STCE Newsletter

19 Nov 2012 - 25 Nov 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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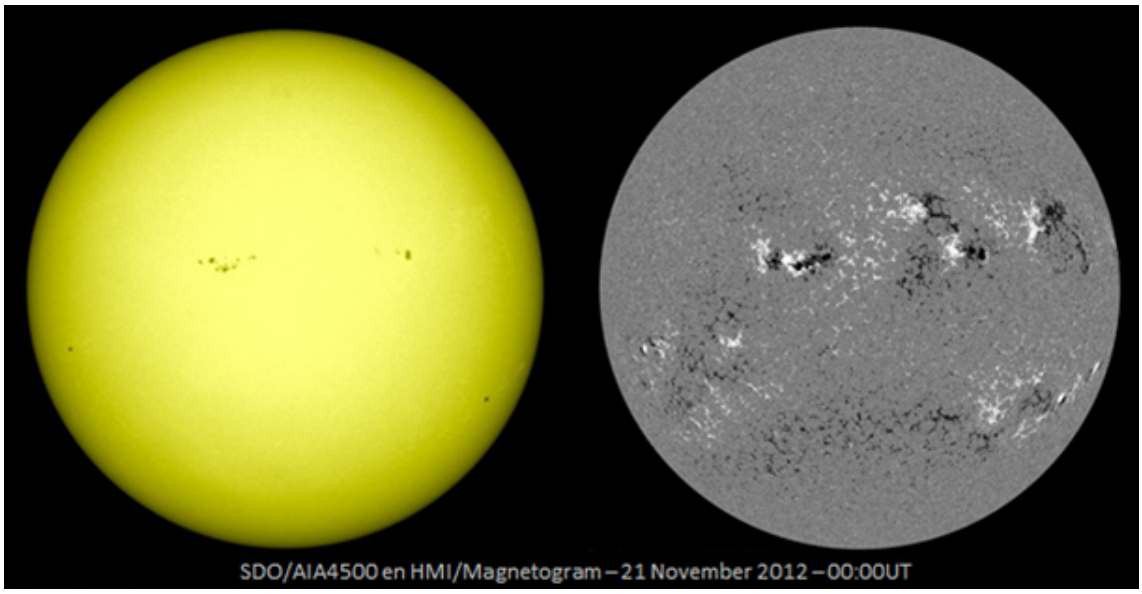
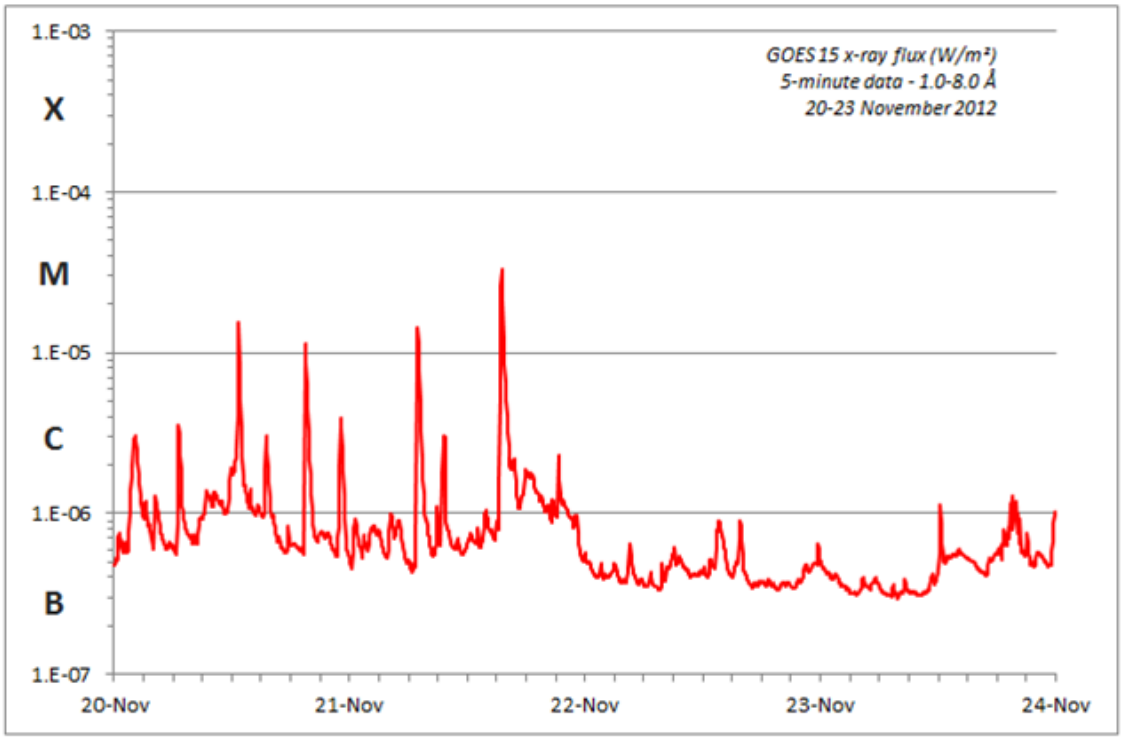
1. Our dynamic Sun (19 Nov 2012 - 25 Nov 2012)

