

STCE Newsletter

4 Jun 2012 - 10 Jun 2012



Published by the STCE - this issue : 15 Jun 2012. Available online at <http://www.stce.be/newsletter/> .

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

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1. Annual STCE meeting 2013 - June 7

Still a whole year to go, but mark your calendars: the 2013 annual STCE meeting will take place on June 7.

Workshops and workgroup meetings around a theme form again the foundation of the annual meeting. We will pinpoint the science - applications - services in the Sun-Earth field that has the interest of the STCE members and the broad solar-terrestrial science community.

More information will follow. But for now, you can mark your calendars: June 7, 2013!

The presentations of the annual meeting 2012 and the workshops are available on <http://www.stce.be/annualmeeting/annualmeeting2012.php>

2. What can we learn from LIDAR-ceilometer measurements ?

The Eyjafjallajökull volcano and the Grimsvötn volcano erupted in April 2010 and in May 2011 respectively caused massive disruption to European air traffic. These eruptions highlighted the need for LIDAR (#Light Detection And Ranging#) monitoring stations capable of routinely estimating the vertical profile of aerosols. In May 2011, RMI installed a LIDAR ceilometer at Uccle (Belgium). The LIDAR ceilometer primarily designed for cloud base height detection (used for air traffic safety and weather forecasting), greatly improved over the last years, offers an opportunity to monitor the vertical profile of aerosols and the mixing layer height (MLH) on a continuous temporal scale. The MLH is an important parameter for several air quality applications. The measurement of MLH can improve the forecasting of the dispersion of trace gases and aerosols in the first layers of the atmosphere.

In this context, firstly, we will present the "basic" principle of the LIDAR and we will give a short overview of the main applications of the LIDAR instruments to atmospheric measurements. Secondly, we will focus on the mixing layer and we will present the algorithm that we have developed at RMI to retrieve the MLH from LIDAR ceilometer data. We will discuss the validation and the time evolution of the MLH retrieved. Finally, the combination of LIDAR ceilometer data with other aerosol parameter measurements such as the sunphotometer data and the PM10 data will be presented.

Presentation by Quentin Laffineur

June 27, 2012, 14:00, conference room at the RMI

3. PROBA2 Observations (4 Jun 2012 - 10 Jun 2012)

Venus Transit

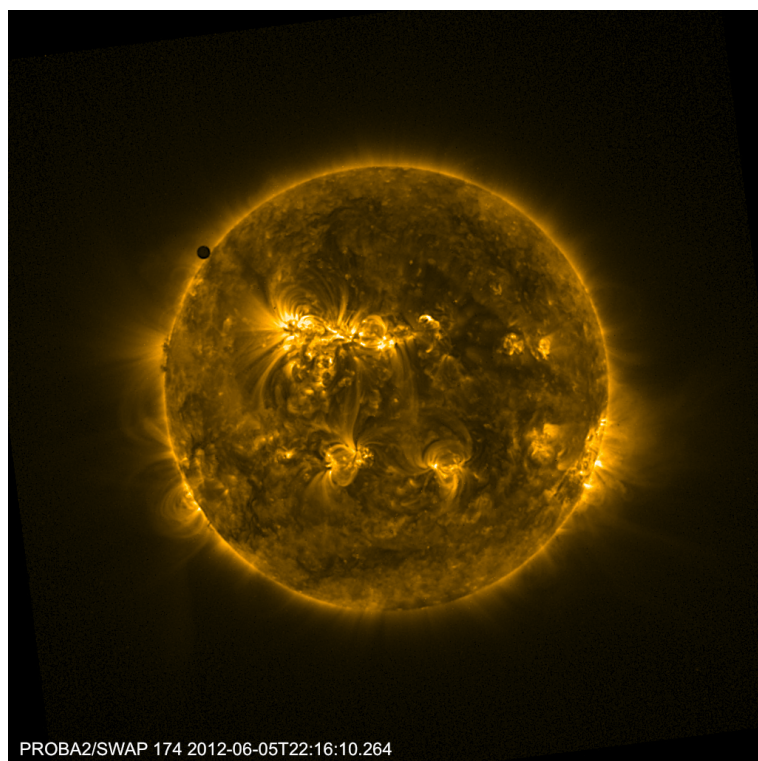
The main science topic this week was the transit of Venus occurring - in UT - during the night of 5 to 6 of June. This is the first and only Venus solar transit for which SWAP and LYRA will be able to gather data.

