STCE Newsletter

3 Dec 2012 - 9 Dec 2012

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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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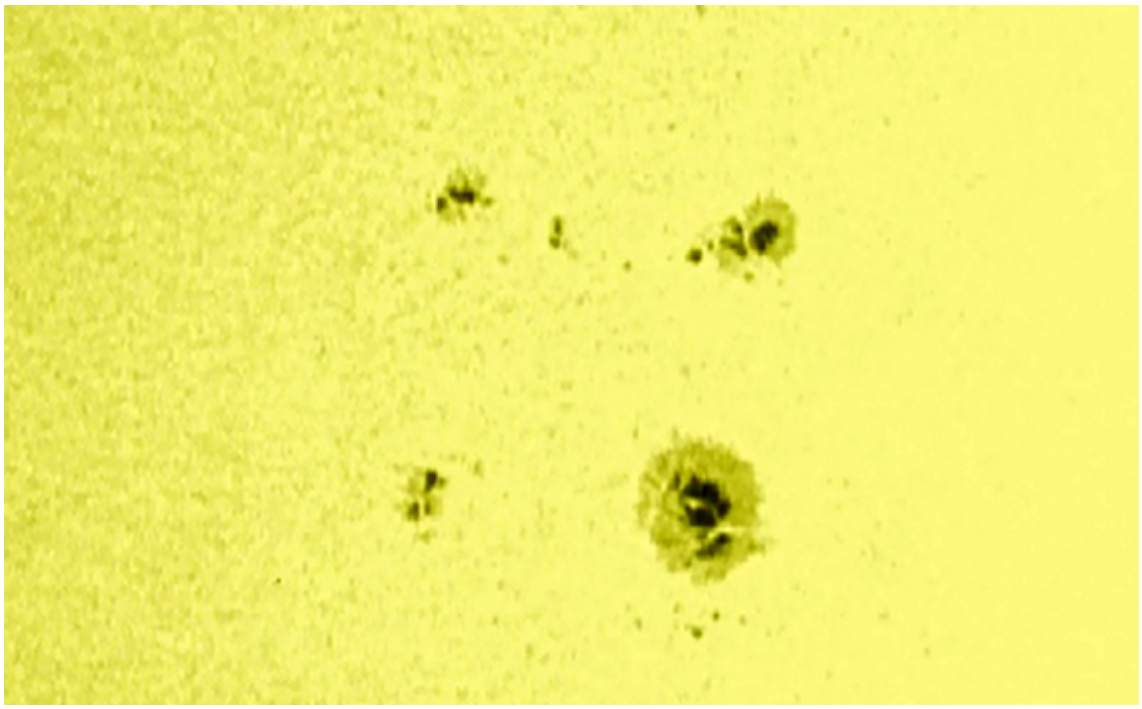
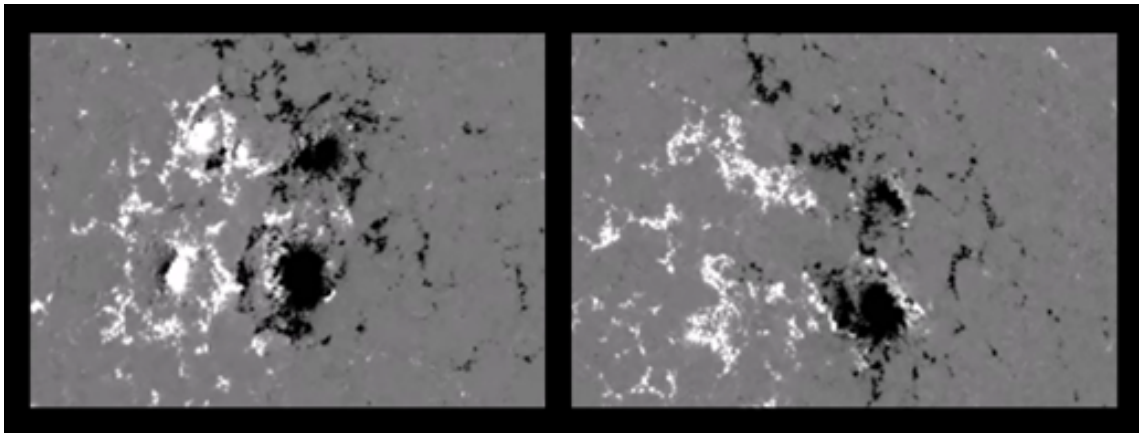
1. A sunspot square transits the solar disk (3 Dec 2012 - 9 Dec 2012)

