

STCE Newsletter

12 Aug 2013 - 18 Aug 2013



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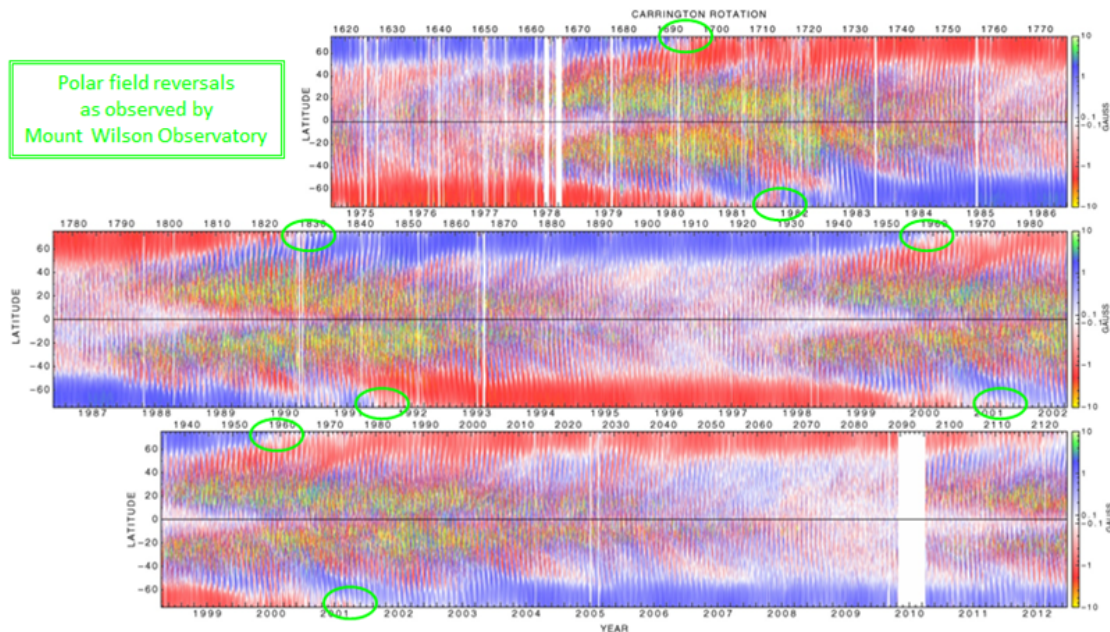
The Solar-Terrestrial Centre of Excellence (STCE) is a collaborative network of the Belgian Institute for Space Aeronomy, the Royal Observatory of Belgium and the Royal Meteorological Institute of Belgium.

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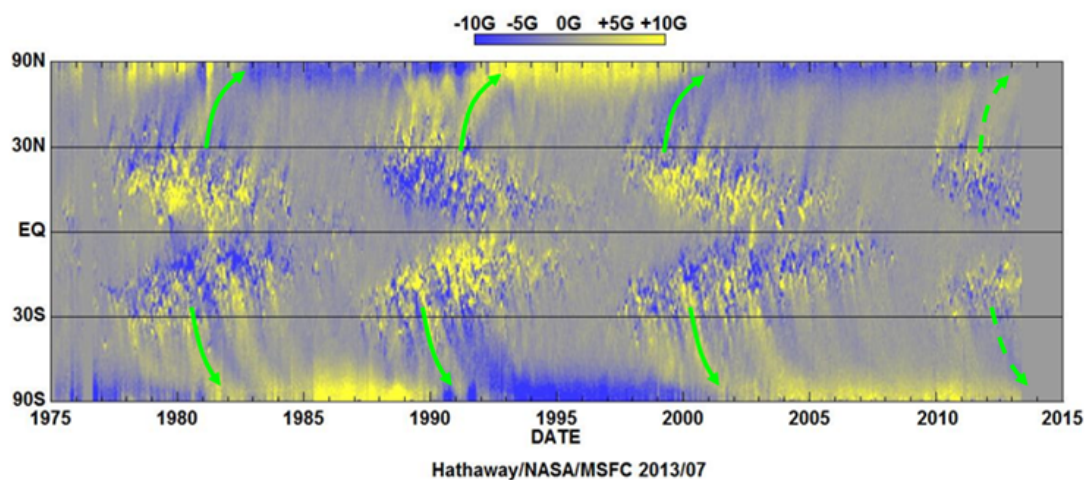
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1. The Sun's polar field reversals (12 Aug 2013 - 18 Aug 2013)

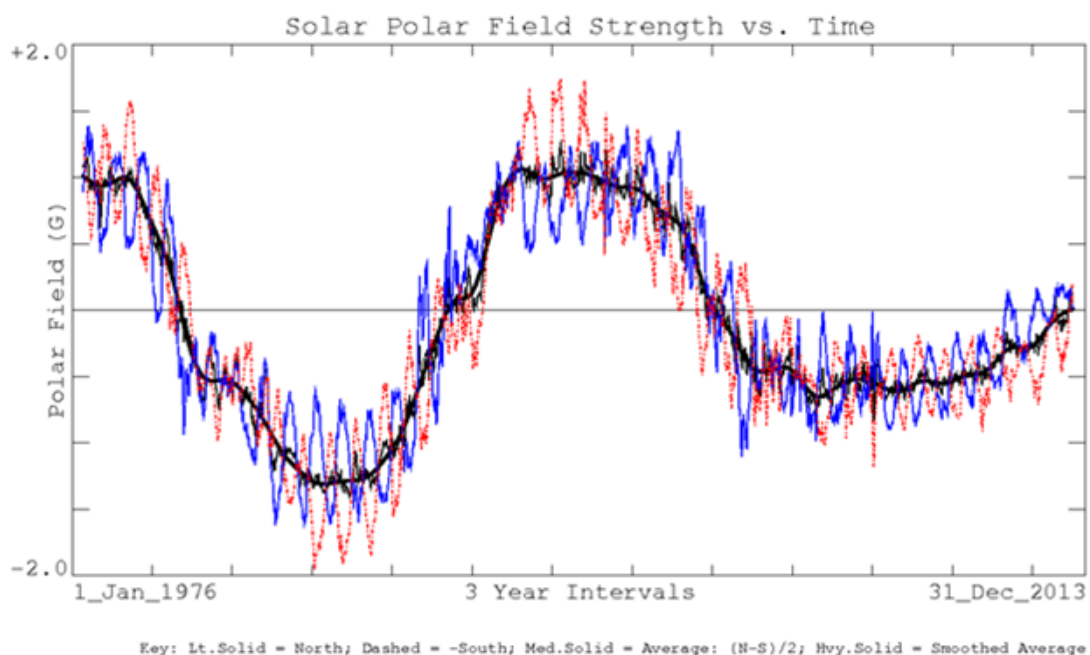
Each solar cycle, during the period of maximum activity, the magnetic field at the solar poles disappears and gets replaced by a magnetic field of opposite polarity. These reversals are a key feature of the solar dynamo: the physical process that generates the Sun's magnetic field necessary for the creation of sunspots and other magnetic phenomena. The plot underneath was produced by the Mount Wilson Observatory (MWO) and shows the evolution of the magnetic field over the solar surface since 1975 (red is negative polarity, blue positive). Polar reversals during previous cycles have been indicated with green ellipses.



