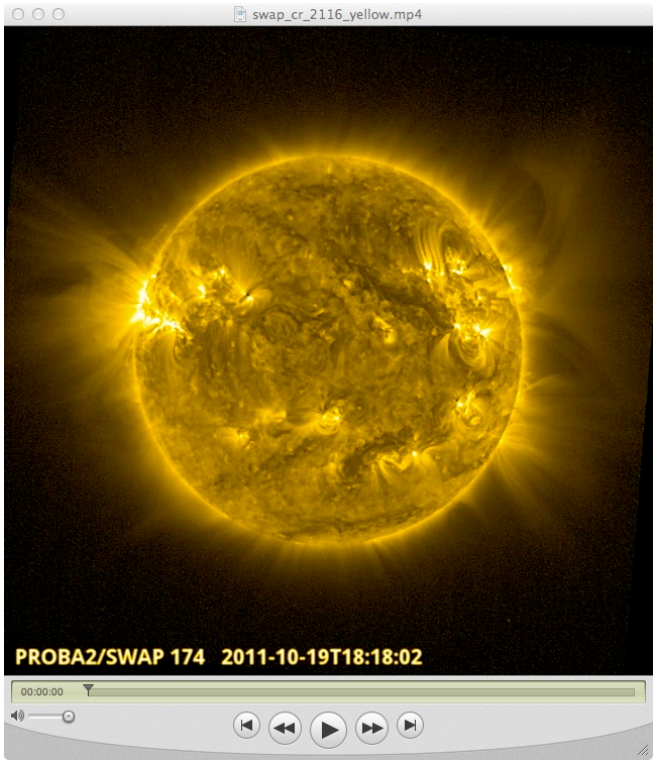
A radio spectrogram, or dynamic spectrum, is a graphical presentation of the solar radio spectrum with time. The horizontal axis represents time increasing from left to the right and the vertical axis represents frequencies (between 45 and 390 MHz).
The top panel shows the GOES light curve of the solar flare associated with the radio emission recorded by the Callisto spectrograph.



The second figure is a zoom of the same spectrogram where two types of radio bursts are marked: type II bursts (signatures of shock waves) and type III radio bursts (generated by electrons propagating along open field lines).

4. PROBA2 Observations (14 Nov 2011 - 20 Nov 2011)

We are happy to present you new movies from the SWAP EUV imager onboard the PROBA2 microsattelite. The Carrington Rotation movies are made by carefully aligning and summing up all images taken within 1 hour apart. This increases the signal to noise, especially in the far off-limb regions where SWAP brings a unique contribution. These enhanced images are then collected over a period of 27.27 days (solar rotation period as seen from the Earth) and put in a colored movie that is made available online (http://proba2.oma.be/swap/data/mpg/movies/overview.php, see swap_cr_* files).



These movies provide an exceptional view on the far off-limb corona, bridging partially the gap between on-disk imaging and coronagraph images. It shows large coronal rays, streamers and cavities. Enjoy!

5. Review of solar activity (5 Dec 2011 - 11 Dec 2011)

Solar activity was low with only a few C flares (GOES X-ray background at B level). There were up to 10 active regions present on the solar disk early in the week. The main active region was Catania#66 (NOAA 11363), of type Dki with a Beta-Gamma magnetic configuration. This region decayed over the second half of the week.

No low-latitude coronal hole was seen on the solar disk. The only noteworthy event was the eruption of a large filament in the NE quadrant of the solar disk on Dec.11, around 6:00UT.

6. Review of geomagnetic activity (5 Dec 2011 - 11 Dec 2011)

During the first 4 days of the week, the solar wind speed remained below 400 km per sec with a weak interplanetary magnetic field. This led to very quiet geomagnetic conditions.

On Dec.9, the entrance in a new heliospheric sector brought a slight increase of the interplanetary magnetic field and of solar wind speed (450 km per sec). This induced unsettled conditions during the last 3 days of the week.