Sunspot groups come in a variety of shapes, and it is well known that such regions occasionally team up to form an eye-catching configuration. This was the case late November and the beginning of December, when NOAA 1623 and 1625 formed a nice square of sunspots.

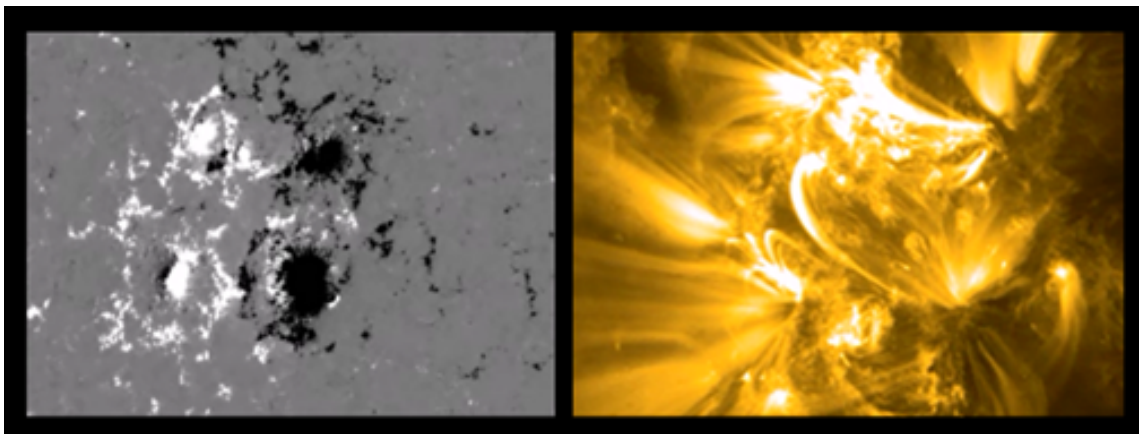
NOAA 1623 rounded the east limb as a mature group on 27 November, while NOAA 1625 started to form a few degrees to the north of NOAA 1623 on 29 November, developing fairly quickly. By 30 November, both groups were about as long as they were separated from each other, forming a nice square. The square's side measured over 7 heliographic degrees, corresponding to about 85.000 km or 7 Earth diameters.



A white light movie (SDO/AIA 4500 - http://sdo.gsfc.nasa.gov/) was uploaded at http://www.youtube.com/watch?v=CcdBVtRHMwc and shows the evolution of both groups as they transited the solar disk (27 November – 10 December). Notice that the square was just a temporary configuration, as both sunspot groups continued to evolve independently, gradually decaying. This can also be seen in the magnetograms (SDO/HMI), where the magnetic flux starts to disappear in the trailing part of both regions (white part, i.e. positive "outgoing" magnetic polarity). This corresponds to the disappearance of the sunspots, and by 9 December, NOAA 1625 was reported to have "died on disk".



Both groups produced 8 small C-flares each, most of them on 29 November: 6 by NOAA 1625 and 5 by NOAA 1623. Though both active regions developed separately, one can see in the SDO/AIA 171 part of the movie that there is an occasional magnetic link between the trailing part of NOAA 1625 (white, positive magnetic polarity) and the leading part of NOAA 1623 (black, negative polarity).