This switch of the polar magnetic fields does not take place overnight. Indeed, it may take even several months before they are permanently established. The old polar field is replaced by opposite polarity field from the magnetic remnants of active regions, being transported towards the poles by the Sun's magnetic conveyor belt, as tree leaves floating on a rippling creek. This is a slow process as can be seen in this figure from the Marshall Space Flight Center (MSFC), annotated by green arrows indicating the movement from the active region belt towards the solar poles (yellow is positive polarity, blue negative).



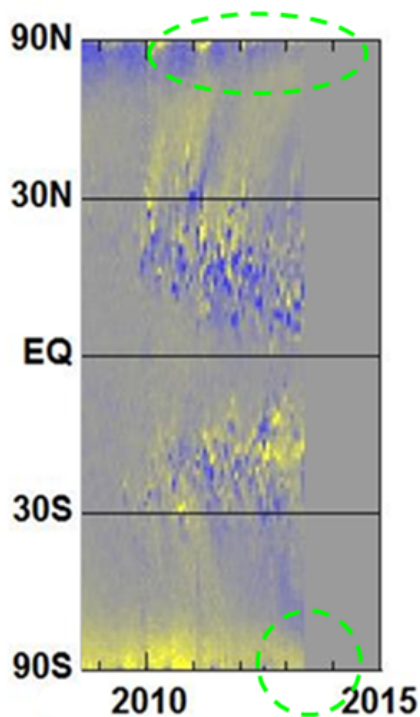
Also, observers here on Earth have an oblique view on the Sun's poles. As the Sun's axis is tilted, they have a better view on the Sun's south pole during the spring months, and on the north pole during autumn. This changing view complicates measurements and delays firm determination of the timing of the reversal, as can be seen in the undulating evolution of the polar field strength (see figure from the Wilcox Solar Observatory (WSO) below).



The figures above readily show that there can be several months to over a year in difference between the timings of the reversal at the respective poles. For example, during the previous solar cycle, the north pole switched about a year prior to the south pole. So, for a few months around 2001, there were actually 2 "south" poles on the Sun!

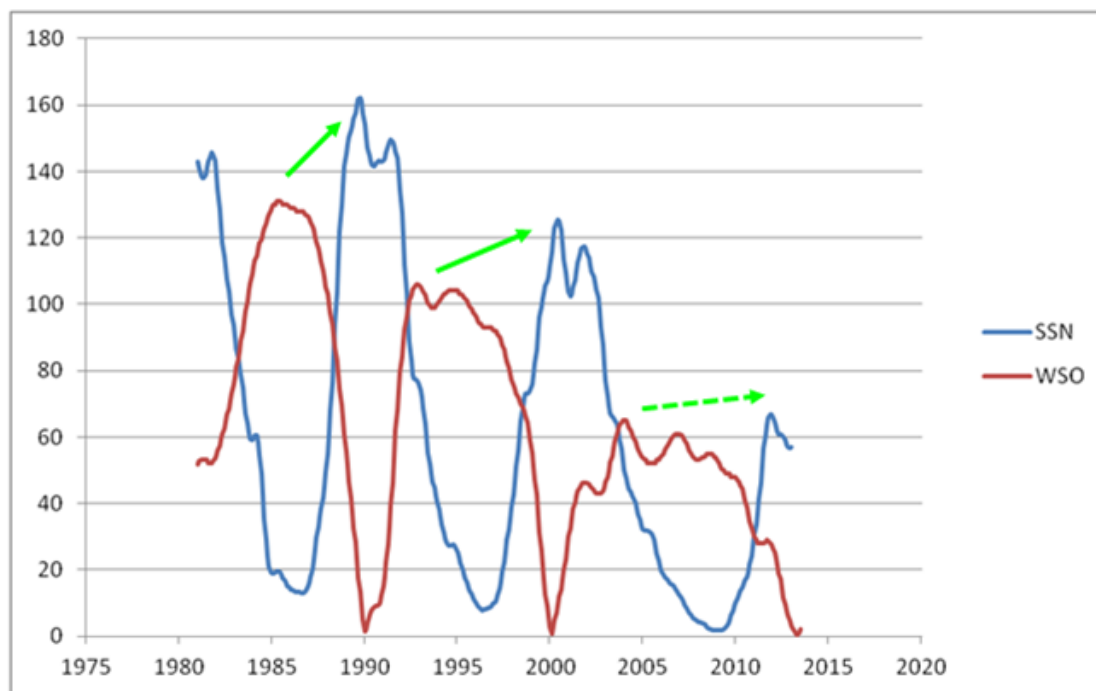
For the current solar cycle 24 (SC24), the reversal on the Sun's north pole has been going on now for about a year or two, with positive and negative polarities alternating each other for the above mentioned reasons. It seems that only right now, the reversal on the north pole has become permanent. This still

has to be confirmed in the months ahead. The reversal at the south pole seems to have only just begun (mid-2013). Therefore, a complete reversal still seems quite a few months away.



Once these reversals have been completed on both hemispheres, SC24 is expected to be about halfway through its cycle. However, this does not necessarily mean that solar cycle maximum is behind us. In particular low solar cycles have extended maximum periods showing short-lived increases in solar activity which may boost the sunspot number (SSN) to a new and higher maximum, which may then occur relatively late in the solar cycle. Thus, SC24 may see its maximum late 2013 or even 2014, about 5 years since its beginning instead of the average 4 years.

The reversals also do not affect the geomagnetic field in a significant way. Indeed, though the Sun's polar field reversals affect the entire solar system, the Earth's magnetic field disturbances are mainly driven by coronal mass ejections from solar eruptions and the high speed streams from coronal holes. These are not influenced by the polar field switches. Hence, the magnetic reversals will not spark an increase in powerful solar storms or other events that could have a damaging effect on Earth and its technology.



Once the polar field reversals have been completed, scientists will continue to monitor the evolution of the strength of the fields. Indeed, there are theories that use the maximum strength of the polar fields as an indicator of the strength of the next solar cycle. That's how some scientists predicted that SC24 would be a low activity solar cycle, as the maximum polar field strength was the lowest since they started measuring nearly 40 years ago. Each time, the polar field has been weaker, and each time, the next cycle was a bit weaker too (sketch above). Scientists would like the next maximum polar field strength to be a bit higher, followed by a cycle which would be higher as well. That would give a boost to the validity of these predictions and the theory behind it.