7. New documents in the European Space Weather Portal Repository

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

The Space-Weather Awareness Dialogue: Findings and Outlook

Our modern technological infrastructures on the ground and in space are vulnerable to the effects of natural hazards. Of increasing concern are extreme space-weather events such as geomagnetic storms - a recurring natural hazard caused by solar activity - that can have serious impacts on space- or groundbased infrastructures such as electrical power grids, telecommunication, navigation, transport or banking. In view of the risk of catastrophic technological failure and the upcoming solar maximum expected in early 2013, the European Commission's Joint Research Centre together with the Directorate-General Enterprise and Industry organised a high-level 'Space-Weather Awareness Dialogue' in Brussels, Belgium, on 25-26 October 2011. The aim of the event was to raise awareness of the potential impact of space weather on critical infrastructures in space and on the ground, to identify scientific, operational and policy challenges for reducing the risk to susceptible critical infrastructures and services, and torecommend concrete actions to better protect them. This should address the full disaster-management cycle, including prevention, preparedness and response.The Space-Weather Awareness Dialogue brought together about 70 high-level representatives from national organisations and authorities, international organisations with assets possibly affected by space weather, operators of critical infrastructures, academia, and European Union institutions. In the course of the discussions consensus was reached on the following points:* Space weather is a threat to our critical infrastructures that needs to be addressed.* The analysis of the space-weather threat to ground-based critical infrastructure (power grid, aviation, telecommunications, etc.) is of equal importance as the study of space-based infrastructures.* There is no central entity that takes the lead in the space-weather community.* The assessment of space-weather impact on critical infrastructures requires a multidisciplinary effort from all stakeholders (scientists, engineers, infrastructure operators, policy makers).* Ageing satellites that monitor space weather need to be replaced.* A framework for better structured communication between the stakeholders is required.* Open space-weather data sharing is necessary for improving early warning and impact models.* While there is some preparedness for normal space weather in some infrastructure sectors, nobody is fully prepared for extreme events.* The topic of space-weather impacts would benefit from cross-sectoral discussion.* Emergency exercises could help raise awareness of space-weather impact.* International cooperation is required to cope with the problem as response capabilities may be beyond the capacity of individual countries.With respect to the many facets of the threat of space weather the JRC will continue and enhance its coordinating efforts and scientific activities.Link: http://ipsc.jrc.ec.europa.eu/index.php/Space-Weather-Awareness-Dialogue/710/0/
http://www.spaceweather.eu/en/repository/show?id=171

ESWW8, session 5: The Next Generation Space Environment Information System (SPENVIS)

Presented on December 2, 2011 at 8th European Space Weather Week in Session 5 (Innovations in Space Weather Services and Applications).The Space Environment Information System (SPENVIS) had been under continual development since 1996 for ESA by BIRA, providing the world community with an on-line resource for evaluating the space environment. SPENVIS-4 (www.spenvis.oma.be) is a World Wide Web based interface to a comprehensive set of models of the space environment. It has been operational for more than ten years now and has a mature international user community of about 2000 registered users who use the system for various purposes, e.g. mission analysis and planning, educational support, and running models for scientific applications. Within the ESA/GSTP-5 programme, funding has been provided for the development of a next generation of this resource. The informatics technology available today has evolved considerably from what was state of the art in 1995, where web servers were limited to basic html pages and cgi-scripts. Within the scope of this development the

framework and models of the SPENVIS system will be reviewed, restructured and reengineered using current web design techniques and programming methodologies, providing a new, extensible and open framework for the integration of current and future space environment models.Distributed architectures for space data analysis and collaborative engineering have been investigated through several ESA activities (SAAPS, SEDAT, VISPANET, SEPEM, REST-SIM) from which potential requirements and solutions for the SPENVIS-5 project may emerge. The advantages of a distributed approach are that the resources are acquired, developed and maintained at an "expert centre" where the competences and necessary supporting facilities reside and are available as needed by a "coordination node" in response to end-user needs and in compliance with any access restrictions that may apply. The new system is foreseen to be operated in the context of ESA's SSA programme.Links:http://www.stce.be/esww8/http://space-env.esa.int/http://www.spenvis.oma.be/
http://www.spaceweather.eu/en/repository/show?id=172