2. New and ongoing initiatives in ground-based solar observations

European Geosciences Union, General Assembly 2013 and the STCE

The EGU General Assembly brings together scientists covering all disciplines from the Earth, Planetary and Space Sciences.
Norma Crosby is the Programme Group Chair of the section Solar-Terrestrial Sciences, subdivided in solar physics, Magnetosphere, Heliosphere and Ionosphere.

ST6.2 - Session: New and ongoing initiatives in ground-based solar observations

This session is convened by Nandita Srivastava.
Christophe Marqué from the STCE and Joan Burkepile are co-convening.

The conveners invite research papers highlighting new challenges and promises that ground-based observations have to offer in the field of solar-terrestrial research. Recently, new initiatives in ground-based instrumentation have been taken up by several observatories around the world in the regime of optical, infrared and radio wavelengths. The spatial and temporal resolution of the ground-based

observations complement the space-based observations, in a unique way bridging the gaps and addressing important issues pertaining to forecasting of space weather events.

Contributions on the new, proposed or ongoing ground-based instruments, and the specific scientific goals that can be achieved through them, are also welcome. As well as papers that emphasize the strength of ground-based network of instruments, for example, GONG, Callisto, GHN, etc. thereby improving the observing duty cycle and enhancing our understanding of the initiation and evolution of the solar activity.

Link for abstract submission: http://meetingorganizer.copernicus.org/EGU2013/session/12611

Deadline for abstract submission: 9 January 2013

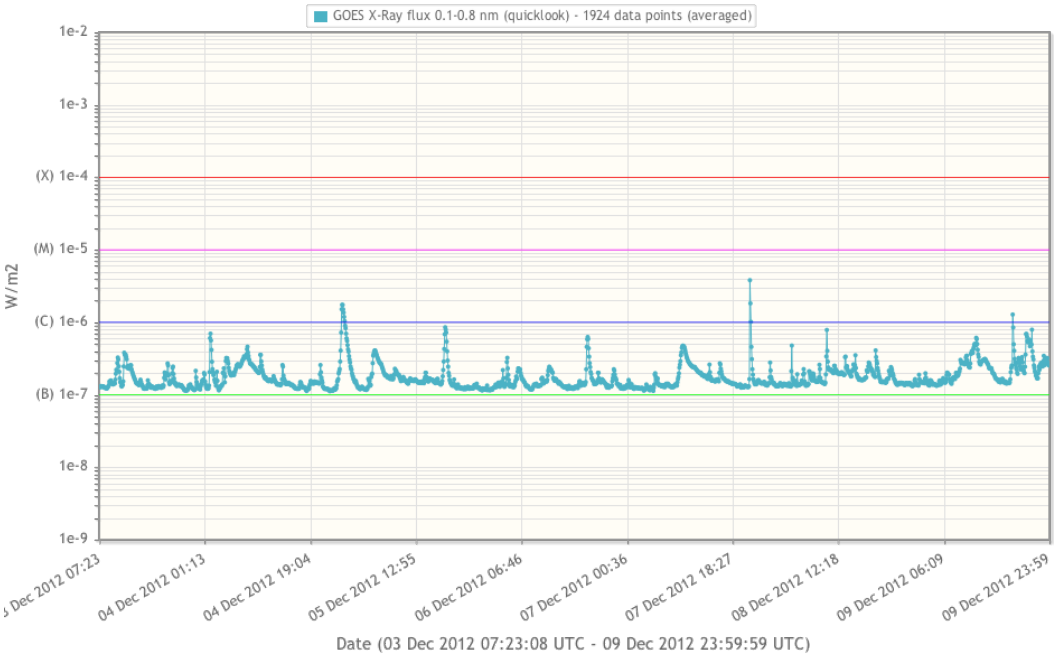
Link with the STCE

Christophe Marqué is refurbishing the solar radio observations in Humain. This will include the 10cm flux and solar radio spectrum observations by PHOENIX2 and Callisto antenna's.
He is not the only one in the radio group. Jasmina Magdalenic works with the radio data and wants to know everything about propagation of shock waves through the corona up to 1AU. Jean-Luc Dufond takes care of the technical aspects of the development of the radio site. Bram Bourgoignie wrote and updates the software that enables the antenna's to track the Sun automatically. He also works on the software for the automatic detection of the different types of radio bursts.

