STCE Newsletter

28 Jan 2013 - 3 Feb 2013

Published by the STCE - this issue : 7 Feb 2013. 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. Coronal cathedral (28 Jan 2013 - 3 Feb 2013)

An interesting region in the solar corona appeared over the southeast solar limb starting 1 February.

The movie (http://www.youtube.com/watch?v=xJEBiSWmeHg), running from 1 till 4 February, starts by showing an overview of the solar corona (SDO/AIA171 - http://sdo.gsfc.nasa.gov/). Then follows a clip combining SDO/AIA304 and wide-field PROBA2/SWAP174 imagery (http://proba2.oma.be/ssa) of the whole Sun, thus providing a simultaneous view of the relatively cool plasma of prominences and the solar transition region ("reddish") and the much hotter plasma in the corona ("yellow"). The movie ends with a zoom on the region of interest.

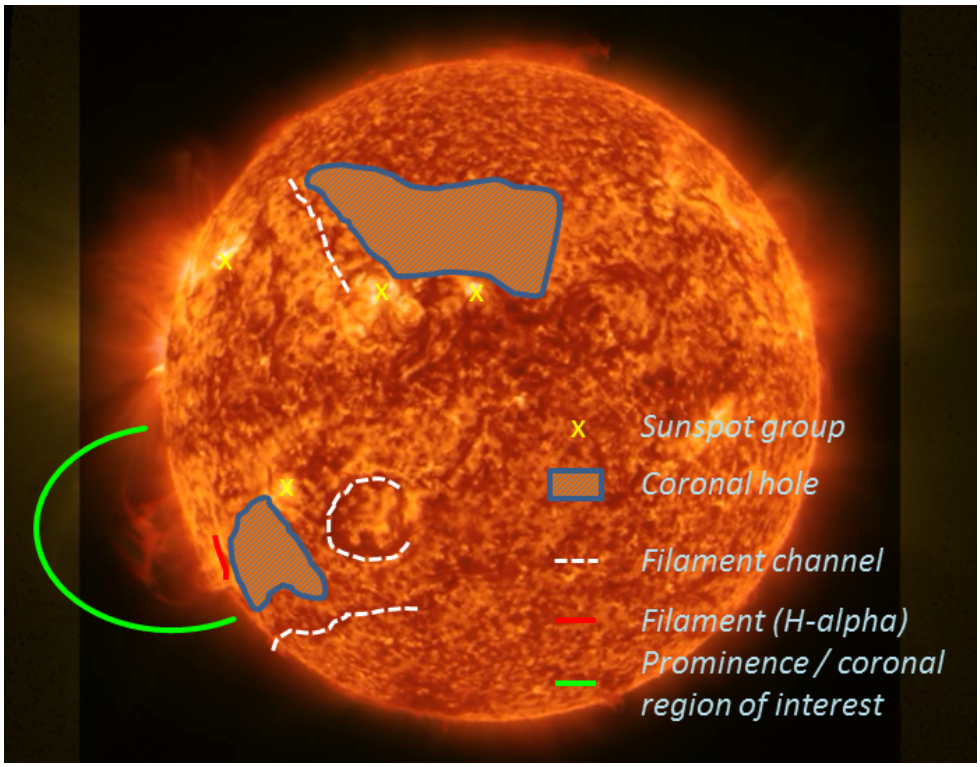
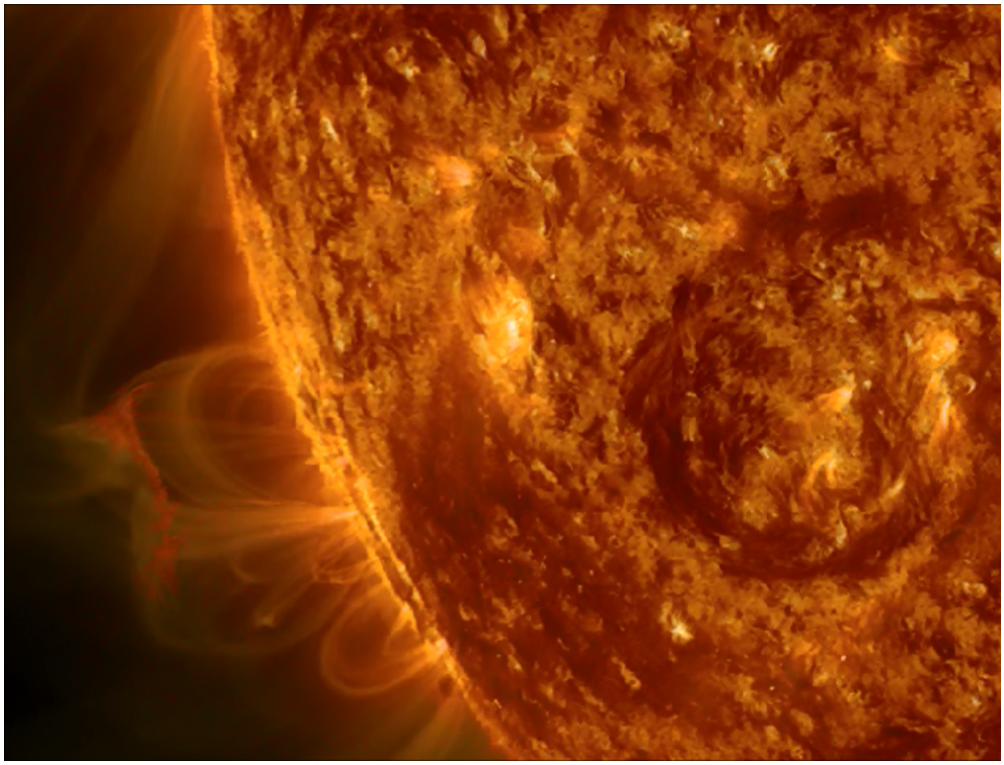


