STCE Newsletter

26 Nov 2012 - 2 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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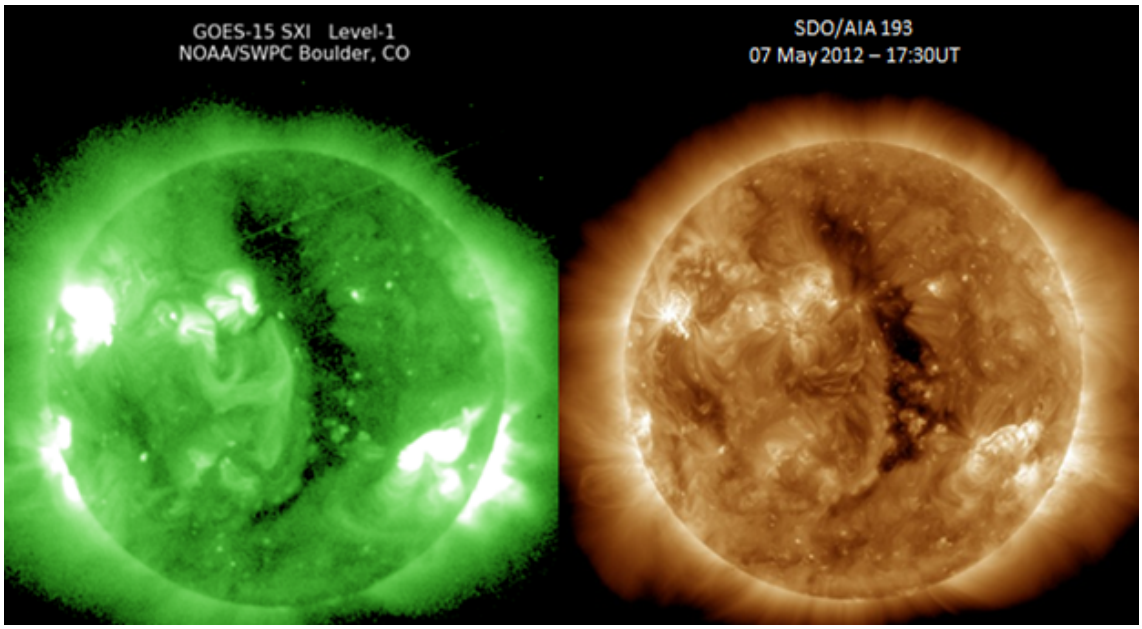
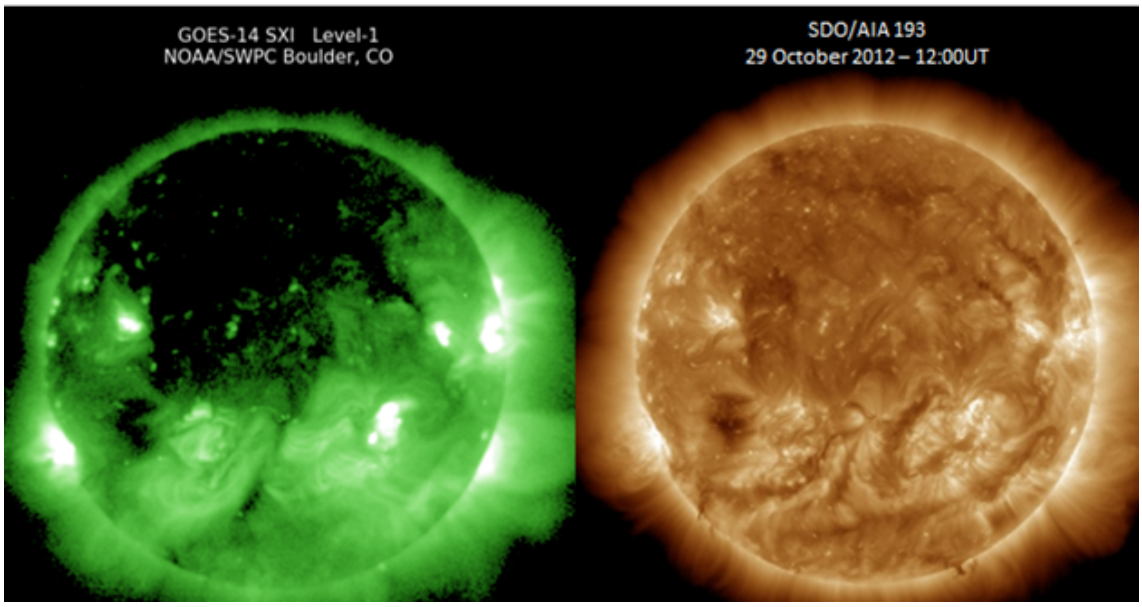
Belgium