3. Review of solar activity (3 Dec 2012 - 9 Dec 2012)

Flares

The flaring activity was low during this week with only four weak C-class flares reported by GOES. The strongest flare of the week was C 3.9 flare, on December 7. The flare originated from the Catania sunspot group 34 (NOAA AR 1621) and peaked at 21:21 UT.



Coronal Mass Ejections

Three partial halo CMEs were observed this week.

A partial halo CME on December 5, was first observed in the SOHO/LASCO C2 field of view at about 00:36 UT, had angular width of about 210 degrees, projected speed around 750 km/s and was directed eastward of the Sun-Earth line. It was associated with C1.7 flare from the Catania sunspot group 41 (NOAA AR 1628) situated close to the East solar limb. The associated CME-driven shock did not arrive at the Earth.

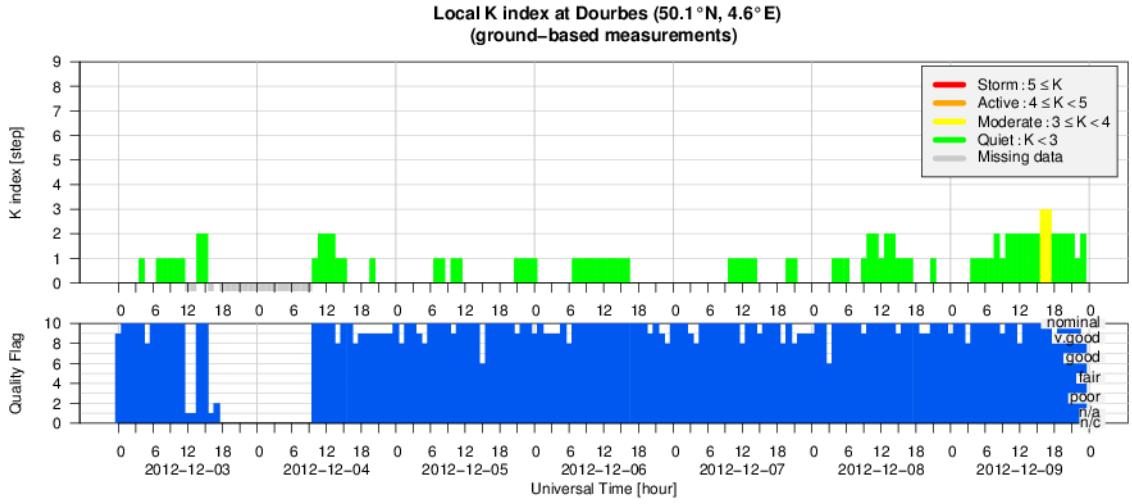
Second partial halo CME observed this week was on December 7, and was associated with the long duration B4.8 flare peaking at at 10:07 UT on December 7. The CME was first detected in the SOHO/ LASCO C2 field of view at about 09:48 UT and had a speed of about 600 km/s, as reported by the CACTUS software. The CME was directed to the west of the Sun-Earth line, and only the CME-driven shock wave was expected at the Earth on afternoon of December 10.

The strongest flare of the week, C3.9 flare on December 7, was associated with a partial halo CME which due to the source active region position at the West solar limb was not expected to arrive to the Earth.

4. Review of geomagnetic activity (3 Dec 2012 - 9 Dec 2012)

Geomagnetic conditions were quiet this week. The local station at Dourbes reported values up to K=2 during the week and only one short interval of K=3 (on December 9). During the whole week, the Earth was inside a slow solar wind flow, with the maximum of the solar wind speed of about 450 km/s reached on December 4. The interplanetary magnetic field (IMF) magnitude was slightly elevated, with the maximum value of about 10 nT, during the first half of the week. Since early December 4 the value of the IMF decreased to about 5 nT and stayed so during the rest of the week.