Last week had a couple of days with increased solar activity. For the period of 20 to 23 November, 4 movies in as many different wavelengths were created showing some impressive dynamics in the Sun's atmosphere. Imagery for these clips was taken from the GONG/H-alpha Network (http://halpha.nso.edu/) and from SDO/AIA and HMI (http://sdo.gsfc.nasa.gov/).

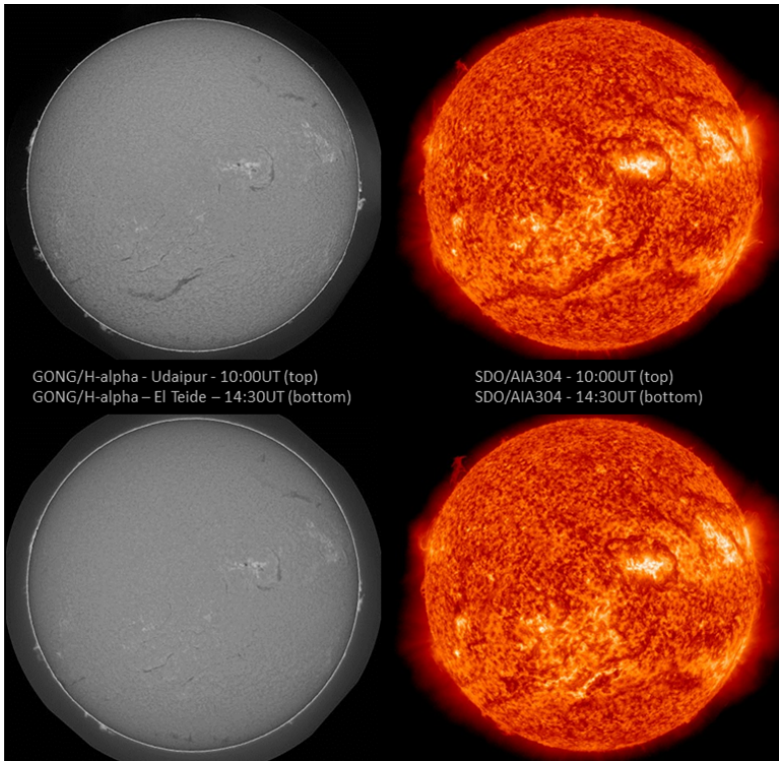
Movie 1 at http://www.youtube.com/watch?v=oxVwVXtjYAg (SDO / AIA4500) shows the Sun as it appeared in white light. Except for the moderately complex active region NOAA 1618, the other sunspot groups were not very impressive. The image underneath shows the Sun on 21 November at 00:00UT in white light. The magnetogram to the right indicates that some sunspots in NOAA 1618 had magnetic fields of opposite magnetic polarity (white and black) and were also very close to each other. This suggested some magnetic mixing, and a possible "short-circuiting" between these magnetic fields was expected.



This forecast came true. The flaring activity was in proportion to the complexity of the sunspot groups, with 4 medium flares on 20 and 21 November. NOAA 1618 produced 3 of these M-flares, the strongest being an M3.5 during the afternoon of 21 November. The source region for the first M-flare was NOAA 1611 (behind the northwest limb).



During these two days, there were also plenty of prominence eruptions and disappearing filaments, often with multiple events going on at the same time. From the GOES15 x-ray chart above (http://www.swpc.noaa.gov/today.html), one might think that solar activity became a bit dull on 22 and 23 November. In reality, the chromospheric activity continued to be very interesting, culminating in a very nice filament eruption around noon on 23 November (12:00-16:00UT). Note that these events were not accompanied by x-ray flares, but often only "enhanced" the x-ray flux (e.g. the 23 November filament eruption).