Credits and further reading:

MSFC (<http://solarscience.msfc.nasa.gov/dynamo.shtml>), WSO (<http://wso.stanford.edu/>), Mount Wilson (<http://obs.astro.ucla.edu/torsional.html>), Science at NASA (http://science.nasa.gov/science-news/science-at-nasa/2013/05aug_fieldflip/), STCE Newsletter (<http://www.stce.be/news/156/welcome.html>), Photobucket (<http://s242.photobucket.com/user/texasbelle4732/media/Avatars/Penguin-PolarBear.jpg.html>), PenguinGeek (<http://penguingeek.wordpress.com/2009/03/11/polar-bear-vacation/>).

2. Celebration edition of the 10th European Space Weather Week

Ten in a row: 2004 - 2005 - 2006 - 2007 - 2008 - 2009 - 2010 - 2011 - 2012 - 2013

ESWW10 is approaching, with loads of input by participants for the plenary sessions and the splinters: check <http://stce.be/esww10>
Enjoy the poster!



**November 18 - 22, 2013
Antwerp, BELGIUM**

10TH ANNIVERSARY

**EXTREME EVENTS · STRATEGIC DATA · E-INFRASTRUCTURE · MODELLING · SPACECRAFT OPERATIONS ·
RADIO WAVE PROPAGATION · SOLAR FLARE PREDICTION · FORECAST VERIFICATION · AVIATION ·
SOCIETAL RESILIENCE · PLANETARY SYSTEMS · SPACE EXPLORATION · COSMIC RAY DETECTORS**

www.stce.be/esww10

Programme Committee

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N. Crosby (BIRA-AASB), J. Watermann (InCoSol), M. Wik (Neurospace), S. Bruinsma (CNES)

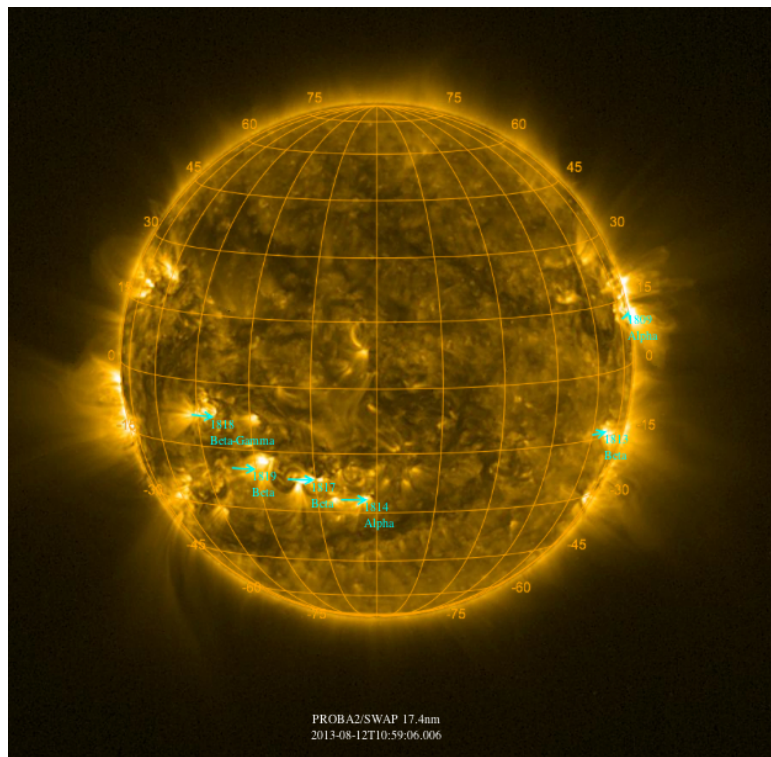
Local Organisation
Solar-Terrestrial Centre of Excellence, Belgium



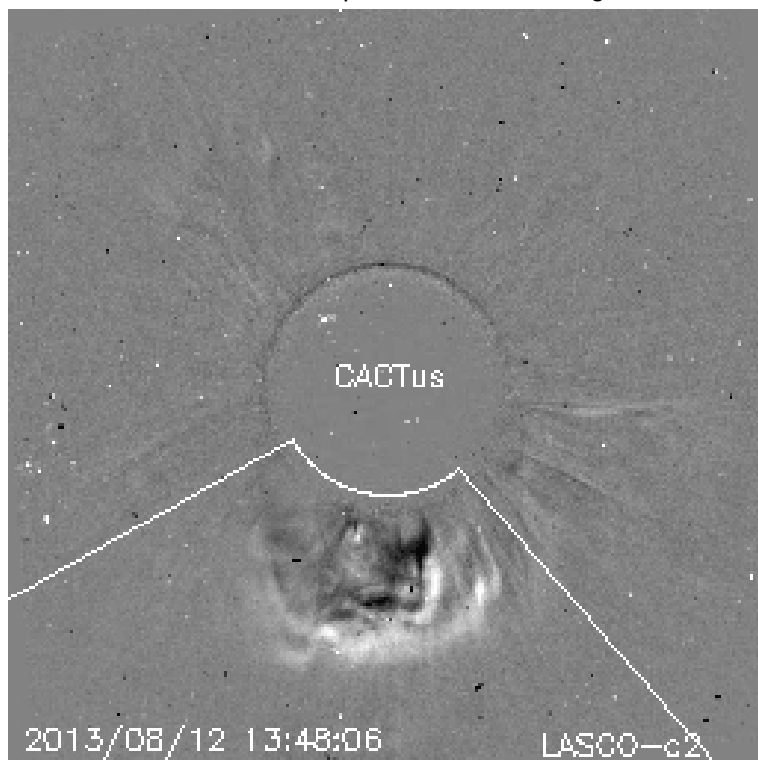
3. Review of solar and geomagnetic activity (12 Aug 2013 - 18 Aug 2013)