5. Geomagnetic Observations at Dourbes (3 Dec 2012 - 9 Dec 2012)



6. PROBA2 Observations (3 Dec 2012 - 9 Dec 2012)

It was a very calm week on the Sun. With a single C1 flare on Monday, solar activity switched daily between *low* and *very low*. Only 4 C1-level flares were recorded during the whole week.

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.

Some minor events of this week are presented below:

A C1 flare eruption on the N-E limb, on Wednesday 05, 00:20 UT.

On Sunday 09th, a filament activation occurred in the NE quadrant: see the SWAP difference movie on http://proba2.oma.be/swap/data/mpg/movies/campaign_movies/20121209_FilaErup_0700-1000_swap_diff.mp4 and in H-alpha: http://halpha.nso.edu/keep/ham/201212/20121209/20121209000000Uh.html

7. New documents in the European Space Weather Portal Repository

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

Comparison of MHD Simulations of the Solar Wind with In-Situ Measurements

Knowledge of the background solar wind is an important input for CME propagation studies. Since in-situ measurements of the background solar wind are only available at 1 AU, we have to rely on heliospheric models to derive the distribution of solar wind parameters in IP space and hence, to do space weather forecasting. We test the performance of the solar wind models ENLIL/MAS, ENLIL/WSA (CCMC) and MAS (Predictive Science) by comparing model results with in-situ measurements from ACE and Wind. For the study we chose the years 2005 and 2007 as a time period with low solar activity. We found that the general structure of the background solar wind is well reproduced by the models. The best model results were obtained for the parameter solar wind speed. However, the predicted arrival times of high speed solar wind streams have typical uncertainties of the order of 1 – 1.5 days.
http://www.spaceweather.eu/en/repository/show?id=339

ESWW9-Session0: The future of Space Weather

European Space Weather Landscape: Current Perspectives and Requirements for the Future

http://www.spaceweather.eu/en/repository/show?id=340

ESWW9-Session1: EU Space Weather Research in FP7 and in the future

European Space Weather Landscape: Current Perspectives and Requirements for the Future
http://www.spaceweather.eu/en/repository/show?id=341

ESWW9-Session1: Introduction to WMO space weather activities

European Space Weather Landscape: Current Perspectives and Requirements for the Future
http://www.spaceweather.eu/en/repository/show?id=342

ESWW9-Session1: ESA views on the future SSA-SWE activities in Europe

European Space Weather Landscape: Current Perspectives and Requirements for the Future
http://www.spaceweather.eu/en/repository/show?id=343

ESWW9-Session1: NOAA-EU Space Weather Cooperation

European Space Weather Landscape: Current Perspectives and Requirements for the Future
http://www.spaceweather.eu/en/repository/show?id=344

ESWW9-Session1: Roadmaps for Future Operational Space Weather Services

European Space Weather Landscape: Current Perspectives and Requirements for the Future
http://www.spaceweather.eu/en/repository/show?id=345

ESWW9-Session1: The Solar Tsunami Warning System

European Space Weather Landscape: Current Perspectives and Requirements for the Future
http://www.spaceweather.eu/en/repository/show?id=346

ESWW9-Session1: Helio, a new Tool for Space Weather

European Space Weather Landscape: Current Perspectives and Requirements for the Future
http://www.spaceweather.eu/en/repository/show?id=347

ESWW9-Session1: Empirical Approach to predict geomagnetic disturbances relevant to GIC

European Space Weather Landscape: Current Perspectives and Requirements for the Future
http://www.spaceweather.eu/en/repository/show?id=348

ESWW9-Session2: Lessons learnt from the STEREO Heliographic Imagers: Tracking and Modelling CMEs from Sun to Earth

Innovations and Key Challenges in Space Weather Science
http://www.spaceweather.eu/en/repository/show?id=349

ESWW9-Session2: SOHO/UVCS and STEREO comparative Analysis of a CME

Innovations and Key Challenges in Space Weather Science
http://www.spaceweather.eu/en/repository/show?id=350