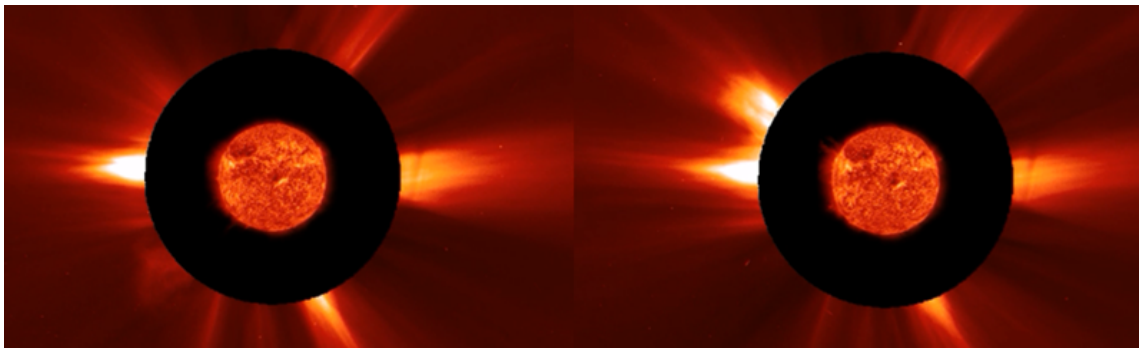
Image above is taken from the SDO/PROBA2 combo clip, and sketches the situation on the Sun as viewed in the afternoon of 2 February. There are 2 coronal holes present, one on each hemisphere. They are accompanied by one or more filament channels (white dashed). In the chromosphere (H-alpha), these channels are not very clearly visible, but in the somewhat hotter transition region they can be seen well. The northern channel and the C-shaped channel are the scars of filament eruptions from 31 January. The filament to the south of the southern coronal hole erupted on 3-4 February (overnight), though also in this case hardly any material could be seen in the chromosphere.
The region of interest is indicated in green on the sketch, and concerns a complex coronal structure. This region is not associated to sunspot groups, with only facular fields visible in white light. As it rounds the east limb, it seems to interact with filaments to the east of the southern coronal hole, and with active regions on the northern hemisphere. This multipolar coronal structure reminds somewhat of the pillars and arches in a cathedral, though obviously not as symmetric and much more dynamical!
The last clip combines AIA304 (cool, "reddish") with AIA171 (hot, "yellow") imagery. By analyzing these images in their respective wavelengths, STCE-scientists found that some of the structures in AIA304 correspond to nearly similar structures in AIA171. This means that even in one wavelength like e.g. 17.1 nm, some cooler (0.5 million degrees and maybe even less) material is overlapping with hotter (1 million degrees) loops, creating an even more complex architecture.



2. Review of solar activity (28 Jan 2013 - 3 Feb 2013)

Four sunspot groups contributed to flaring activity reaching the C-level: Catania 70 (NOAA 1660) with one C-flare on 28 January, Catania 75 (NOAA 1663) with also one C-flare on 31 January, Catania 78 (NOAA 1665) with a C-flare on 2 February and one on 3 February, and -last but not least- Catania 79 (NOAA 1667), holding the title of most flare-productive group of the week with four C-flares: one on 2 February and three the day after.
The magnetic configuration of these active regions was not impressive, with only NOAA 1665 showing some magnetic movement.

The highlights of this week were two filament eruptions on 31 January. Both were accompanied by a coronal mass ejection (CME), but only the first one seemed somewhat directed towards Earth. The plasma cloud came into the LASCO-C2 field-of-view at 06:36UT. CACTus, a software to automatically detect CMEs in imagery made by the LASCO-coronagraph, estimated it to have a speed of 543 km/s and an angular width of 182° (http://sidc.oma.be/cactus/catalog/LASCO/2_5_0/qkl/2013/01/CME0126/CME.html). So, this CME could have caused a glancing blow, but no obvious disturbances in the solar wind that could be attributed to this CME, were recorded.
Both filament eruptions and CMEs can be seen in this movie made from SDO/AIA304 and SOHO/LASCO-C2 imagery (http://www.youtube.com/watch?v=Ut1WtXIQozA), as well as in the movie stills underneath (resp. at the lower left and upper left).