1. Where's the coronal hole? (26 Nov 2012 - 2 Dec 2012)

Coronal holes are regions in the hot solar atmosphere ("corona") where the plasma density of that temperature is very low compared to its surroundings, and thus they look like dark shapes in the corona. They are also known to be the source of the high-speed solar wind, and as such can create geomagnetic disturbances when aimed at the Earth. As the larger coronal holes may hold their shape through several solar rotations, they are interesting for long term space weather predictions.



In general, both EUV (e.g. SDO: http://sdo.gsfc.nasa.gov/) and soft x-ray (SXR, e.g. GOES/SXI: http://www.swpc.noaa.gov/sxi/index.html) images correspond very well in showing the coronal holes, though -of course- scientists have to keep an eye on some features that may be seen in SXR and not in EUV (or vice versa). However, images from late October were a bit more difficult to explain, as almost half a solar hemisphere was dark in SXR, while in EUV there was nothing peculiar to report. Where had the coronal hole gone?



As it turns out, there was no coronal hole at all. An STCE scientist explains: "Coronal holes are best seen in the relatively "cool" wavelengths of the spectrum such as e.g. 19.3 nm (EUV: SDO/AIA 193), corresponding to a temperature of about 1.2 million degrees. If an area looks dark in such images, it means there is not enough material present at that temperature to be visible. That is exactly what happens in coronal holes: The fast solar wind drains the area very quickly of the coronal plasma that otherwise would have been there. As a result, we see a dark area. The normal, quiet corona as well as active regions will not be seen as dark patches in such images.
In SXR-images, the situation is quite different. Such images mainly show plasma at very high temperatures (several millions of degrees). This basically means that in such images, only the active regions (hot) will be visible. Consequently, a black area in SXR-images can mean a coronal hole or the quiet Sun. What we are seeing in this case, and taking into account the EUV-images, is a part of the Sun on which there are significantly less active regions than on the rest of the solar surface."

Actually, the dark area visible in the GOES SXI-images late October and early November corresponds to the inactive "face" of the Sun that was discussed in a previous STCE Newsletter (see http://stce.be/news/169/welcome.html). Last week, this area made another solar transit, though this time it did not show up as pronounced in the SXI-images as it did a solar rotation ago.

2. The European Space Weather Week (26 Nov 2012 - 2 Dec 2012)

Dear,
One month passed since the ninth edition of the European Space Weather Week. To have an awesome tenth edition, we would like to know your opinion.

If you were one of the 329 participants, you are invited to fill in the ESWW9 Questionnaire.

If you have a great idea for a plenary session for the tenth ESWW, you are welcome to fill in the ESWW10 Survey.

Both, the questionnaire and the survey can be found in the left menu of http://www.stce.be/esww9

Thanks for your input!
The programme committee

3. STCE annual meeting 2013 (26 Nov 2012 - 2 Dec 2012)

Dear colleagues and interested people,

The Solar-Terrestrial Centre of Excellence holds its 2013 annual meeting on Friday June 7, 2013.
Space Pole members are invited to solicit for a workshop. This workshop can be of course in close collaboration with outside institutes, universities and agencies. The workshops take place well before end May 2013.
The report of the workshop will be presented on June 7 to the whole community. The new thing is that the wrap up is not given by default the session convenor. More information will follow.

Mark your calendar!
The STCE

4. AFFECTS User Workshop

Dear,
The AFFECTS team cordially invites you to attend the international AFFECTS User Workshop on February 28, 2013. The workshop will cover a full day, and is hosted by the Royal Observatory of Belgium. AFFECTS (Advanced Forecast For Ensuring Communications Through Space, http://www.affects-fp7.eu) is a space weather research project under the 7th Framework Programme of the European Union, led by the University of Goettingen. Since the start of the AFFECTS project in March 2011, several space weather products, tools and services have been developed by the AFFECTS team. The AFFECTS User Workshop is the venue where we reach out to all interested players and users in space weather in order to demonstrate our products, tools and services.