ESWW9-Session2: Studying CME-Dust particle Interactions and their possible Applications to forecasting ICME Geo-Effectiveness

Innovations and Key Challenges in Space Weather Science
http://www.spaceweather.eu/en/repository/show?id=351

ESWW9-Session2: Forecasting the High Energy Electron Radiation Belts within the FP7 SPACECAST Project

Innovations and Key Challenges in Space Weather Science

http://www.spaceweather.eu/en/repository/show?id=352

ESWW9-Session2: New tools to relate Imagery with in-situ Data and their Application to Space Weather Forecasting

Innovations and Key Challenges in Space Weather Science
http://www.spaceweather.eu/en/repository/show?id=353

ESWW9-Session2: NASA GSFC Space Weather Center - Innovative Space Weather Dissemination: web-Interfaces, mobile Applications,...

Innovations and Key Challenges in Space Weather Science
http://www.spaceweather.eu/en/repository/show?id=354

ESWW9-Session2: Status of the Kjell Henriksen Observatory (KHO) auroral forecast Service

Innovations and Key Challenges in Space Weather Science
http://www.spaceweather.eu/en/repository/show?id=355

ESWW9-Session2: Real-time Scintillation Monitoring at high latitudes

Innovations and Key Challenges in Space Weather Science
http://www.spaceweather.eu/en/repository/show?id=356

ESWW9-Session2: The Space Weather Hazard to the UK Electricity Transmission System: A 2012 Update

Innovations and Key Challenges in Space Weather Science
http://www.spaceweather.eu/en/repository/show?id=357

ESWW9-Session3A: Space Weather at Mars: a major driver for its climate?

Solar Variability Effects on Climate
http://www.spaceweather.eu/en/repository/show?id=358

ESWW9-Session3A: The response of the Troposphere and Surface to the 11-year solar cycle variability in idealized simulations

Solar Variability Effects on Climate
http://www.spaceweather.eu/en/repository/show?id=359

ESWW9-Session3A: Cosmic Ray induced aerosol Formation in Earth's Atmosphere

Solar Variability Effects on Climate
http://www.spaceweather.eu/en/repository/show?id=360

ESWW9-Session3A: Testing a Link between cosmic rays and cloudiness over daily timescales

Solar Variability Effects on Climate
http://www.spaceweather.eu/en/repository/show?id=361

ESWW9-Session3A: Response of the fair weather electrical current to geomagnetic substorms at a desert station in southern Israel

Solar Variability Effects on Climate
http://www.spaceweather.eu/en/repository/show?id=362

ESWW9-Session3A: Solar Irradiance in cycle 23: Modelling of TSI and SSI by synoptic intensity observations

Solar Variability Effects on Climate
http://www.spaceweather.eu/en/repository/show?id=363

ESWW9-Session3A: What can we learn about the Sun with PREMOS/PICARD?

Solar Variability Effects on Climate
http://www.spaceweather.eu/en/repository/show?id=364

ESWW9-Session3B: The deep Project

Coupled Space Weather Modelling
http://www.spaceweather.eu/en/repository/show?id=365

ESWW9-Session3B: Increasing the domain size of kinetic simulations: a multi level multi domain method for plasma simulations

Coupled Space Weather Modelling
http://www.spaceweather.eu/en/repository/show?id=366

ESWW9-Session3B: A 3D global MHD simulation of the solar wind/Earth's magnetosphere interaction

Coupled Space Weather Modelling
http://www.spaceweather.eu/en/repository/show?id=367

ESWW9-Session3B: Coupled Magnetosphere-Ionosphere-Thermosphere-Ring Current modelling with the OpenGGCM

Coupled Space Weather Modelling
http://www.spaceweather.eu/en/repository/show?id=368

ESWW9-Session3B: Coupling at the Earth in SWIFF: Ionosphere-Plasmasphere-Polar Wind-Radiation Belts