8. Future Events

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

National Radio Science Meeting

Start : 2012-01-04 - End : 2012-01-07
This open scientific meeting is sponsored by the U.S. National Committee (USNC) of the International Union of Radio Science (URSI). The USNC-URSI is appointed by the National Research Council of The National Academies and represents U.S. radio scientists in URSI. The meeting is held in cooperation with the following IEEE organizations: Antennas and Propagation Society, Circuits and Systems Society, Communications Society, Electromagnetic Compatibility Society, Geoscience and Remote Sensing Society, Information Theory Society, Instrumentation and Measurement Society, Microwave Theory and Techniques Society, and Nuclear Science Society. Papers on any topic in the interest area of a Commission are welcome. Contact the Commission Chairperson or visit the web site for further information. Website: http://www.nrsmboulder.org/

6th CCMC Community Workshop in Key Largo, Florida (USA)

Start : 2012-01-16 - End : 2012-01-20
Biennial CCMC community workshops are designed as opportunities for an in-depth exchange of experiences, opinions and needs between model owners, science and operational users, agency representatives and the CCMC staff. Website: http://ccmc.gsfc.nasa.gov/12workshop/index.php

2nd Nagoya Workshop on the Relationship between Solar Activity and Climate Changes

Start : 2012-01-16 - End : 2012-01-17
This Workshop aims to promote the interdisciplinary discussion about topics related to the relationship between solar activity and terrestrial climate variability. It covers the long-term change in the Sun, and its direct and indirect influences upon the heliosphere and the Earth, including the atmosphere and climate. The Workshop consists of invited talks by distinguished speakers, contributed talks, and panel discussions. The deadline of registration and abstract submission is 16th December, 2011. We welcome anyone who is interested in any topics on solar activity and climate changes. Link: http://www.stelab.nagoya-u.ac.jp/eng/news/2011/09/workshop-16-17-jan-2012.php

From the Heliosphere into the Sun in Physikzentrum Bad Honnef, Germany

Start : 2012-01-31 - End : 2012-02-03
This meeting is dedicated to the processes in the solar wind and corona in the light of the upcoming Solar Orbiter mission. Over the last three decades there has been astonishing progress in our understanding of the solar corona and the inner heliosphere driven by remote-sensing and in-situ observations. This period of time has seen the first high-resolution X-ray and EUV observations of the corona and the first detailed measurements of the ion and electron velocity distribution functions in the inner heliosphere.

Today we know that we have to treat the corona and the wind as one single object, which calls for a mission that is fully designed to investigate the interwoven processes all the way from the solar surface to the heliosphere. Website: http://www.mps.mpg.de/meetings/heliocorona/

SWIFF1-CPA20, Plasma Astrophysics, acquired knowledge and future perspectives in Leuven, Belgium

Start : 2012-02-20 - End : 2012-02-24

This meeting will combine a historic overview on (Flemish) scientific achievements made in plasma-astrophysics, together with a state-of-the-art, international viewpoint on modern algorithmic developments for space plasmas. The meeting intentionally coincides with celebrating the 20 year existence of the Centre for Plasma Astrophysics (Department of Mathematics, K.U.Leuven), along with the upcoming emeritus status of its founder, Prof. Marcel Goossens. At the same time, the first annual progress meeting of the FP7-project SWIFF (space weather integrated forecasting framework), coordinated by Prof. Giovanni Lapenta, will provide the most updated account of modern, algorithmic-computationally driven research efforts in space plasma modeling. The weeklong event will serve to survey acquired knowledge, identify modern challenges barely researched by theoretical approaches, and stimulate new collaborations on both historic as well as contemporary open questions.The meeting objective is to, on the one hand, present the space weather integrated forecasting framework (SWIFF) progress to the wider scientific community, and provide an opportunity for cross-fertilization of related international efforts on multi-physics modeling. As ongoing FP7 project, its annual meeting allows to present the first achieved milestones to scientific peers. Part of the programme will be filled in through an open call for also project-external contributions, and the remainder will concentrate on the achievements in the various work packages. The final two days shift the objective from future developments to acquired knowledge and achievements made as a result of 20 years of Centre for Plasma Astrophysics (K.U.Leuven) initiated research, ending with an international tribute to its founder. In the last two days, we foresee a programme of invited international speakers whose research has benefitted from K.U.Leuven collaborations, along with a contemporary contribution from current staff members. Website: https://wis.kuleuven.be/cpa/SWIFF1-CPA20/

SDO-4/IRIS/Hinode Workshop: 'Dynamics and energetics of the coupled solar atmosphere', in Monterey, CA.