Solar Activity

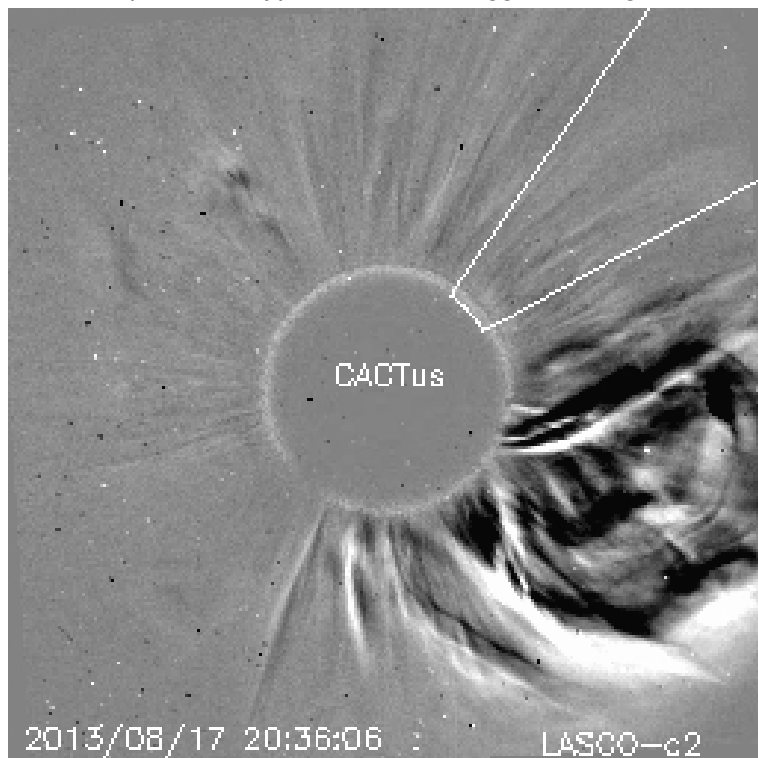
Solar activity was low for most of the week. NOAA AR 1817 was the main actor with 3 M flares. The image below is an EUV image taken by the SWAP telescope onboard of PROBA2. The NOAA active regions are indicated. Check <http://sidc.be/soteria/soteria.php>



The first one, a M1.5, occurred on August 12, 1041 UT (peak time), and was associated with a non-geoeffective CME. The image below is a CACTus-output. CACTus is a software that detects automatically transient events in coronagraphic images. It is a difference image, i.e. it shows the difference between 2 subsequent LASCO/C2 images. LASCO is a coronagraph onboard of SOHO.



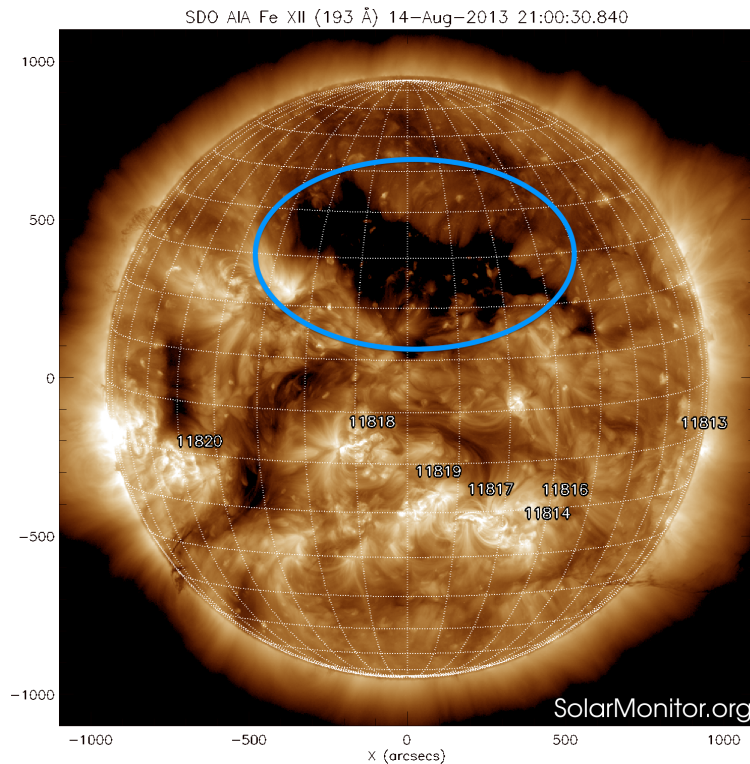
On August 17, AR 1817 produced a long duration event consisting of two consecutive M flares: a M3.3 at 1824 UT and a M1.4 at 1933 UT (peak time). This LDE was accompanied by a relatively fast CME (about 1000 km/s), a metric type II burst, and triggered a slight increase of the 10 MeV proton flux at Earth.



The number of active regions went from 5 on August 12 and 14, up to 9 on August 18.

Geomagnetic Activity

Quiet geomagnetic conditions were observed for most of the week. Unsettled to active conditions appeared at planetary levels from August 14 to August 16, with even a brief period of minor storm conditions on August 16 (0300 to 0600 UT). This disturbance was linked to a high speed solar wind stream linked to a coronal hole in geoeffective position (in the northern solar hemisphere). The hole is clearly visible in this SDO/AIA image.



ACE measured solar wind speeds up to 750 km/s on August 16, and Bz excursions down to -6 nT on the same day.

4. PROBA2 Observations (12 Aug 2013 - 18 Aug 2013)

Solar (flaring) activity varied between low and moderate during the week. Three M-level flares were recorded. One of them (on Monday) originated from AR 11817, the other two (a dual eruption) from AR 11818.

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: http://proba2.oma.be/swap/data/mpg/movies/WeeklyReportMovies/WR177_Aug12toAug19_2013/2013_08_12_00_00_25_2013_08_18_23_20_43_SWAP_174-hq.mp4 (SWAP174; HelioViewer.org).

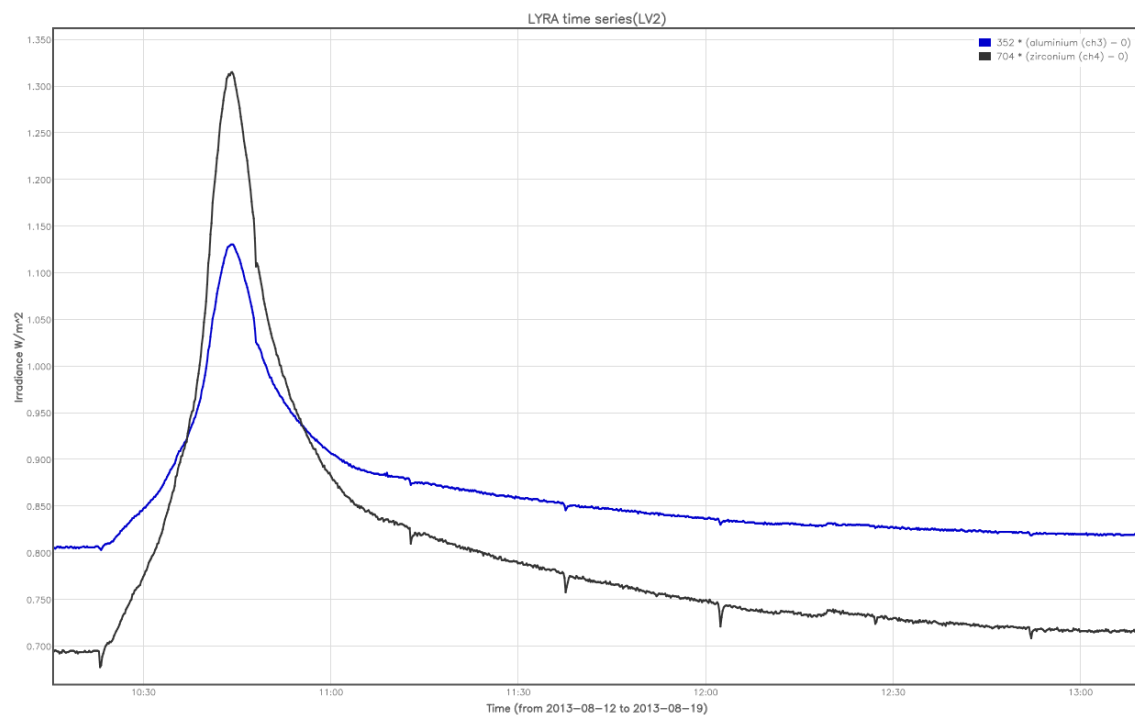
Details about some of this week's events, can be found further below.