Coupled Space Weather Modelling
http://www.spaceweather.eu/en/repository/show?id=369

ESWW9-Session3B: Test particle simulations of solar energetic particle propagation for Space Weather

Coupled Space Weather Modelling
http://www.spaceweather.eu/en/repository/show?id=370

ESWW9-Session3B: Coupled global modelling of SEP acceleration in a coronal CME/Shock and subsequent interplanetary transport

Coupled Space Weather Modelling
http://www.spaceweather.eu/en/repository/show?id=371

ESWW9-Session3B: SEP simulations in SEPServer - How to deal with scale separation of 13 orders of magnitude

Coupled Space Weather Modelling
http://www.spaceweather.eu/en/repository/show?id=372

ESWW9-Session3B: Satellite Orbits and ATMOP: improving thermospheric density modelling through data assimilation

Coupled Space Weather Modelling

http://www.spaceweather.eu/en/repository/show?id=373

ESWW9-Session4A: Overview of space weather impacts on satellites

Spacecraft Operations and Space Weather
http://www.spaceweather.eu/en/repository/show?id=374

ESWW9-Session4A: The Space Environment - A satellite's manufacturer perspective

Spacecraft Operations and Space Weather
http://www.spaceweather.eu/en/repository/show?id=375

ESWW9-Session4A: Effects of solar activity on ESA's Science and Earth Observation Missions

Spacecraft Operations and Space Weather
http://www.spaceweather.eu/en/repository/show?id=376

ESWW9-Session4A: Commercial Development of MEO: An Insurance Perspective

Spacecraft Operations and Space Weather
http://www.spaceweather.eu/en/repository/show?id=377

ESWW9-Session4A: Calculation of the Satellite Surface Charging using forecasted low energy Electron Fluxes

Spacecraft Operations and Space Weather
http://www.spaceweather.eu/en/repository/show?id=378

ESWW9-Session4A: NASA GSFC Space Weather Center operational Experiences over the past several major solar Events

Spacecraft Operations and Space Weather
http://www.spaceweather.eu/en/repository/show?id=379

ESWW9-Session4B: Space Weather in the Solar System

Space Weather in the Solar System
http://www.spaceweather.eu/en/repository/show?id=381

ESWW9-Session4B: Plasma Interactions with Ganymede, Europa, Callisto and Jupiter: the prospects for ESA's JUICE Mission

Space Weather in the Solar System
http://www.spaceweather.eu/en/repository/show?id=382

ESWW9-Session4B: Solar Energetic Particles and associated phenomena in Radio and EUV Wavelengths

Space Weather in the Solar System
http://www.spaceweather.eu/en/repository/show?id=383

ESWW9-Session4B: The origins and heliospheric evolutionof CME's on 7 and 14 August 2010 originating from the same solar region

Space Weather in the Solar System
http://www.spaceweather.eu/en/repository/show?id=384

ESWW9-Session4B: Dications and thermal ions in planetary atmospheric Escape

Space Weather in the Solar System
http://www.spaceweather.eu/en/repository/show?id=385

ESWW9-Session4B: Predicition of ICME Arrival at Mars

Space Weather in the Solar System
http://www.spaceweather.eu/en/repository/show?id=386

ESWW9-Session4B: Comparative planetology Study of extreme solar events: Mars, Venus, Titan, Earth

Space Weather in the Solar System
http://www.spaceweather.eu/en/repository/show?id=387

ESWW9-Session5: Advanced methods to model and predict space weather effects - Summary of Progress

COST ES0803 Final Results
http://www.spaceweather.eu/en/repository/show?id=388

ESWW9-Session5: Solar activity and its evolution across the corona

COST ES0803 Final Results
http://www.spaceweather.eu/en/repository/show?id=389

ESWW9-Session5: Solar activity impact on the Earth's upper atmosphere

COST ES0803 Final Results
http://www.spaceweather.eu/en/repository/show?id=390

ESWW9-Session5: Space Weather Challenges of the Polar Cap Ionosphere

COST ES0803 Final Results
http://www.spaceweather.eu/en/repository/show?id=391

ESWW9-Session5: Verification of space weather models

COST ES0803 Final Results
http://www.spaceweather.eu/en/repository/show?id=392

ESWW9-Session5: Progress in space weather modelling in an operational environment