Start : 2012-03-12 - End : 2012-03-16

An overarching theme of the meeting is to cover how different regions in the solar atmosphere are coupled, with a particular focus on the chromosphere, the region where most of the non-thermal energy in the solar atmosphere is deposited. The meeting will focus on quiescence, i.e., the non-flaring, non-eruptive state of the atmosphere in coronal holes, quiet Sun and active regions.The major goals of this meeting are:

* Provide an overview of recent insights in how different regions in the solar atmosphere are coupled and energized with a focus on how magnetic flux, mass and energy are transported through the atmosphere. This will be done by confronting recent advanced numerical models with state-of-the-art high resolution observations.
* Provide the community with an overview of outstanding challenges, such as the heating of the chromosphere, its connection to the corona, the role and interpretation of chromospheric magnetism in revealing the connectivity and energy deposition in the low solar atmosphere, and the relative role of waves and braiding in the heating of coronal plasma.
* Prepare the community to fully exploit the novel diagnostic capabilities that will be provided by future missions such as the Interface Region Imaging Spectrograph (IRIS) small explorer, due for launch in late 2012, ESA's Solar Orbiter, or Japan's Solar C mission. This will be done in part by providing tutorial and discussion sessions on optically thick chromospheric diagnostics (including spectropolarimetry) which are a major part of the diagnostic capabilities of both missions, and in part by illustrations of how detailed comparisons between synthetic observables from numerical models and observations lead to physical insights.

Website : http://sdo4.lws-sdo-workshops.org/

Spectroscopy of the Dynamic Sun

Start : 2012-04-18 - End : 2012-04-20

We are hosting a conference celebrating the careers of Prof. George Doschek from NRL and Prof. Tetsuya Watanabe from NAOJ focussing on the topic of Spectroscopy of the Dynamic Sun.George Doschek has played a major part in space solar spectroscopy for many decades. Following a key role in exploiting Skylab data, he made huge contributions to the design and build of instruments on board the P78-1, Yohkoh and Hinode missions, being US PI for the Hinode EIS. His knowledge of spectroscopy is recognized and respected internationally and he has published very many papers on high temperature solar plasmas.Tetsuya Watanabe is a leading spectroscopist in Japan. Following work with stellar atmospheres, he has been involved from the start of Japanese space solar physics with significant roles in the Bragg spectrometers the Tansei 4, Hinotori and Yohkoh missions. He is Japanese PI for Hinode EIS. He has published extensively on solar X-ray and EUV spectra.This conference will focus on recent results using spectroscopy to probe fundamental questions in solar physics. Website: http://msslxr.mssl.ucl.ac.uk:8080/SolarB/spectrosun/index.jsp

EGU General Assembly in Vienna, Austria

Start : 2012-04-22 - End : 2012-04-27

The EGU General Assembly 2012 will bring together geoscientists from all over the world into one meeting covering all disciplines of the Earth, Planetary and Space Sciences. Especially for young scientists the EGU appeals to provide a forum to present their work and discuss their ideas with experts in all fields of geosciences. The EGU is looking forward to cordially welcome you in Vienna. Website : http://meetings.copernicus.org/egu2012/

26th NSO Workshop: 'Solar Origins of Space Weather and Space Climate: Connecting the Interior to the Corona'

Start : 2012-04-30 - End : 2012-05-04

As the impact of space weather and climate on daily life is becoming more important, it is timely to discuss the latest reseach on the solar origin of these phenomena. Recent advances in helioseismology have demonstrated that subsurface dynamics are closely associated with aspects of solar activity from the long-term timing of the solar cycle to the short-term eruption of solar flares. The advent of synoptic vector magnetic field measurements is opening up a new path for research on active regions, flares and CME's. Coronal magnetic field measurements should become available in the next 5-10 years, supplying another physical constrain on space weather events. Website: http://www.nso.edu/general/workshops/2012/