Movie 2 at http://www.youtube.com/watch?v=lUqqa7PI-S0 shows all this activity in the chromosphere (H-alpha; GONG), movie 3 at http://www.youtube.com/watch?v=BxZs1qHKEiY displays it in the slightly hotter transition zone (SDO/AIA304; about 50.000 degrees), and movie 4 at http://www.youtube.com/watch?v=s3W_0EAwg2U portrays the events in the lower corona (SDO/AIA193; well over 1 million degrees). It is amazing how different the details of the various events look like in these 3 movies. It's worthwhile to focus on one feature (a filament, prominence, active region,...) in one wavelength, and then to compare its evolution in the two other wavelengths. Over the 4 days and 3 wavelengths combined, there are at least 15 obvious features that can be tracked (the flares in NOAA 1618 count as 1...)!

2. Review of solar activity (19 Nov 2012 - 25 Nov 2012)

Solar activity was active to eruptive, with many C- and several M-class flares, mainly coming from NOAA active region 1618 (Catania 27). This AR started the week with a beta magnetic configuration that evolved up to a beta-gamma-delta configuration by Wednesday, November 21. The largest flare was a M3.5 flare with peak at 15:30UT on November 21.
There were three slow (~500 km/s) halo CMEs directed at the Earth on November 20, 21 and 23.

3. Noticeable Solar Events (19 Nov 2012 - 25 Nov 2012)

DAY	BEGIN	MAX	END	LOC	XRAY	OP	10CM	TYPE	Cat	NOAA	NOTE
20	1236	1241	1246	N11W91	M1.7		64	CTM/1 III/2			
20	1921	1928	1932	N07E15	M1.6	SN	90	III/1		1618	
21	0645	0656	0708	N06E10	M1.4	1N	58	II/2 IV/1		1618	
21	1510	1530	1538	N05E05	M3.5		0	IV/2 II/2	27	1618	

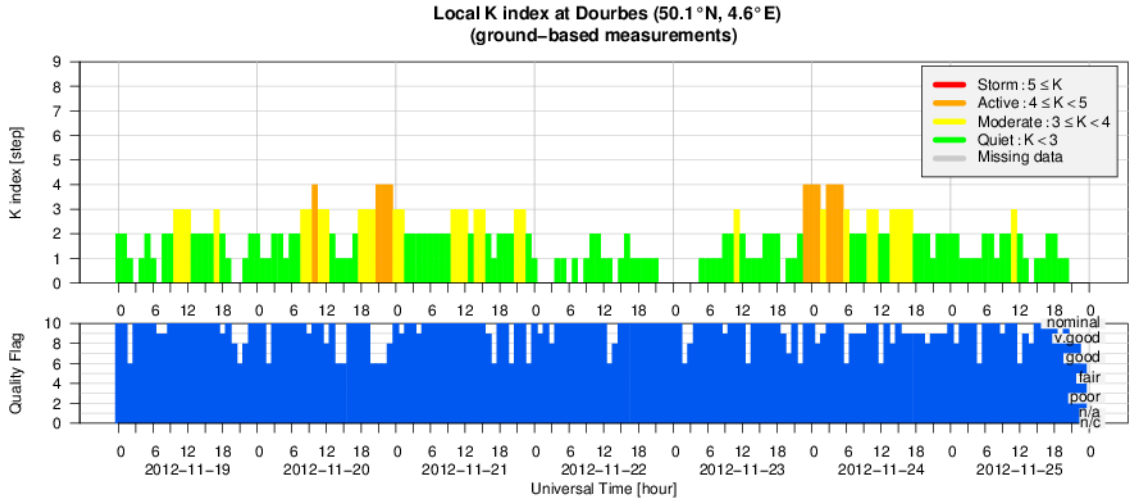
LOC: approximate heliographic location
XRAY: X-ray flare class
OP: optical flare class
10CM: peak 10 cm radio flux

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

4. Review of geomagnetic activity (19 Nov 2012 - 25 Nov 2012)

The Coronal Mass Ejection from November 20 arrived at Earth with a shock at 21:22UT on November 23 (with speed around 400 km/s and magnetic field magnitude of 15nT) and produced two periods of Kp=4 and three of KDourbes=4 starting at 21:00UT. Conditions were quiet the rest of the week, except one active period during the night of November 20 due to a slightly fast solar wind coming from a faint coronal hole.