Monday August 12th:



M1.5 flare eruption in South East Quadrant @ 10:46 - SWAP difference image

Find a movie of the event here: http://proba2.oma.be/swap/data/mpg/movies/WeeklyReportMovies/WR177_Aug12toAug19_2013/Events/20130812_M15_Eruption_SouthEastQuad_AR11817_1046_swap_diff.mp4 (SWAP difference movie)



The LYRA curves of the M1.5 Eruption
(black: zirconium; blue: aluminium)

Wednesday August 14th:



Prominence eruption in South West Quadrant @ 21:33 - SWAP difference image

Find a movie of the event here: http://proba2.oma.be/swap/data/mpg/movies/WeeklyReportMovies/WR177_Aug12toAug19_2013/Events/20130814_PromEruption_SouthWestQuad_2133_swap_diff.mp4 (SWAP difference movie)

Friday August 16th:



Prominence eruption in South West Quadrant @ 15:33 - SWAP difference image

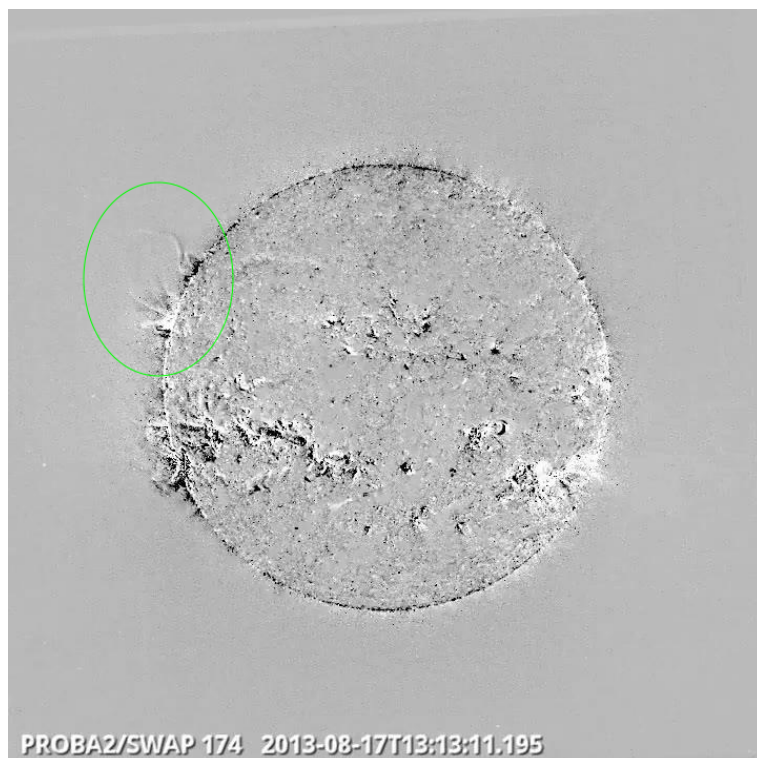
Find a movie of the event here: http://proba2.oma.be/swap/data/mpg/movies/WeeklyReportMovies/WR177_Aug12toAug19_2013/Events/20130816_PromEruption_SouthWestLimb_1533_swap_diff.mp4 (SWAP difference movie)

Saturday August 17th:



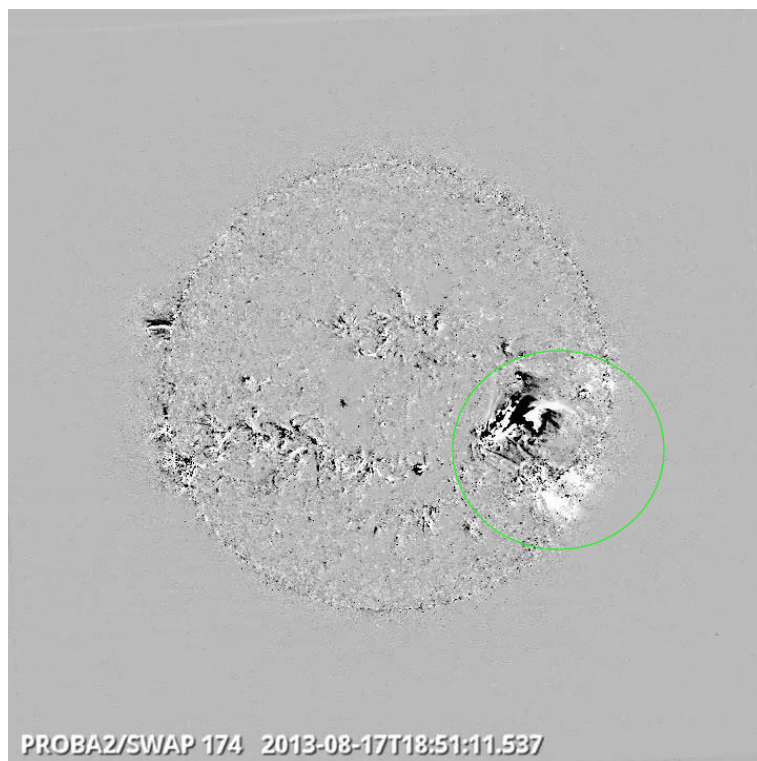
Big Prominence Eruption in North East Quadrant @ 00:58 - SWAP difference image

Find a movie of the event here: http://proba2.oma.be/swap/data/mpg/movies/WeeklyReportMovies/WR177_Aug12toAug19_2013/Events/20130817_PromEruption_NorthEastQuad_0058_swap_diff.mp4
(SWAP difference movie)