COST ES0803 Final Results
http://www.spaceweather.eu/en/repository/show?id=393

ESWW9-Session5: Recommendations for space weather products and services in Europe

COST ES0803 Final Results
http://www.spaceweather.eu/en/repository/show?id=394

ESWW9-Session5: Where communication and space weather meet

COST ES0803 Final Results
http://www.spaceweather.eu/en/repository/show?id=395

ESWW9-Session5: Networking for space weather outreach activities: the Planeterrella example

COST ES0803 Final Results
http://www.spaceweather.eu/en/repository/show?id=396

ESWW9-Session4A: Variability of Trapped and Transient Radiation Environment on Highly Elliptical high inclination (Molniya) or

Spacecraft Operations and Space Weather
http://www.spaceweather.eu/en/repository/show?id=397

ESWW9-Splinter: European Space Weather Business Group

ESWW9 Splinter wrap up
http://www.spaceweather.eu/en/repository/show?id=398

eHEROES - Dissemination

Presentation given at the conference 'Solar and Heliospheric influences on the geospace', Bucharest, Romania in the session 'Education, dissemination, outreach'
http://www.spaceweather.eu/en/repository/show?id=399

eHEROES - De Zon, het weer en PROBA2

A presentation given for the members of the public observatory 'Armand Pien', Gent: 60 participants.
http://www.spaceweather.eu/en/repository/show?id=400

eHEROES - Is het SC24 maximum voorbij?

On October 27, this Dutch presentation was given about Solar Cycle 24 for a group of amateur astronomers, namely the Workgroup Sun of the VVS and the NVWS, 20 people.
http://www.spaceweather.eu/en/repository/show?id=401

eHEROES - Effects of the ambient solar wind flow on the propagation behavior of (I)CMEs

http://www.spaceweather.eu/en/repository/show?id=402

8. Future Events

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

Solar ALMA workshop in Glasgow (UK)

Start : 2013-01-14 - End : 2013-01-17
The Atacama Large Millimeter/submillimeter Array (ALMA), an international partnership of Europe, North America and East Asia in cooperation with the Republic of Chile, is the largest astronomical project in existence.
The workshop aims to bring together the ALMA-minded solar community to discuss solar observational issues with ALMA, solar science and planned observations with ALMA, and the planning of solar ALMA observations.
Th workshop is hosted by Astronomy & Astrophysics Group, and will take place in School of Physics and Astronomy, University of Glasgow, Room 323, Kelvin Building.
Website:
http://www.astro.gla.ac.uk/~eduard/solarALMA/

Understanding the Dynamics of the Sun using Helioseismology and MHD Simulations in NASA Ames Research Center, CA (USA)

Start : 2013-02-04 - End : 2013-02-08
Helioseismology provides tools for imaging structures and mass flows below the solar surface, and is becoming an essential technique for understanding the dynamics of solar activities and developing physics-based forecasts of the solar cycle, emerging active regions and energy release events. A better understanding is needed to unravel the effects of the complex interactions of solar oscillations with the turbulent magnetized plasma on global and local helioseismology diagnostics. These effects are particularly challenging in regions of strong magnetic fields. Numerical simulations of solar MHD waves and turbulent dynamics give important insights into the complicated wave and turbulence physics, and provide synthetic data for verification and validation of helioseismology methods and results.
The goals of this workshop are to discuss and stimulate further development of helioseismology methods, solar interior models, and realistic numerical simulations. These goals are particularly important for analysis of the continuous data flow from the Solar Dynamics Observatory, development and verification of helioseismology methods, and for theoretical interpretation of observations and inversion results.
Website:
http://sun.stanford.edu/LWS2013/

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

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/

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

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

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/

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/

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/