A brief summary of the AFFECTS products, tools and services that will be presented during the workshop:

- Near real time dimming and EIT wave detection
- 3D CME analysis tool
- Coronal analysis tool
- CME and solar wind arrival and impact forecast tool
- Flare, CME, geomagnetic, auroral, ionospheric forecasts and alerts
- Forecast of perturbed TEC
- Solar activity and space weather timelines viewer

There is no registration fee, but we do ask to register in order to facilitate our planning. To subscribe, please send an e-mail to Doerte.Dannemann at zvw.uni-goettingen.de.

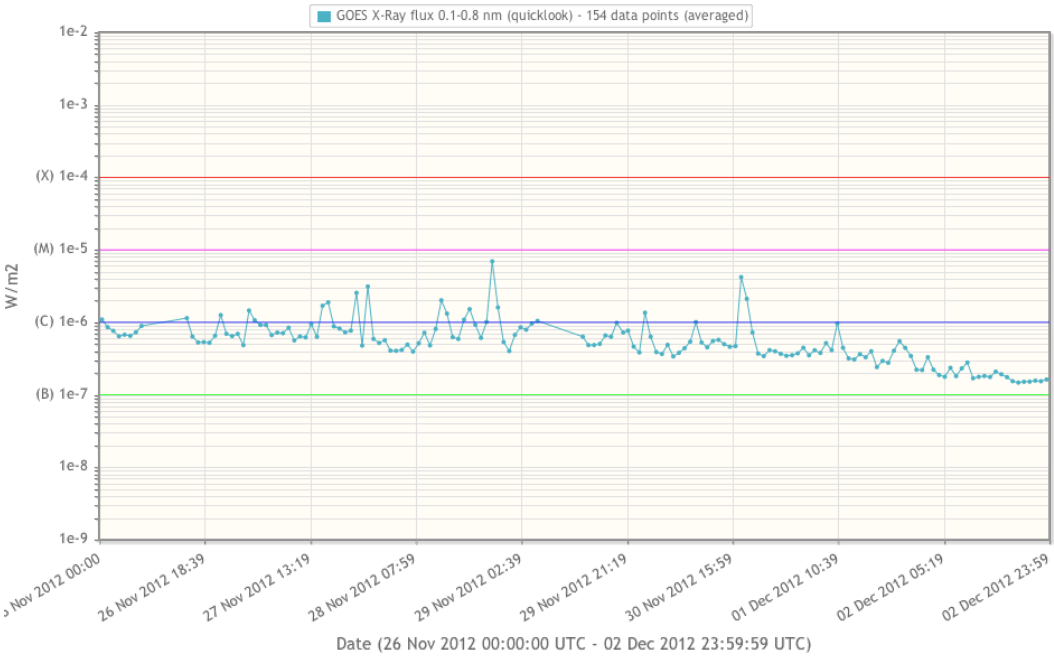
You can find more info about the workshop on http://www.affects-fp7.eu/news-events/user-ws/.

Best regards,
Cis Verbeeck on behalf of the AFFECTS team

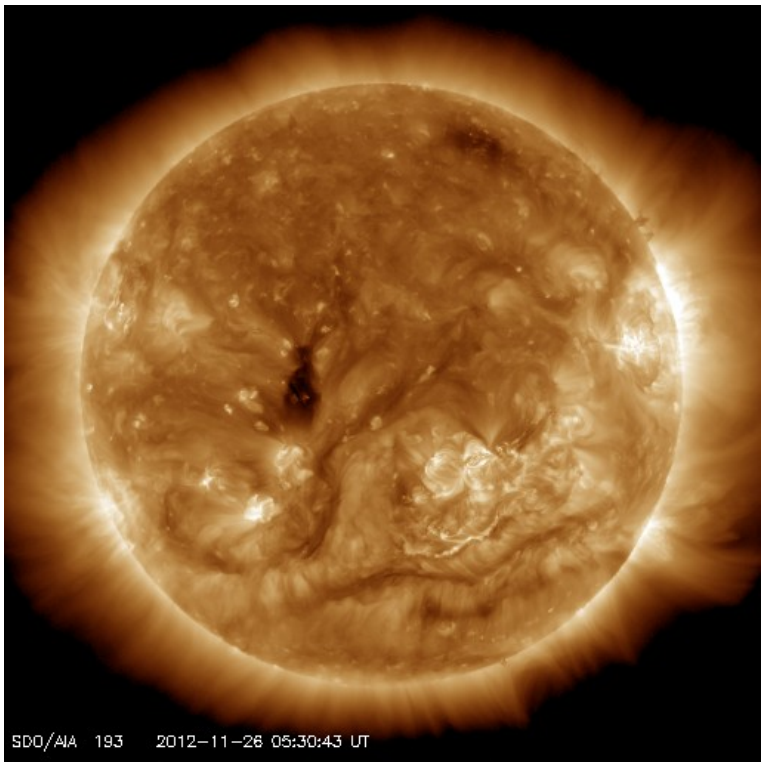
5. Review of solar activity (26 Nov 2012 - 2 Dec 2012)