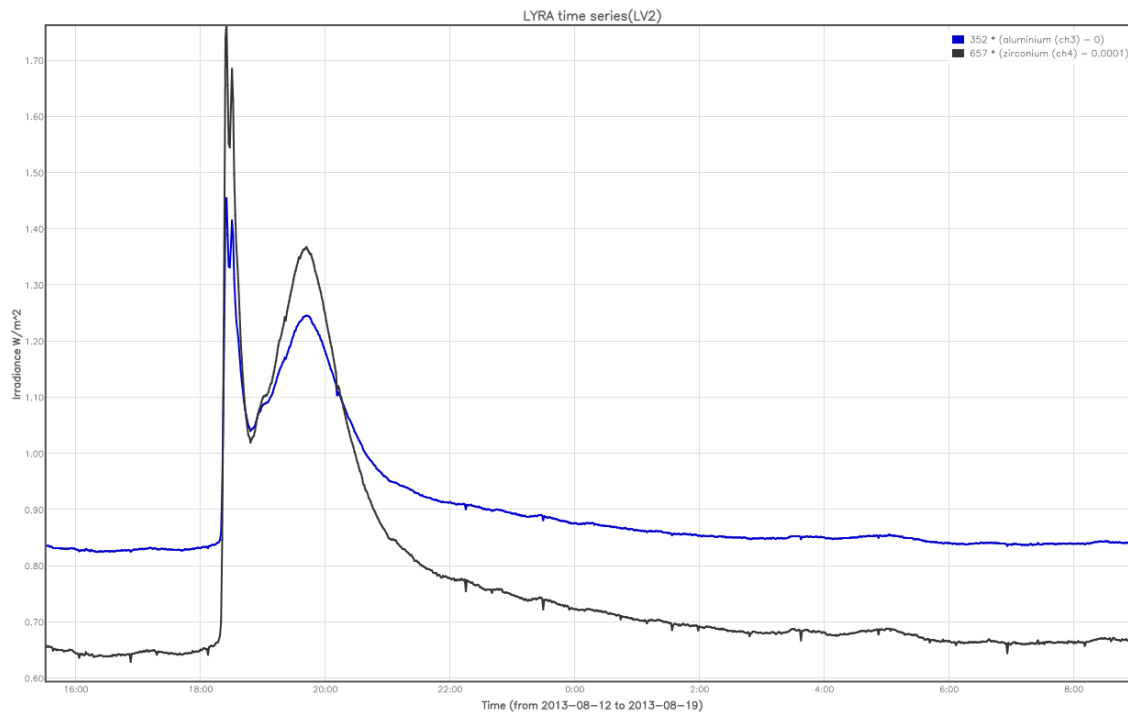
Prominence Eruption on North East Limb @ 13:13 - SWAP difference image

Find a movie of the event here: http://proba2.oma.be/swap/data/mpg/movies/WeeklyReportMovies/WR177_Aug12toAug19_2013/Events/20130817_PromEruption_NorthEastLimb_1313_swap_diff.mp4
(SWAP difference movie)



M3.3 + M1.4 Flare Eruptions in South West Quadrant @ 18:51 - SWAP difference image

Find a movie of the event here: http://proba2.oma.be/swap/data/mpg/movies/WeeklyReportMovies/WR177_Aug12toAug19_2013/Events/20130817_M33_Eruption_SouthWestQuad_AR11818_1851_swap_diff.mp4 (SWAP difference movie)



The LYRA curves of the M3.3 + M1.4 Eruption
(black: zirconium; blue: aluminium)

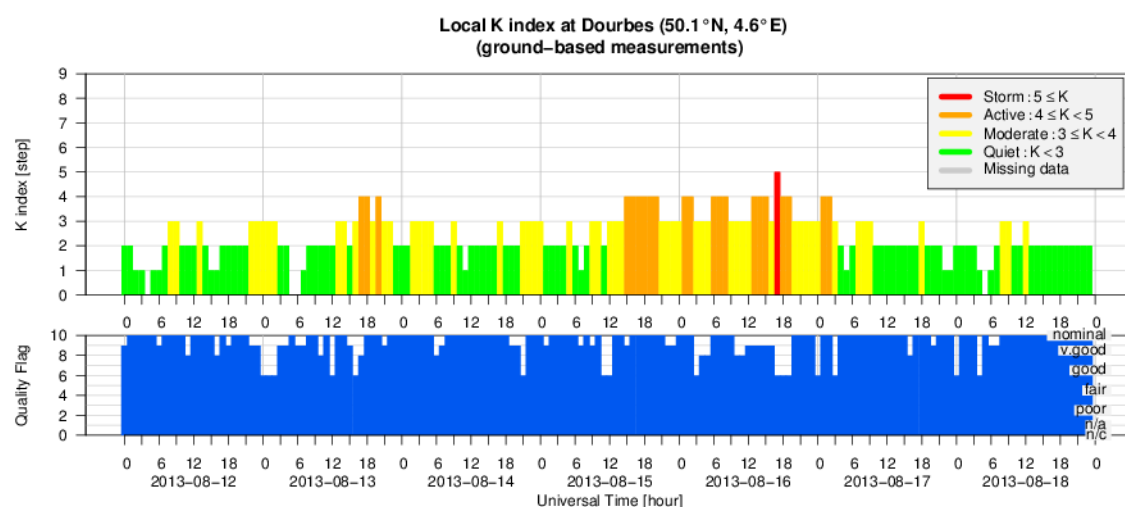
5. Noticeable Solar Events (12 Aug 2013 - 18 Aug 2013)

DAY	BEGIN	MAX	END	LOC	XRAY	OP	10CM	TYPE	Cat	NOAA
12	1021	1041	1047	S17E19	M1.5	SN				1817
17	1816	1824	1835		M3.3	B	110			1818
17	1849	1933	1954		M1.4		150	I/2 1I/2V/1		1818