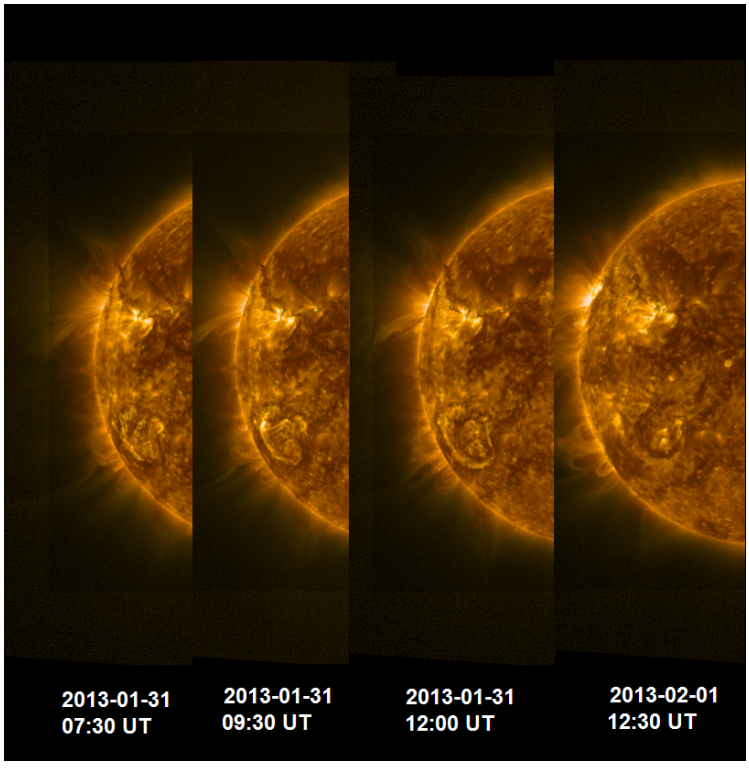
A small equatorial coronal hole reached the central meridian on 30 January. A large coronal hole, although with a high latitude in the northern hemisphere, reached the central meridian on 1 February.

3. PROBA2 Observations (28 Jan 2013 - 3 Feb 2013)

It was a very calm week on the Sun, with 17 B class flares and 8 C class flares, and active regions NOAA 1665 and 1667 being most active.

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.

A weekly overview movie can be found here (SWAP174/AIA304 combination; HelioViewer.org).
Details about some of the events in this movie can be found further below.
1. Eruption in active region NOAA 1650 on Thursday 31 January, creating interesting EIT wave/dimming.

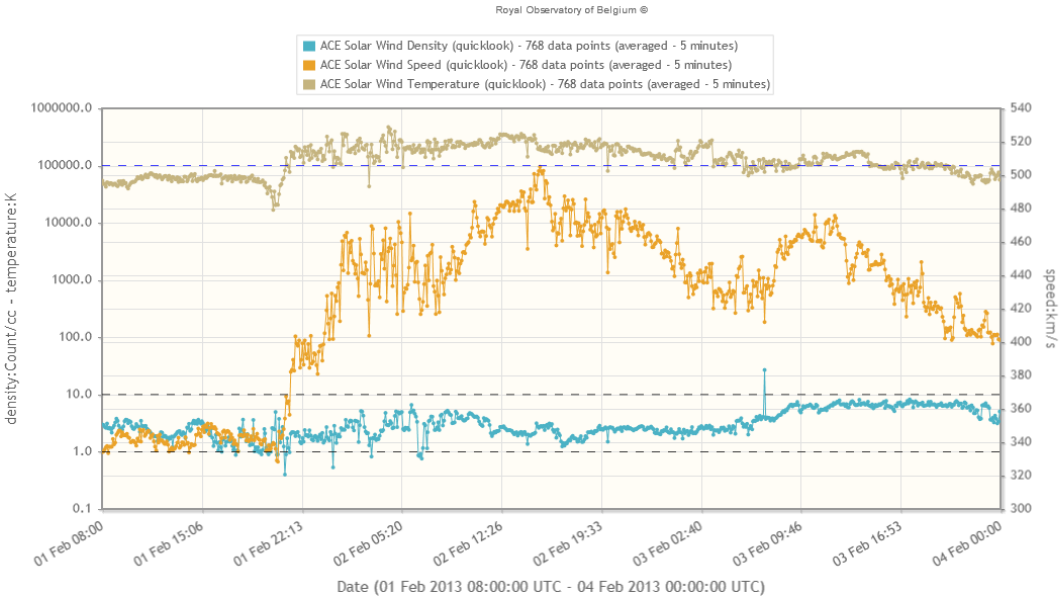


SWAP SDO Prominence image.