HELAS-5: The Modern Era of Helio- and Asteroseismology

Start : 2012-05-20 - End : 2012-05-25

Helioseismology and asteroseismology are the only means to investigate the interior of the Sun and stars. They are crucial for understanding the structure and evolution of stars, which produce all chemical elements in the universe heavier than helium, and which host and influence planets which may carry life. Understanding the physics of the Sun's interior is essential for understanding the solar dynamo and consequently for predicting solar magnetic activity, which has a severe impact on the operation of space missions. Understanding the interior of the stars is essential for understanding those astronomical objects that host and influence planets. With the suite of the latest instruments and missions, e.g. BiSON, GONG, SOHO, SDO, Hinode and Picard for solar exploration and MOST, CoRoT, Kepler, BRITE, SONG for stellar and exoplanetary research, the precision on the seismically determined quantities, e.g. flows in the solar interior or the ages and radii of stars will be greatly improved. This will allow creating new knowledge in solar physics and astrophysics and therefore makes the proposed conference particularly timely. Website: http://www.esf.org/index.php?id=9140

Workshop on Coronal Magnetism at Boulder, Colorado (USA)

Start : 2012-05-21 - End : 2012-05-23

The purpose of this workshop is to foster the development of tools to interpret current and future measurements of coronal magnetic fields in order to improve our understanding of the Sun and the sources of Space Weather. This is motivated by the anticipated rapid growth over the next decade in our remote sensing capabilities of the coronal plasma. These new capabilities can only be exploited with improvements in our ability to model the polarized radiative transfer through the coronal plasma and by coupling information on the coronal magnetic field and plasma conditions with models extending to the near Earth environment.This workshop will include a wide variety of subjects including, but not limited to, instrumentation, the interpretation of polarimetric signals in EUV and UV emission lines, techniques to mitigate the effects of line-of-sight integration effects of the optically thin corona such as tomographic inversions and forward modeling, models of the polarized radiative transfer at radio wavelengths, extrapolation and MHD modeling of coronal magnetic fields, as well as discussions on how to move forward with coupling these inferences of the coronal plasma with models of heliospheric structure and Space Weather prediction. Website : http://www.hao.ucar.edu/CoronalMagnetismWorkshop/index.php

Heliophysics Summer School in Boulder, Colorado

Start : 2012-05-31 - End : 2012-06-07

The 2012 Heliophysics Summer School will focus on the science underlying current and future heliophysical missions, including but not limited to MMS, Themis, RBSP, IRIS, SDO, and Solar Probe Plus. After providing students with broad overviews of the solar atmosphere, the solar wind, the Earth's magnetosphere, and ionosphere, the course will cover the basic concepts and unanswered questions pertaining to magnetic reconnection, shocks, plasma instabilities, turbulence, and heating, and the manner in which these concepts and questions affect our understanding of phenomena such as substorms, radiation belt and chromospheric dynamics, solar wind turbulence and particle heating, and heliospheric shocks. Link: http://www.vsp.ucar.edu/Heliophysics/summer-about-over.shtml

Los Alamos Space Weather Summer School

Start : 2012-06-04 - End : 2012-07-27

The Los Alamos National Laboratory established a summer school in 2011 dedicated to space weather, space science and applications. Every year we solicit applications for the Los Alamos Space Weather Summer School. This summer school is sponsored by IGPP (Institute of Geophysics and Planetary Physics) and PADSTE (Principal Associate Directorate for Science, Technology and Engineering), and PADGS (Principal Associate Directorate for Global Security) and has been established to bring together top space science students with internationally recognized researchers at LANL. Website : http://www.swx-school.lanl.gov/

First European School on: Fundamental processes in Space Weather in Spineto, Italy

Start : 2012-06-04 - End : 2012-06-09

The Space Weather Integrated Forecasting Framework network (http://www.swiff.eu) organizes in June 2012 the "First European School on Fundamental processes in space weather, a challenge in numerical modeling". The School will focus on the theoretical study of Space plasmas, in particular on those systems where a continuous energy injection flow leads to a self-consistent coupling of the large scale, low frequency motions with the small scale, high frequency fluctuations including kinetic effects. Progress in this field heavily relies on numerical simulations that, as a matter of fact, are nowadays more similar to laboratory experiments than to theoretical exercises. This is true in terms of planning efforts in the preparatory phase, of manpower required, of data analysis and cost. The understanding of these processes represents a fundamental step for the future of Space Weather models. Website : http://www.df.unipi.it/~califano/SWIFF_School/EU_School_on_Space_Weather_fundamental_plasma_processes.html