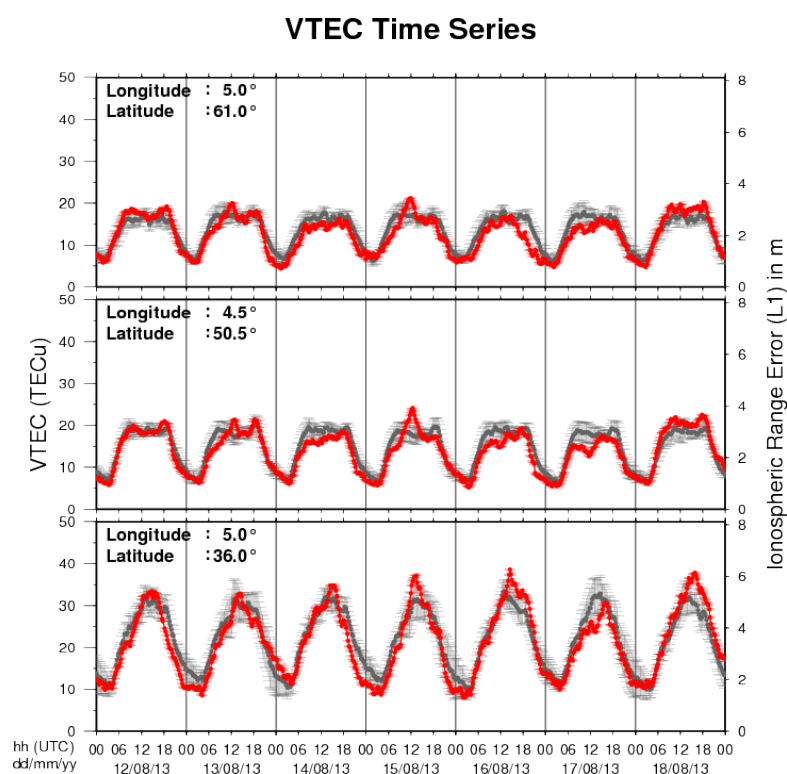
LOC: approximate heliographic location
XRAY: X-ray flare class
OP: optical flare class
10CM: peak 10 cm radio flux

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

6. Geomagnetic Observations at Dourbes (12 Aug 2013 - 18 Aug 2013)



7. Review of ionospheric activity (12 Aug 2013 - 18 Aug 2013)



The figure shows the time evolution of the Vertical Total Electron Content (VTEC) (in red) during the last week at three locations:

- a) in the northern part of Europe($N61^{\circ}$, $5^{\circ}E$)
- b) above Brussels($N50.5^{\circ}$, $4.5^{\circ}E$)
- c) in the southern part of Europe($N36^{\circ}$, $5^{\circ}E$)

This figure also shows (in grey) the normal ionospheric behaviour expected based on the median VTEC from the 15 previous days.

The VTEC is expressed in TECu (with $\text{TECu} = 10^{16}$ electrons per square meter) and is directly related to the signal propagation delay due to the ionosphere (in figure: delay on GPS L1 frequency). The Sun's radiation ionizes the Earth's upper atmosphere, the ionosphere, located from about 60km to 1000km above the Earth's surface. The ionization process in the ionosphere produces ions and free electrons. These electrons perturb the propagation of the GNSS (Global Navigation Satellite System) signals by inducing a so-called ionospheric delay.

See http://stce.be/newsletter/GNSS_final.pdf for some more explanations ; for detailed information, see http://gnss.be/ionosphere_tutorial.php

8. New documents in the European Space Weather Portal Repository

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

eHEROES - Interaction process of the CME-CME event from February 14-15, 2011

<http://www.spaceweather.eu/en/repository/show?id=476>

eHEROES - In-situ density of (I)CMEs versus CME geometry and mass derived from remote sensing data

<http://www.spaceweather.eu/en/repository/show?id=477>

SPENVIS Single Event Effects Modelling

In this tutorial I show step by step how to calculate the single event upset rate for a planned mission with the SPENVIS SEE tool.

<http://www.spaceweather.eu/en/repository/show?id=478>

SPENVIS Spacecraft Charging Tools

In this tutorial I give an overview of the spacecraft charging analysis tools, charging environment models and data sets that are available inside SPENVIS.

<http://www.spaceweather.eu/en/repository/show?id=479>

SPENVIS Radiation Package

In this tutorial I give an overview of the radiation environment models and effect tools available in SPENVIS.

<http://www.spaceweather.eu/en/repository/show?id=480>

9. Future Events

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

Solar Physics and Space Weather Instrumentation V in San Diego, CA (USA)

Start : 2013-08-25 - End : 2013-08-29

This conference will focus on instrumentation, observatories, space missions, and programs for observations from the Sun to Earth's upper atmosphere and space environment. The aim is to bring together diverse communities working on all elements of solar physics and space weather instrumentation.

Studying solar phenomena and monitoring space weather requires observations using both space- and ground-based instrumentations covering the different regions of the Sun-Earth system, the Sun,

interplanetary medium, magnetosphere, ionosphere, and thermosphere. Papers are solicited concerning all instrumentation-supporting solar physics and space weather. This includes, but is not limited to, concepts, designs, fabrication processes, calibration, data trending, information technologies, solar data mining, instrument modeling, and satellite lifetime prediction modeling. We are also interested in all past, current, and future solar space missions and satellite and ground constellations of space weather instrumentation with a strong focus on Space Situational Awareness.

This conference is intended to provide the solar physics community and that of Earth's space environment with a forum for discussing the latest updates on instrumentation, observation techniques, and programs in their respective fields, and for proposing innovative ideas for future Sun-Earth coordinated observations.

Website: <http://spie.org/op423>

2013 Meeting of the Italian Community in Solar and Heliospheric Physics in Catania, Italy

Start : 2013-09-04 - End : 2013-09-06

The purpose of the meeting is to provide a forum for the Italian scientists in the field (some of which are abroad) to consolidate on-going collaborations and establish new ones, for example in future projects such as Solar Orbiter and EST, where several of us are involved.

The meeting is obviously open to scientists from all the countries!

Website:

<http://www.oact.inaf.it/weboac/SoHe2013/>

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.yao.ac.cn/>

2nd UK-Ukraine meeting on Solar Physics and Space Science (UKU SPSS) in Kiev, Ukraine

Start : 2013-09-16 - End : 2013-09-20

The meeting will cover a broad range of aspects of solar physics, space science and solar-terrestrial relations. We aim to include every side of solar and space research, including observations, theory, and numerical modelling. The main idea behind the meeting is to treat the entire solar-terrestrial domain as one system, rather than each region independently.

The topics to be covered are:

- * advanced solar observations
- * waves and flows in the Solar atmosphere
- * structure and dynamics of solar magnetic fields
- * connecting analytical theory and modern numerical simulations to observations
- * new physics in numerical modelling
- * linking solar interior with heliosphere

- * particle acceleration in the Sun and heliosphere
- * non-linear phenomena in space plasmas
- * physics of magnetosphere and ionosphere

Website:

http://swat.group.shef.ac.uk/Conferences/Ukraine_UK_2013/index.html

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://wis.kuleuven.be/CHARM/events/school/SSTW2013/>

STEREO/WAVES & WIND/WAVES workshop on Solar Radio Emissions on Santorini, Greece

Start : 2013-10-07 - End : 2013-10-11

The aim of the workshop is to review the "state of the art" theories about generation and propagation of Solar radio burst and discuss the observational constraints and results that have been provided in this area by the WIND & STEREO missions during the last 20 years. Furthermore the STEREO & WIND observations will be put in the context of other missions such as RHESSI and ground based observatories. Finally, the preparation for the future explorations foreseen with Solar Orbiter and Solar Probe Plus will be discussed.