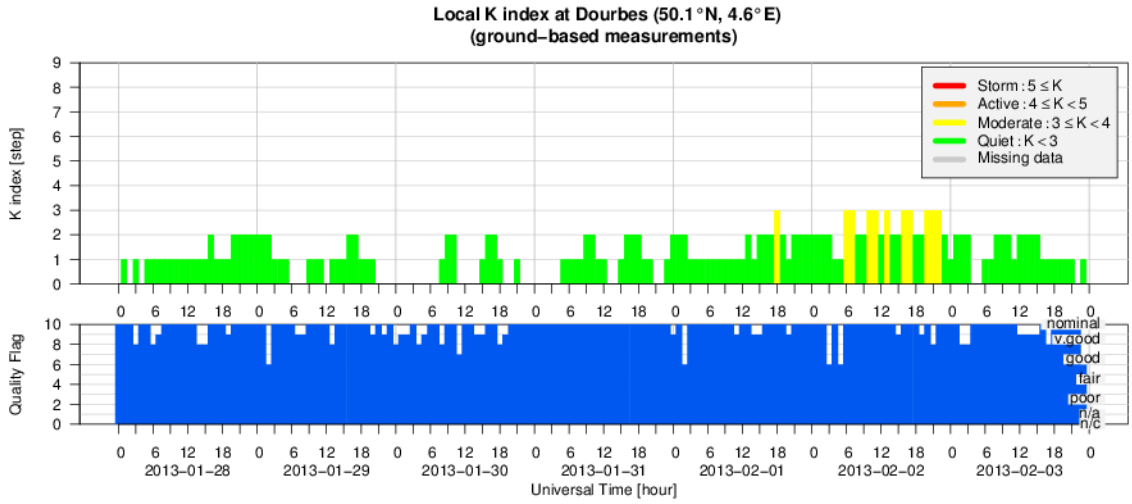
4. Review of geomagnetic activity (28 Jan 2013 - 3 Feb 2013)

The solar wind measurements by the ACE-spacecraft located at the L1-point, i.e. just before the wind blows over the Earth's magnetosphere, show a coronal hole signature on 2 February. This solar wind variation is probably associated with the small equatorial coronal hole. The geomagnetic consequences were limited: the local K-index in Dourbes reached only 3.

The changes in the solar wind parameters on 3 February are probably not linked to the filament that erupted in the morning of 31 January. The small density increase can as easily be attributed to an inhomogeneity in the slow wind flow, and the temperature did not really go to low values. The correlation between the wind speed and temperature point into the direction of a normal (quiescent) solar wind.



5. Geomagnetic Observations at Dourbes (28 Jan 2013 - 3 Feb 2013)



6. New documents in the European Space Weather Portal Repository

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

Panel on Space Weather: report 2004

http://www.spaceweather.eu/en/repository/show?id=414

Panel on Space Weather: report 2006

http://www.spaceweather.eu/en/repository/show?id=415

Panel on Space Weather: report 2008

http://www.spaceweather.eu/en/repository/show?id=416

Panel on Space Weather: report 2010

http://www.spaceweather.eu/en/repository/show?id=417

Panel on Space Weather: report 2012

http://www.spaceweather.eu/en/repository/show?id=418

ESWW9-splinter: Ionospheric Effects Working Group Splinter Meeting

http://www.spaceweather.eu/en/repository/show?id=407

ESWW9-splinter: Atmospheric Effects

ESWW9 Splinter wrap up of the SWWT topical group 'Atmospheric Effects'.
http://www.spaceweather.eu/en/repository/show?id=411

eHEROES - Sources of CME Material - Presentation to Solar Orbiter 5 Workshop

Mass Estimates of Rapidly-moving Prominence Material We present a new method for estimating the column mass (the mass contained within a pixel) of non-fully ionised hydrogen and helium (H I, He I and He II) using the properties of the bound-free photo-absorption cross section at multiple wavelengths. Until now, such estimates have not been reliable with imaging-only techniques, but the near-simultaneity of the images taken by the Solar Dynamics Observatory Advanced Imaging Assembly means that we can now estimate the opacity due to erupting filament material that passes through a previously unobscured patch of Sun. To test this idea, we use data from the spectacular filament eruption that was seen on 2011 June 07, when visual inspection of the erupting material indicated that the material returning to the Sun’s surface was highly opaque. The best-fit maps column density and filling factor reveal both high hydrogen column densities in the centre of this test blob, in line with the higher end of measurements previously made, and suggest that the filling factor of this material approaches unity. The technique converges quickly and we plan to extend it to measuring both the full filament mass and the mass of non-erupting filaments on the Sun.
http://www.spaceweather.eu/en/repository/show?id=420

eHEROES - Junior College: De Zon, ruimteweer en PROBA2

Presentation given at the kick-off of Junior College in Leuven on January 8, 2013 - 200 students - and January 10, 2013 - 80 students. Junior College is an interdisciplinary educational project in Belgium (Flanders), organized by the University of Leuven (KU Leuven). It provides a challenging program to high school students in their last year of high school. The aim is to create a create a first bridge between high school and university and to spark their interest in science. The lecture fits in the frame of eHEROES, an FP7 project that incorporates a work package 'dissemination'. The STCE is a partner within the eHEROES project.

http://www.spaceweather.eu/en/repository/show?id=421

eHEROES - Jr College: De Zon, het weer en PROBA2

Presentation given at the kick-off of Junior College in Kortrijk on January 8, 2013 and January 10, 2013, each time for 100 students. Junior College is an interdisciplinary educational project in Belgium (Flanders), organized by the University of Leuven (KU Leuven). It provides a challenging program to high school students in their last year of high school. The aim is to create a create a first bridge between high school and university and to spark their interest in science. The lecture fits in the frame of eHEROES, an FP7 project that incorporates a work package 'dissemination'. The STCE is a partner within the eHEROES project.
http://www.spaceweather.eu/en/repository/show?id=422