5. Geomagnetic Observations at Dourbes (19 Nov 2012 - 25 Nov 2012)



6. New documents in the European Space Weather Portal Repository

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

Solar Orbiter 5 Workshop - Poster S1: Synthetic SO/PHI data for Helioseismology

Poster for the Session 1: Solar Magnetism and the Solar Cycle
http://www.spaceweather.eu/en/repository/show?id=299

Solar Orbiter 5 Workshop - Poster S1: SIGMA - a project of a new space mission to measure the magnetic field in the solar corona

Poster for the Session 1: Solar Magnetism and the Solar Cycle
http://www.spaceweather.eu/en/repository/show?id=300

Solar Orbiter 5 Workshop - Poster S1: Software simulator for SO/PHI: SOPHISM

Poster for the Session 1: Solar Magnetism and the Solar Cycle

http://www.spaceweather.eu/en/repository/show?id=301

Solar Orbiter 5 Workshop - Poster S2: SPICE EUV Spectrometer for the Solar Orbiter

Poster for the Session 2: Processes of slow/steady energy release in the solar atmosphere
http://www.spaceweather.eu/en/repository/show?id=302

Solar Orbiter 5 Workshop - Poster S2: Comparison between UV Observations and Numerical Modeling of Quiescent Streamers

http://www.spaceweather.eu/en/repository/show?id=303

Solar Orbiter 5 Workshop - Poster S2: What variability of the solar irradiance would Solar Orbiter observe?

Poster for the Session 2: Processes of slow/steady energy release in the solar atmosphere
http://www.spaceweather.eu/en/repository/show?id=304

Solar Orbiter 5 Workshop - Poster S2: Case study of frequency cut-off related to solar interplanetary Type III bursts

Poster for the Session 2: Processes of slow/steady energy release in the solar atmosphere
http://www.spaceweather.eu/en/repository/show?id=305

Solar Orbiter 5 Workshop - Poster S2: H and He lines emitted by cool coronal loops and prominences

Poster for the Session 2: Processes of slow/steady energy release in the solar atmosphere
http://www.spaceweather.eu/en/repository/show?id=306

Solar Orbiter 5 Workshop - Poster S2: Proton energetics in the solar wind: Helios reloaded

Poster for the Session 2: Processes of slow/steady energy release in the solar atmosphere
http://www.spaceweather.eu/en/repository/show?id=307

Solar Orbiter 5 Workshop - Poster S2: Solar wind manifestations in the variations of Jovian auroral emissions

Poster for the Session 2: Processes of slow/steady energy release in the solar atmosphere
http://www.spaceweather.eu/en/repository/show?id=308

Solar Orbiter 5 Workshop - Poster S2: Properties of Coronal Helium: Results from the HECOR Coronagraph onboard Herschel

Poster for the Session 2: Processes of slow/steady energy release in the solar atmosphere
http://www.spaceweather.eu/en/repository/show?id=309

Solar Orbiter 5 Workshop - Poster S2: Coronal He: Probing capabilities of METIS Coronal Spectrograph

Poster for the Session 2: Processes of slow/steady energy release in the solar atmosphere
http://www.spaceweather.eu/en/repository/show?id=310

Solar Orbiter 5 Workshop - Poster S3: Broad angular spread of energetic particles during the November 3, 2011 SEP event

Poster for the Session 3: Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=311

Solar Orbiter 5 Workshop - Poster S3: SoFAST: Automated Flare Detection with the PROBA2/SWAP EUV Imager

Poster for the Session 3: Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=312

Solar Orbiter 5 Workshop - Poster S3: EPT/HET for Solar Orbiter

Poster for the Session 3: Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=313

Solar Orbiter 5 Workshop - Poster S3: 3D reconstruction of a CME based on spectroscopic and coronagraphic data

Poster for the Session 3: Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=314

Solar Orbiter 5 Workshop - Poster S3: Type III radio bursts and the X-ray connection

Poster for the Session 3: Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=315

Solar Orbiter 5 Workshop - Poster S3: Estimating flare acceleration region characteristics from simultaneous X-ray and Radio obs

Poster for the Session 3: Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=316

Solar Orbiter 5 Workshop - Poster S3: Suprathermal electron production during magnetic reconnection in situ observations

Poster for the Session 3: Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=317

Solar Orbiter 5 Workshop - Poster S3: Electron acceleration during a failed eruption of a filament

Poster for the Session 3: Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=318

Solar Orbiter 5 Workshop - Poster S3: Alternating twist in an erupting prominence

Poster for the Session 3: Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=319