Website:

<http://type3stereo.sciencesconf.org/>

2nd Asian-Pacific Solar Physics Meeting, in Hangzhou, China

Start : 2013-10-24 - End : 2013-10-26

Initiated by Profs. Fang and Choudhury, the first Asian-Pacific Solar Physics Meeting (APSPM) was held in Bangalore two years ago. During the meeting, a consensus was achieved that it might be a good idea to have the APSPM every three years. Somehow the second APSPM was proposed to be held by mainland China in 2013. APSPM is aimed to exchange the recent research results in solar physics in the emerging asian-pacific region.

Asian-pacific regions are getting more and more active in solar physics, as signified by the construction of big facilities, including the Hinode satellite (Japan), SOXS (India), Chinese Solar Radio Heliograph, and Optical & Near-Infrared Solar Eruption Tracer (ONSET). Therefore, colleagues have agreed to hold regional solar physics meetings regularly. The first Asian-Pacific Solar Physics Meeting (APSPM) was held in Bangalore during March 22-24 2011. During the meeting, a consensus was achieved that it might be a good idea to have the APSPM every three years. Somehow the second APSPM was proposed to

be held by mainland China in 2013. APSPM is aimed to exchange the recent research results in solar physics in the emerging asian-pacific region.

Website:

<http://sdac.nju.edu.cn/~solar/>

Helicity Thinkshop on Solar Physics in Beijing, China

Start : 2013-10-27 - End : 2013-10-31

Magnetic helicity has been intensively studied from observational, theoretical, and many other aspects of solar physics. For this meeting we would like to invite solar physicists who are interested in the observational and theoretical studies of the helicity, to encourage thorough discussions on the relevant hot issues. The 1st Helicity Thinkshop was held successfully in 2009, and now the 2nd one will be held on October 27-31, 2013 in Beijing, China.

Website:

<http://sun.bao.ac.cn/meetings/HT2013/>

Workshop and School on Radio Sun in Zhengxiangbaiqi, Inner Mongolia, and Beijing, China

Start : 2013-10-28 - End : 2013-11-02

The Workshop and School on Radio Sun in Beijing and Inner Mongolia during Oct.28 - Nov. 2, 2013 is the first international academic seminar supported by the International Research Staff Exchange Scheme of the Seventh Framework Programme of the European Union (FP7-IRSES-295272-RADIOSUN).

The primary aim of this programme is to establish close research interaction and collaboration between the key research groups involved in CSRH, SSRT, and ALMA projects and in development of relevant theory and data analysis tools, through the systematic research staff and knowledge exchange, joint research efforts exploiting existing data and facilities, and preparing the future world-class partnership in exploitation of the upcoming facilities.

The Workshop and School welcome all solar physicists and students who are interested in solar radio astronomy to participate. We will discuss and exchange the scientific frontier problems, including the new-generation radio instruments (CSRH, Siberian multi-frequency radioheliograph, LOFAR, ALMA, and other new instruments), recent achievements and their scientific goals; methods and techniques of data processing (for example, software, radio image reconstructions, and method for studying various types of solar radio fine structures); and the objectives of new observational data and new mathematical methods.

Website:

<http://beijingradiosun.csp.escience.cn/>

25th Winter School of Astrophysics: Cosmic Magnetic Fields, in La Laguna, Tenerife, Spain.

Start : 2013-11-11 - End : 2013-11-22

Magnetic fields play an important role in many astrophysical processes. But magnetic are difficult to detect and to model or understand, since the fundamental equations describing the behavior of magnetized plasmas are highly non-linear. Hence, magnetic fields are often an inconvenient subject which is overlooked or simply neglected. Such difficulty burdens the research on magnetic fields, which has evolved to become a very technical subject, with many small disconnected communities studying specific aspects and details.

The school tries to amend the situation by providing a unifying view of the subject. The students would have a chance to understand the behavior of magnetic fields in all astrophysical contexts, from cosmology to the Sun. From star-bursting regions to AGNs in galaxies. The school will present a balanced yet complete review of our knowledge. Extensions into the unknown are also important to indicate present and future lines of research.

The Winter School will bring together in a relaxed working atmosphere a number of the leading scientists in this field, PhD students and recent postdocs. The conditions for a successful interaction will be granted, including two special sessions for those students that want to present their own work.

Website:

<http://www.iac.es/winterschool/2013/>

7th Hinode science meeting in Takayama, Japan

Start : 2013-11-12 - End : 2013-11-15

Since its launch in Sep-2006, more than 600 refereed papers have been published based on Hinode observations, presenting many new and important findings to the scientific community. However, due to the unexpectedly low levels of solar activity, until now the focus has mainly been on the more quiescent aspects of the solar cycle. With the solar maximum expected this year, through cooperative observations with SDO, IRIS, and ground based observatories, Hinode observations should lead to our understanding of active Sun phenomena, such as solar flares and CMEs, to be greatly improved. Making Hinode-7 an excellent opportunity to discuss solar activity in the current solar cycle and the related science through the use Hinode data, as well as other solar/space weather data. It will also be interesting to use this meeting to broaden our focus to include the solar-stellar connection as a means to deepen our understanding of solar activity.

Momentum is also gaining for Solar-C, which is being developed as an international collaboration between Japan, US and Europe. To further discuss this mission, the Solar-C science meeting will be held on 11-Nov.

Website:

<http://www.kwasan.kyoto-u.ac.jp/hinode-7/>

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:

<http://www.stce.be/esww10/>

Solar and Stellar Flares, in Prague, Czech Republic

Start : 2014-06-23 - End : 2014-06-27

The meeting in honour of Prof. Zdenek Svestka will cover issues of the physics of solar and stellar flares.

Website:

<http://solarflares2014.cz/>

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/>

14th European Solar Physics Meeting in Dublin, Ireland.

Start : 2014-09-08 - End : 2014-09-12

The European Solar Physics Meetings aim to highlight all aspects of modern solar physics, including observation and theory that span from the interior of the Sun out into the wider heliosphere. These meetings provide a broad, yet stimulating, environment for European and international scientists to share their research in solar physics.

The meeting will mostly comprise of contributed talks and poster presentations, with several invited review talks (typically one per session). Posters will be on display for the whole meeting in close proximity to the lecture theatre. Refreshments will be served in the poster viewing area during two dedicated coffee/poster breaks on each full day.

Website: <http://www.espm14.ie/>