7. Future Events

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

AFFECTS User Workshop in Brussels, Belgium

Start : 2013-02-28 - End : 2013-02-28
On February 28th, 2013 the AFFECTS team organises an international user workshop at the Royal Observatory of Belgium in Brussels.
At the workshop there will be a demonstration of all AFFECTS space weather products:
* Near real time dimming and EIT wave detection
* 3D CME analysis tool
* Coronal analysis tool
* CME & solar wind arrival and impact forecast tool
* Flare, CME , geomagnetic, auroral, ionospheric forecasts & alerts
* Forecast of perturbed TEC
* Solar activity and space weather timelines viewer
To register, please send an e-mail incl. your full name, institution, e-mail and (institutional) address to .
DÃ¶rte Dannemann
Website:
http://www.affects-fp7.eu/news-events/user-ws/

9th GEANT4 space users' workshop in Barcelona, Spain

Start : 2013-03-04 - End : 2013-03-06
Geant4 Space Users' Workshop -G4SUW- is focused on new results on space radiation interaction with components, sensors and shielding analysis, as well as on Geant4-based tools and developments applicable to space missions.
The Geant4 particle transport toolkit is jointly developed by a world-wide collaboration and is intended for a wide range of applications in HEP, medical field, and space physics and engineering. In recent years, space and astrophysics has become a significant user category, with applications ranging from instrument and detector response verification to space radiation shielding optimization, component effects, support of scientific studies, and analysis of biological effects.
Main topics for next G4SUW will include:
* Single Event Effects (SEE) simulation.Geant4-TCAD coupling.
* Microdosimetry.
* Planetary exploration applications.
* Space electronics and science detectors.
* Simulation of astronaut radiation hazards.
* Interfaces and tools to space environment analysis tools such as SPENVIS.
* Cosmic ray magnetospheric propagation analysis.
* Large-scale simulations requiring event biasing and/or GRID capabilities.
* General shielding optimization applications.

Website:
http://www.inta.es/g4suw2013/index.html

Space Weather Workshop: 'Effects on Aviation - Building a proportionate response in Europe' in KÃ¶ln, Germany

Start : 2013-03-20 - End : 2013-03-20
The Sun goes through a periodic rise and fall in activity and solar cycles vary in length from 9 to 14 years. Solar maximum or solar max is a normal period of greatest solar activity in the cycle. Recent projections say the next solar max should arrive in the last half of 2013.
For aviation, disturbed ionosphere currents during geomagnetic storms can be the cause of considerable communications and navigation problems. There are measures that can be taken to reduce the risk of aviation infrastructure failures during geomagnetic disturbances.
This workshop, jointly organised by EUROCONTROL and the European Aviation Safety Agency (EASA), is to help aviation, manage the safety risk, increase awareness of the effects and elaborate on possible mitigation actions.
Target audience are representatives of airlines, air navigation service providers (ANSPs), Civil Aviation Authorities (CAAs), airports, military and original equipment manufacturers (OEMs). Through bringing together speakers who are premier specialists in the field from airlines, pilots, ANSPs, research organizations etc.
The workshop will identify priorities, share knowledge and encourage cooperation and harmonisation.
Website:
http://www.eurocontrol.int/events/space-weather-workshop

1st Solar Probe Plus Workshop in Pasadena, CA (USA)

Start : 2013-03-26 - End : 2013-03-29
The first Solar Probe Plus Workshop will take place at the Beckman Institute auditorium, California Institute of Technology, Pasadena, from March 26th to 29th, 2013. SPP1 will introduce the Heliophysics community to the mission and prepare for the exciting discoveries that the Solar Probe Plus mission will make. The Workshop will explore the scientific objectives of the Solar Probe Mission and how the direct exploration of the corona and inner heliosphere will lead to advances in our understanding of coronal heating and solar wind acceleration, the magnetic and plasma structure of the heliosphere, and the acceleration of energetic particles at shocks and flares. The workshop will inspire research that will make use of the SPP observations within the context of the NASA Heliophysics Observatory System and identify key areas for preparatory research. Synergistic observations from other ground based and space based assets will also be addressed.
Website:
http://www.solarprobeplus.org/

European Geosciences Union General Assembly 2013 in Vienna, Austria

Start : 2013-04-07 - End : 2013-04-12
The EGU General Assembly 2013 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, it is the aim of the EGU to provide a forum where they can present their work and discuss their ideas with experts in all fields of geosciences. The EGU is looking forward to cordially welcoming you in Vienna.
Website:
http://www.egu2013.eu/home.html

Causes and Consequences of the Extended Solar Minimum Between Solar Cycles 23 and 24 (4CESM) in Key Largo, FL (USA)

Start : 2013-04-08 - End : 2013-04-12
The most recent solar minimum, solar cycle 23-24 minimum, was unusually long (266 spotless days in 2008, the most since 1913), and the magnetic field at the solar poles was approximately 40% weaker than

the last cycle; and unusually complex (the solar wind was characterized by a warped heliospheric current sheet, HCS, and fast-wind streams at low latitudes: the fast-wind threads the ecliptic more commonly in 2008 than 1996.) This complexity resulted in many effects observed from Sun to Earth, with many observations indicating unusual conditions on the Sun, in the heliosphere , and in the magnetosphere , ionosphere , and upper atmosphere of the Earth.
This remarkable set of conditions provide the scientific community with an exceptional opportunity to assess the nature and structure of a very quiet Sun, and an upper atmosphere relatively devoid of solar influences, helping to provide a better understanding of the relative roles of solar activity and internal variability in the dynamics of the Earth's upper atmosphere and ionosphere . Such an understanding requires a multidisciplinary approach.
The main goal of the conference is to bring together the solar, heliospheric, magnetospheric, upper atmosphere, and ionospheric communities to debate and discuss interdisciplinary work and reach a better understanding of the nature and structure of a very quiet Sun, and of an upper atmosphere relatively devoid of solar influences, and in doing so, to help clarify the role of solar activity in the dynamics and variability of the Earth's upper atmosphere and ionosphere relative to the internal variations.
Website:
http://chapman.agu.org/solarminimum/