Solar Orbiter 5 Workshop - Poster S3: Spatially resolved polarization of hard X-rays from solar flares

Poster for the Session 3: Eruptive processes in the solar atmosphere and their manifestations in the heliosphere

http://www.spaceweather.eu/en/repository/show?id=320

Solar Orbiter 5 Workshop - Poster S3: The SWA-EAS electron spectrometer

Poster for the Session 3: Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=321

Solar Orbiter 5 Workshop - Poster S3: Measurements of the magnetic drag force acting on small scale plasma blobs

Poster for the Session 3: Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=322

Solar Orbiter 5 Workshop - Poster S3: The suprathermal ion spectrograph for the solar orbiter spacecraft

Poster for the Session 3: Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=323

Solar Orbiter 5 Workshop - Poster S3: Wave amplitudes in the solar wind at 1AU - Implcations for energetic particle transport

Poster for the Session 3: Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=324

Solar Orbiter 5 Workshop - Poster S3: Multi-spacecraft analysis and modeling of a solar eruption on August 14, 2010

Poster for the Session 3: Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=325

Solar Orbiter 5 Workshop - Poster S3: The source regions of SEP events detected by widely spaced spacecraft

Poster for the Session 3: Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=326

Solar Orbiter 5 Workshop - Poster S3: Solar energetic particle 3He-rich events observed by Stereo-A

Poster for the Session 3: Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=327

Solar Orbiter 5 Workshop - Poster S3: The origins and heliospheric evolution of CMEs on 7 and 14 August 2010 from same source

Poster for the Session 3: Eruptive processes in the solar atmosphere and their manifestations in the heliosphere
http://www.spaceweather.eu/en/repository/show?id=328

Solar Orbiter 5 Workshop - Poster S4: Predicted SPICE spectra of representative solar features

Poster for the Session 4: Data assimilation, visualization and analysis

http://www.spaceweather.eu/en/repository/show?id=329

Solar Orbiter 5 Workshop - Poster S4: The CDPP in the Solar Orbiter era: data dissemination, analysis software, connection MEDOC

Poster for the Session 4: Data assimilation, visualization and analysis
http://www.spaceweather.eu/en/repository/show?id=330

Solar Orbiter 5 Workshop - Poster S4: Instrument Control Unit for EPD

Poster for the Session 4: Data assimilation, visualization and analysis
http://www.spaceweather.eu/en/repository/show?id=331

Solar Orbiter 5 Workshop - Poster S4: Langmuir waves in the heliosphere - Solar Orbiter RPW-TDS instrument

Poster for the Session 4: Data assimilation, visualization and analysis
http://www.spaceweather.eu/en/repository/show?id=332

Solar Orbiter 5 Workshop - Poster S4: Quenching in BGO scintillating crystal of the Solar Orbiter High-Energy Telescope

Poster for the Session 4: Data assimilation, visualization and analysis
http://www.spaceweather.eu/en/repository/show?id=333

Solar Orbiter 5 Workshop - Poster S4: Compatibilityof AC and DC magnetic field measurements in preparation for SO and SP+: LL

Poster for the Session 4: Data assimilation, visualization and analysis
http://www.spaceweather.eu/en/repository/show?id=334

Solar Orbiter 5 Workshop - Poster S4: Solar physics data analysis using SunPy: A walk through eCallisto dynamic radio spectra

Poster for the Session 4: Data assimilation, visualization and analysis
http://www.spaceweather.eu/en/repository/show?id=335

ESWW8 - Advances in GIC Research and Effects Mitigation: A Report from a Workshop at European Space Weather Week 2011

A one-day session and workshop was held on the subject of Geomagnetically Induced Currents (GIC) in electrical power networks at the 8th European Space Weather Week, in Namur, Belgium, on 30th November 2011. We describe the questions that were posed at the workshop and summarise the outcomes of the discussions. Among the conclusions reached were the need for improved Sun to Earth numerical models and the need for continued national and international support for space weather monitoring missions and ground networks of instruments. It was also concluded that there was much scope for improved national and international responses to space weather warnings and the need for collaboration between scientists, industry and governments to achieve this. 1.
http://www.spaceweather.eu/en/repository/show?id=336

Solar Orbiter 5 Workshop - Session 1: Recent observations of the solar magnetic fields with Hinode, Sunrine and SDO

Talk in the session Solar Magnetism and the Solar Cycle
http://www.spaceweather.eu/en/repository/show?id=337

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

7. 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/

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/