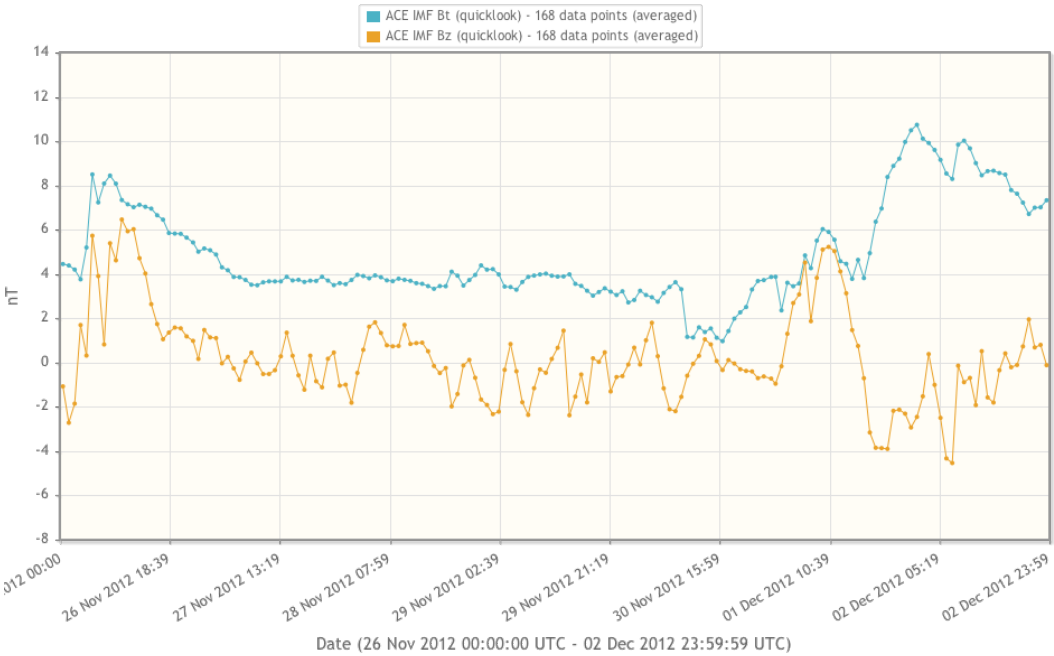
Flares

Nine sunspot groups were reported by Catania during the week (with NOAA Active Region number given in brackets): 27 (1618), 31 (1620), 32 (1622), 33 (no NOAA number), 34 (1621), 35 (1624), 36 (no NOAA number), 37 (1623), and 38 (1625). Catania sunspot groups 27 (NOAA AR 1618), 31 (NOAA AR 1620), 37 (NOAA AR 1623), and 38 (NOAA AR 1625) produced numerous C-class flares, mostly on November 26-30. Three M-class flares were detected during the week: M1.6 flare in Catania sunspot group 27 (NOAA AR 1618) on November 27, as well as M1.0 and M2.2 flares in Catania sunspot group 31 (NOAA AR 1620) on November 27 and 28 respectively. No Earth-directed CMEs were associated with any of the flares.