The physics of flares in the lower solar atmosphere in London, UK

Start : 2013-04-12 - End : 2013-04-12
Solar flares are impulsive releases of energy in the Sun's corona and yet it is emission from the lower atmosphere (the photosphere and chromosphere) that contains the bulk of the energy. This radiation also provides some of the best diagnostics of the flaring process. The availability of optical, UV/EUV and hard X-ray observations, made with the current fleet of space-based (SDO, Hinode, RHESSI, etc.) and ground-based (ROSA, IBIS, Big Bear, etc.) observatories, combined with recent developments in flare modelling, presents a timely opportunity to study the cause and effect of energy deposition in the lower solar atmosphere. The combination of multi-wavelength observations with advanced numerical simulations can provide key insights into the processes of particle acceleration, plasma heating, energy transport, and wave propagation.
This Royal Astronomical Society discussion meeting will focus on work investigating the response of the solar and stellar atmospheres during a flare's impulsive phase and we welcome contributions from both observation and theory.
Website:
http://www.astro.gla.ac.uk/?page_id=827

Synoptic Network Workshop in Boulder, USA

Start : 2013-04-22 - End : 2013-04-24
The workshop is being held to discuss and gather community input on science requirements, capabilities and instrumentation for a next-generation synoptic network of solar observing instruments. It is highly probable that such a network should obtain multi-wavelength data, and the intended targets include space weather, helioseismology and solar magnetic fields.
Website:
https://www2.hao.ucar.edu/synoptic-network-workshop

NSO Workshop #27: 50 Years of the Seismology of the Sun and Stars in Sunspot, NM (USA)

Start : 2013-05-06 - End : 2013-05-10
In the last 50 years, helioseismology has made significant contributions to the knowledge of the Sun's interior physics and has led the way to asteroseismology. We have now reached an era where more sophisticated questions are being asked to understand the subtle properties of the Sun and other stars due to the synoptic and high-resolution observations available from BISON, GONG and space missions such as SOHO , SDO, CoRot and Kepler.

On this occasion, a workshop on the theme of '50 years of the seismology of the Sun and stars' is being organized to reflect the progress that has been made as well as to focus on future goals. We plan to bring together helio- and asteroseismologists, theorists and observers in a journey that will take us from the interior of the Sun and its magnetism towards the structure of distant stars and activity cycles.
Website:
http://www.nso.edu/workshops/2013

2013 UAHuntsville Space Weather Summer School in Huntsville, Alabama, USA

Start : 2013-05-29 - End : 2013-06-07
Website:
http://swssuah2013.pbworks.com/w/page/60509553/FrontPage

Space Climate Symposium-5 in Oulu, Finland

Start : 2013-06-11 - End : 2013-06-15
Space Climate is an interdisciplinary science that deals with the long-term change in the Sun, and its effects in the heliosphere and in the near-Earth environment, including the atmosphere and climate. A special focus will be on studies of the causes, consequences and implications of the present, unusually low solar activity since solar cycle 23 that, most likely, indicates the imminent end of the Modern Grand Maximum of solar activity. Other topics include solar dynamo, solar irradiance variations, solar wind, geomagnetic field and activity, cosmic rays and cosmogenic isotopes, and solar effects on different layers of the atmosphere and on local and global climate, as well as possible solar effects on human health and on the development of human cultures.
Website:
http://www.spaceclimate.fi/

ISEST (International Study for Earth-Affecting Solar Transients) Workshop in Hvar, Croatia

Start : 2013-06-17 - End : 2013-06-20
The workshop is to improve the scientific understanding of the origin and propagation of solar transients, and develop the prediction capacity of these transients' arrival and potential impact on the Earth.
This workshop is the activity of the ISEST program in CAWSES-II / Task Group 3. The workshop engages coordinated international activities in observation, theory and modeling, and involves scientists in both developed and developing countries, and provides an online platform for educational opportunities for students.
Website:
http://spaceweather.gmu.edu/meetings/ISEST/Home.html

ILWS Science Workshop in Irkutsk, Russia

Start : 2013-06-23 - End : 2013-06-29
The 2013 ILWS Science Workshop will take place June 23-29, 2013 in Irkutsk, Russia and will be hosted by the Institute of Solar-Terrestrial Physics of the Russian Academy of Sciences
Website:
http://en.iszf.irk.ru/ILWS_2013

Asia Oceania Geosciences Society (AOGS) Annual Meeting in Brisbane (Australia)

Start : 2013-06-24 - End : 2013-06-28
Asia Oceania Geosciences Society (AOGS) was established in 2003 to promote geosciences and its application for the benefit of humanity, specifically in Asia and Oceania and with an overarching approach to global issues.
Asia- Oceania region is particularly vulnerable to natural hazards, accounting for almost 80% human lives lost globally. AOGS is deeply involved in addressing hazard related issues through improving our understanding of the genesis of hazards through scientific, social and technical approaches.