Space Weather Effects on Humans: in Space and on Earth in Moscow, Russia

Start : 2012-06-04 - End : 2012-06-08

During the last thirty years there has been steady progress in our understanding of the influence that space weather has on the state of human health both in Space and at Earth. This development is mainly based on research conducted on humans onboard space stations and spacecrafts, as well as on ground based observations and experimental studies simulating conditions in space. This interdisciplinary field of research requires a wide exchange of expertise in various topics. Only with a global approach it will be possible to establish a mutual understanding, in regard to defining the current state of this research problem as well as identifying what should be pursued in future research activities. Website: http://swh2012.cosmos.ru/

Solar Wind 13

Start : 2012-06-17 - End : 2012-06-22
The Thirteenth International Solar Wind Conference, organized by the University of Alabama in Huntsville's Center of Space Plasma and Aeronomic Research (CSPAR) and the the University of California, Berkeley's Space Sciences Laboratory, will take place at Sheraton Keauhou Resort on Big Island, Hawaii, USA, from 17 to 22 June 2012. Please note that scientific sessions will start on Monday 18 June.The conference will conform to the traditional solar wind themes, addressing the current state of knowledge in the relevant fields of solar and heliospheric physics. In particular, the conference will focus on the physics of the corona, the origin and acceleration of the solar wind, its dynamical interactions throughout the heliosphere and the interstellar medium and its boundaries. The program will be composed of both invited lectures and contributed talks and posters. Website: http://www.sw13.org/

Solar Information Processing Workshop (SIPWork VI), at Montana State University, Bozeman

Start : 2012-06-25 - End : 2012-06-29
You will have a noticed the slight re-branding of these workshops from ‘Image’ to ‘Information’ processing. We think it is time to expand the attention of these workshops to discuss more generally how information about the Sun can be derived, stored, shared, transformed and analyzed using appropriate techniques from many other disciplines. We will still be covering image processing and computer vision techniques applied to solar physics, but we will also be including other topics such as machine learning, data mining and new computing strategies. The re-branding simply acknowledges and makes explicit what the community has been doing to determine the physics of the Sun. Link: http://www.sipwork.org/

European Week of Astronomy and Space Science in Rome, Italy

Start : 2012-07-01 - End : 2012-07-06
We have the pleasure to invite you in July 2012 to attend the European Week of Astronomy and Space Science, the now classical Ewass meeting, formely known as Jenam. In 2012, the meeting will take place in Rome, Italy, at the Pontificia Università Lateranense. Link: http://www.ifsi-roma.inaf.it/ewass2012/

BUKS2012 in Fodele Beach, Crete, Greece

Start : 2012-07-04 - End : 2012-07-07
The Sun is the most important astronomical object for humankind with solar activity having a direct impact on Earth. From a fundamental point of view the Sun offers an exceptional physics laboratory where the interactions of the astrophysical plasma and the magnetic field can be studied in detail.The BUKS workshops on MHD waves and oscillations of the solar atmosphere is organised by the following research groups from Belgium, Spain and the UK:BUKS2012 will also honour the contributions of Prof Marcel Goossens to the field of MHD waves and offer an opportunity to celebrate his 65th birthday. Website : https://habu.pst.qub.ac.uk/groups/buks2012/

39th COSPAR Scientific Assembly

Start : 2012-07-14 - End : 2012-07-22
The 39th COSPAR Scientific Assembly will be held at the Global Education Centre, 2 Infosys Training Centre Mysore, Karnataka India from 14 - 22 July 2012. This Assembly is open to all bona fide scientists. Website: http://www.cospar-assembly.org/

XXVIII IAU General Assembly

Start : 2012-08-20 - End : 2012-08-31
Website: http://iau.org/science/meetings/future/general_assemblies/812/

Eclipse on the Coral Sea: Cycle 24 Ascending

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/

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