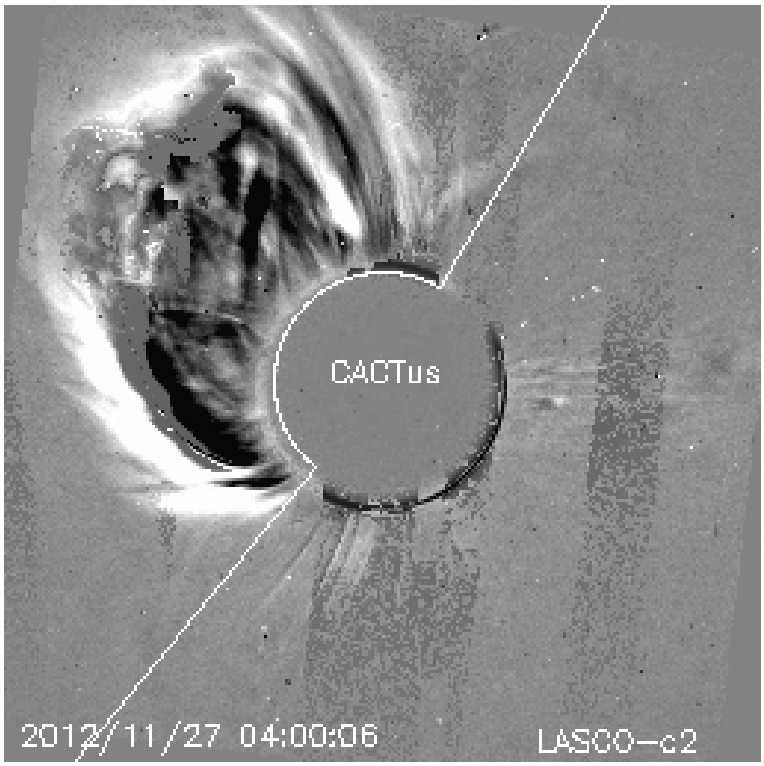


A possibly Earth-directed CME was detected on November 26 originating from the filament channel right to the south of Catania sunspot group 31 (NOAA AR 1620). It was not a halo CME according to the SOHO/LASCO data, and STEREO A SECCHI/COR2 data indicated a low speed of this CME (around 300 km/s). This CME was perhaps associated with the interval of slightly enhanced (up to 9-10 nT) interplanetary magnetic field magnitude on December 1-2 (see section Geomagnetic Activity).

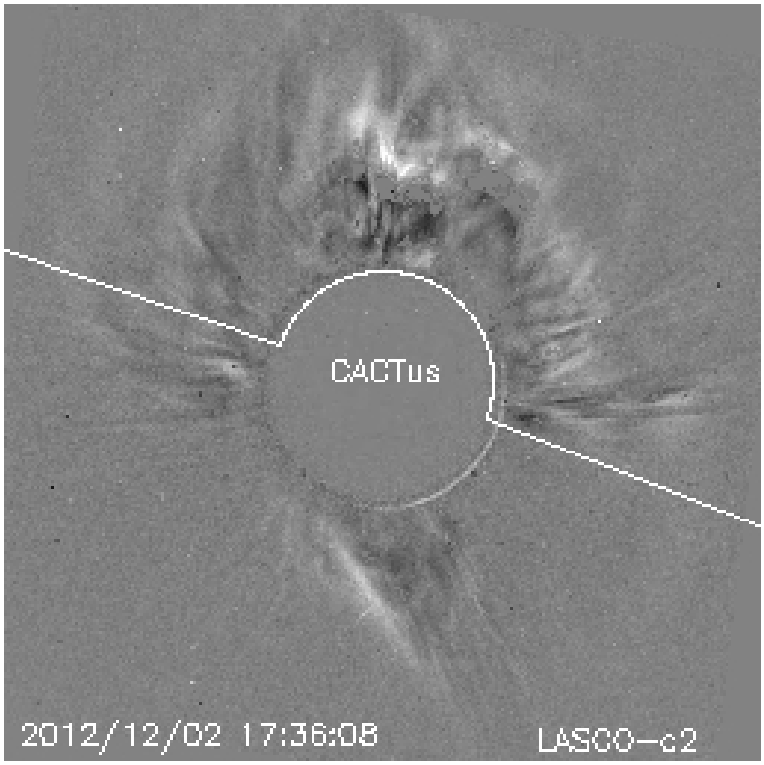




A partial halo CME was detected by SOHO/LASCO on November 27. The CME first appeared in the LASCO C2 field of view at 02:36 UT, had angular width of around 210 degrees and speed around 850 km/s. It was associated with the eruption of a filament situated around N22E65, to the east of Catania sunspot group 34 (NOAA AR 1621). The eruption was accompanied by coronal dimmings and a post-eruption arcade observed by SDO/AIA. The CME was directed eastward of the Sun-Earth line and did not arrive at the Earth.