AOGS holds annual conventions providing a unique opportunity of exchanging scientific knowledge and discussion to address important geo-scientific issues among academia, research institution and public. Recognizing the need of global collaboration, AOGS has developed good co-operation with other international geo-science societies and unions such as the European Geosciences Union (EGU), American Geophysical Union (AGU), International Union of Geodesy and Geophysics (IUGG), Japan Geo-science Union (JpGU), and Science Council of Asia (SCA).
Website:
http://www.asiaoceania.org/aogs2013/public.asp?page=home.htm

2013 Heliophysics Summer School in Boulder, Colorado (USA)

Start : 2013-07-12 - End : 2013-07-19
Applications are invited for the 2013 Heliophysics Summer School, which will be held in beautiful Boulder, Colorado. We are seeking students and undergraduate level teachers and instructors to join us this coming summer for a unique professional experience. Students and teachers will learn about the exciting science of heliophysics as a broad, coherent discipline that reaches in space from the Earth's troposphere to the depths of the Sun, and in time from the formation of the solar system to the distant future. At the same time, a goal of the Summer School is for the group of instructors to develop materials from Heliophysics that can be applied in their classes.
The Heliophysics Summer School focuses on the physics of space weather events that start at the Sun and influence atmospheres, ionospheres and magnetospheres throughout the solar system. The solar system offers a wide variety of conditions under which the interaction of bodies with a plasma environment can be studied: there are planets with and without large-scale magnetic fields and associated magnetospheres; planetary atmospheres display a variety of thicknesses and compositions; satellites of the giant planets reveal how interactions occur with subsonic and sub-Alfvenic flows whereas the solar wind interacts with supersonic and super-Alfvenic impacts.
Encompassed under a general title of comparative magnetospheres are processes occurring on a range of scales from the solar wind interacting with comets to the interstellar medium interacting with the heliosphere. The school will address not only the physics of all these various environments but will also go into the technologies by which these various environments are being observed. The program is complemented with considerations of the societal impacts of space weather that affects satellites near Earth and elsewhere in the solar system.
The school will be based on lectures, laboratories, and recitations from world experts, and will draw material from the three textbooks Heliophysics I-III, published by Cambridge University Press.
Several teachers along with about 35 students will be selected through a competitive process organized by the UCAR Visiting Scientist Programs. The school lasts for eight days, and each participant receives full travel support for airline tickets, lodging and per diem costs.
Website:
http://www.vsp.ucar.edu/Heliophysics/

Space weather summer school in Alpbach, Austria

Start : 2013-07-16 - End : 2013-07-25
The Summer School Alpbach enjoys 36 years of tradition in providing in-depth teaching on different topics of space science & technology, featuring lectures and concentrated working sessions on mission studies in self-organised working groups. 60 young highly qualified European science and engineering students converge annually for stimulating 10 days of work in the Austrian Alps. 4 teams compete to design a space mission judged by a jury of experts. Students learn how to approach the design of a satellite mission and explore new and startling ideas supported by experts. The Summer School 2013 will focus on Space Weather .
The purpose of the Summer School is to foster the practical application of knowledge derived from lectures, to develop organisational and team-work skills and to encourage creativity. Teams will compete to design the best project, judged by an independent jury. The teams themselves are responsible for the selection of the subject of the project and for the team structure and working methods.
Website:

http://www.summerschoolalpbach.at/

2013 CISM Summer School, in Boulder, Colorado, USA

Start : 2013-07-22 - End : 2013-08-02
The CISM Summer School is intended to give students a comprehensive immersion in the subject of space weather: what it is, what it does, and what can be done about it. Space weather is many things: beautiful when seen through the eyes of a sun-viewing telescope, fascinating when studied for its alien worlds of magnetic structures and phenomena, awesome when witnessed as a solar eruption or auroral storm, and devastating to the users of services it disrupts. Space weather links the Sun, the Earth, and the space in between in a branching chain of consequences. Weather systems on the Sun can spawn interplanetary storms of colossal size and energy that envelop the whole planet in electrical hurricanes. Such storms attack high-tech, complex, and expensive technological systems that provide much of the infrastructure that allows modern society to function.
Website:
https://www2.hao.ucar.edu/docs/2013-cism-summer-school

XIIth IAGA Scientific Assembly in Merida, Yucatan, Mexico

Start : 2013-08-16 - End : 2013-08-31
The Local Organising Committee and the Mexico National Committee of IUGG have the great pleasure to welcome you to the 11th Scientific Assembly of the International Association of Geomagnetism and Aeronomy (IAGA) which is held in MÃ©rida YucatÃ¡n, Mexico from 26 to 31 August 2013 with the motto: "Living on a Magnetic Planet". Our Magnetic Planet Capricious (Changeable or Unpredictable) Field.
In order to increase the visibility and attractiveness of IAGA to young researchers, to motivate them to play active role within IAGA and to create (and enhance) their awareness of IAGA and sense of belonging to IAGA, the first IAGA Summer School will be organized just prior the Assembly. The summer school will provide overview of the activities carried out within all the IAGA divisions, with subjects from paleomagnetism and magnetic anisotropy through observatories and geomagnetic field modeling to ionospheric and aeronomic research. At least 20 young scientists from all around the world will be invited based on the nominations from Working Groups and Divisions. Special call and more information will be published before the end of 2012.
Website: http://iaga2013.org.mx/