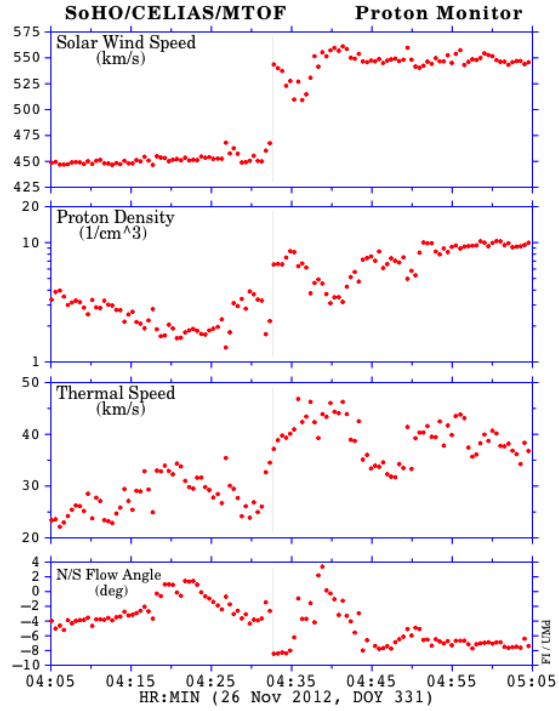


A full halo CME was detected by SOHO/LASCO on December 2, first appearing in the LASCO C2 field of view at 16:36 UT. The inspection of STEREO/SECCHI data demonstrated that this CME originated on the far side of the Sun.



6. Review of geomagnetic activity (26 Nov 2012 - 2 Dec 2012)

An interplanetary shock wave was detected on November 26 by ACE and SOHO/CELIAS, at 04:32 UT.



It was most probably associated with the full halo CME observed on the Sun on November 23. The interplanetary magnetic field (IMF) magnitude in the post-shock sheath flow was moderately high (around 10 nT), but the IMF was directed predominantly northward, so the geomagnetic conditions stayed on the quiet to unsettled level. The driver ICME did not arrive at the Earth. After that the Earth was situated inside the slow solar wind flow, where it stayed until the end of the week. The geomagnetic conditions were quiet. In the evening of December 1 the Earth entered the region with slightly elevated (up to 10 nT) IMF magnitude, possibly associated with the CME eruption on November 26. Due to low solar wind speed and the absence of strongly southward IMF, the geomagnetic conditions remained quiet.

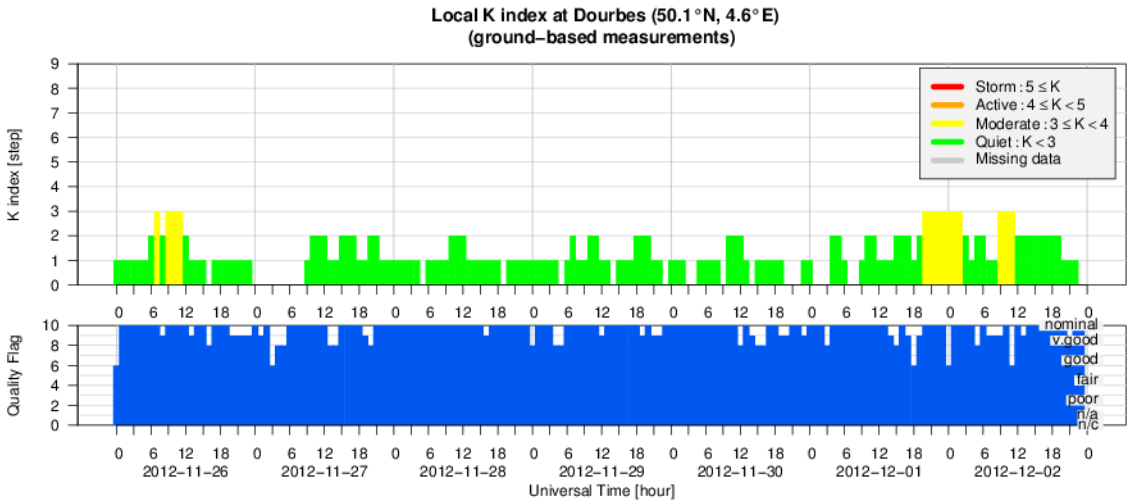
7. Noticeable Solar Events (26 Nov 2012 - 2 Dec 2012)

DAY	BEGIN	MAX	END	LOC	XRAY	OP	10CM	TYPE	Cat	NOAA	NOTE
27	1552	1557	1603	N05W73	M1.6	SF	0		27	1618	
27	2105	2126	2130	S14W41	M1.0	SF	0	III/1	31	1620	
28	2120	2136	2148	S14W57	M2.2	1F	0		31	1620	

LOC: approximate heliographic location
XRAY: X-ray flare class
OP: optical flare class
10CM: peak 10 cm radio flux

TYPE: radio burst type
Cat: Catania sunspot group number
NOAA: NOAA active region number

8. Geomagnetic Observations at Dourbes (26 Nov 2012 - 2 Dec 2012)



9. 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

10. 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/

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

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/