7th International Workshop on Solar Polarization in Kunming, China

Start : 2013-09-09 - End : 2013-09-14
We gain information about the universe through analysis of the spectra from celestial objects. However, while the intensity spectrum represents a scalar quantity but electromagnetic radiation occurs in the form of transverse waves, the polarized spectrum provides us with a 4-vector, the Stokes vector. The increased amount of information space opens new windows to the universe, in particular for the exploration of magnetic fields. It is well recognized that the magnetic field is a primary agent responsible for structuring and the source of all variability on intermediate time scales, which manifests itself in all forms of solar and stellar activity.
It is therefore not surprising that every year there are many scientific meetings organized with the objective of studying the role of magnetic fields in cosmic objects. What is largely missing in these meetings is however an in-depth investigation of the fundamental aspects of how magnetic fields can be determined by the means of spectro-polarimetry, our main gateway to cosmic magnetism. The primary aim of our series of Workshops is to address these fundamental aspects, with less emphasis on the morphological and physical properties of cosmic magnetic fields.
Website: http://spw7.ynao.ac.cn/

Space science training week: data driven modeling and forecasting in Leuven, Belgium

Start : 2013-09-16 - End : 2013-09-19

This summer school targets to introduce a generation of young researchers (advanced master students, PhDs, and junior postdoctoral researchers) to the diverse aspects of space weather related research.
It will introduce theoretical approaches to space weather and its drivers, present modern solar data analysis tools, and cover state-of-the-art solar and space science simulations. Participants will learn about forecasting aspects and their quality control for space weather events, but also experience hands-on training in scientific proposal writing and receive do-and-don't tips for scientific presentations.
The scientific program is enriched by a public evening lecture on the solar influence on our climate, and the lecturers are invariably expert scientists with international standing.
The school is open to a maximum of 40 participants, and can benefit from its embedding within two international research network activities: an Interuniversity Attraction Pole P7/08 CHARM connecting heliospheric to astrophysical communities with 7 partner institutes, and a European FP7 Project eHeroes with 15 different partner institutes. Participation from outside both network activities is strongly encouraged. Within Belgium, the school links up expertise from universities (KU Leuven, ULB, Gent University) to federal research institutes (the Solar-Terrestrial Centre of Excellence, the Royal Observatory of Belgium and the Belgian Institute for Space Aeronomy).
Website:
http://stce.be/SpSTraining/

International CAWSES-II Symposium in Nagoya, Japan

Start : 2013-11-18 - End : 2013-11-22
This International CAWSES-II Symposium hosted by SCOSTEP (Scientific Committee on Solar-Terrestrial Physics) will provide an excellent opportunity to discuss the scientific accomplishments of CAWSES-II and look forward to SCOSTEP's future programs at a moment toward the end of its five-year period. The symposium will cover the six major themes of CAWSES-II tasks: 1) What are the solar influences on the Earth's climate?, 2) How will geospace respond to an altered climate?, 3) How does short-term solar variability affect the geospace environment?, 4) What is the geospace response to variable inputs from the lower atmosphere?, 5) Capacity Building, 6) Informatics and eScience. The main functions of CAWSES-II are to help coordinate international activities in observations, modeling, and applications crucial to achieving this understanding, to involve scientists in both developed and developing countries, and to provide educational opportunities for students of all levels. The symposium offers keynotes/lectures that will be interesting for all participants every morning and more specific sessions of presentations in the afternoon. We welcome all those who are involved and/or interested in CAWSES-II to Nagoya in the autumn when we will have the pleasure of being surrounded by beautiful colorful leaves of this season.
Website:
http://www.cawses.org/CAWSES/leaflet_CAWSES-II_120229.pdf

European Space Weather Week in Belgium

Start : 2013-11-18 - End : 2013-11-22
The 10th Edition of the European Space Weather Week will take place on 18-22nd November 2013 in Belgium. The venue will be confirmed early next year, but mark your calendars now for the 10th Anniversary of this growing European event.
The ESWW will again adopt the central aim of bringing together the diverse groups in Europe working on different aspects of Space Weather . This includes but isn't limited to the scientific community, the engineering community, applications developers, service providers and service end users. The meeting organisation will again be coordinated by the Belgian Solar-Terrestrial Centre of Excellence (STCE), ESA and the Space Weather Working Team. The local organisation will be done by the STCE.
Website: not yet available

40th COSPAR Scientific Assembly in Moscow, Russia

Start : 2014-08-02 - End : 2014-08-10
The 40th COSPAR Scientific Assembly will be held in Moscow, Russia from 2 - 10 August 2014. This Assembly is open to all bona fide scientists.

Website:
http://www.cospar-assembly.org/