A specific campaign was prepared to allow both SWAP and LYRA to get the maximum potential science out of the transit.

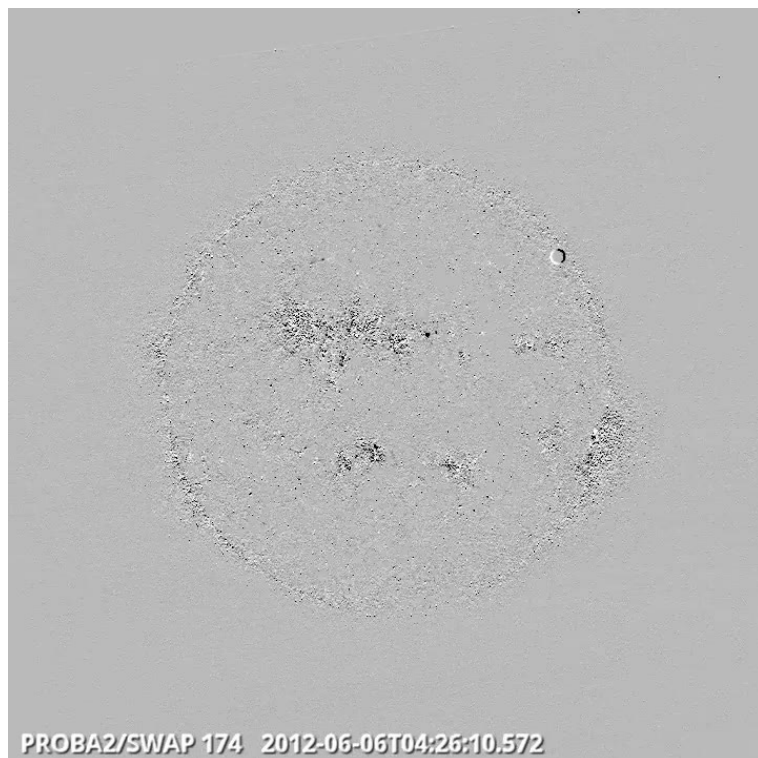
Basically the following steps were performed:

1. Follow Venus crossing the East limb (first and second contact) with LYRA (Unit 2 and Unit 1) and SWAP
2. Follow Venus on the Solar disk with LYRA (Unit 2 and Unit3) and SWAP
3. Follow Venus crossing the West limb (third and fourth contact) with LYRA (Unit 2 and Unit 3) and SWAP
4. Small Off-point (with West limb still in SWAP FOV) to follow Venus as far as possible with SWAP
5. Big off-point (with no Sun in LYRA FOV), to identify if LYRA Unit 1 can detect any potential radiation from Venus, when it enters a predefined FOV.

SWAP View of the Venus Transit first contact:

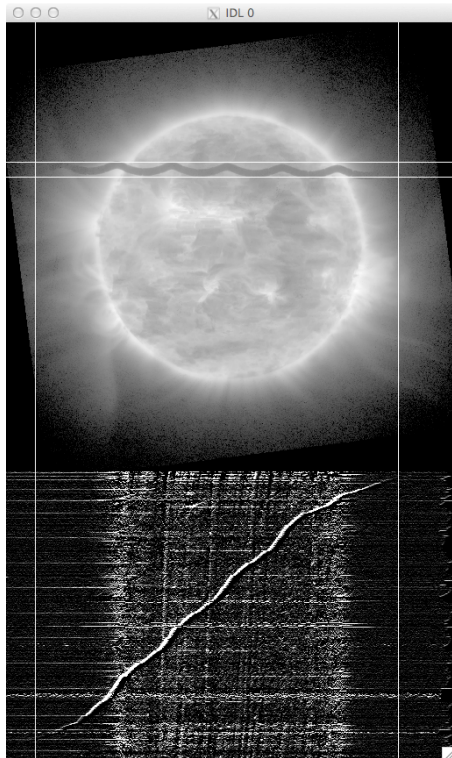


SWAP difference image of the Venus transit, close to the third contact point on the west limb:

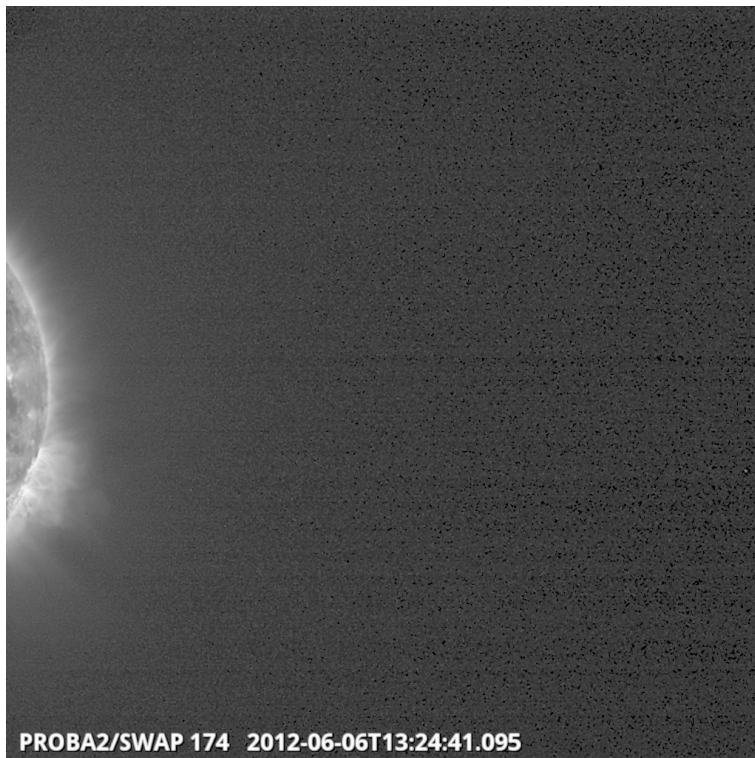


SWAP's complete Venus transit movie can be found here: http://proba2.oma.be/swap/data/mpg/movies/campaign_movies/201206_VenusTransit/20120605_SWAP_VenusTransit.mp4.

An quick analysis was made to find out how far off-limb Venus could be seen with normal Sun-centered FOV. The graph shows that Venus can be seen up to the end of the SWAP FOV.



After the end of the transit, PROBA2 was off-pointed, in order to be able to analyse how far Venus could be seen by SWAP. The SWAP FOV was defined for that purposed:



These images have not yet been fully analysed to be able to make conclusions.

Solar Activity

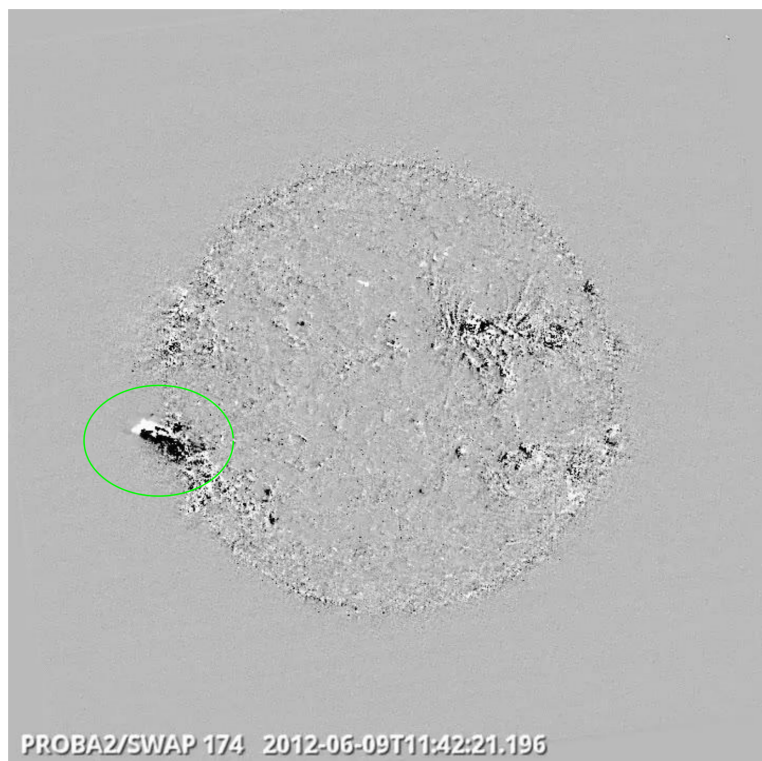
This week, the Sun's activity level fluctuated between low and moderate. M-flares occurred on Wednesday 6th (1), Saturday 9th (2) and Sunday 10th (1). Active Region 11504 rounded the eastern limb during the week-end and erupted 3 times at M1 to M2 level.

Below are provided some SWAP pictures and LYRA curves

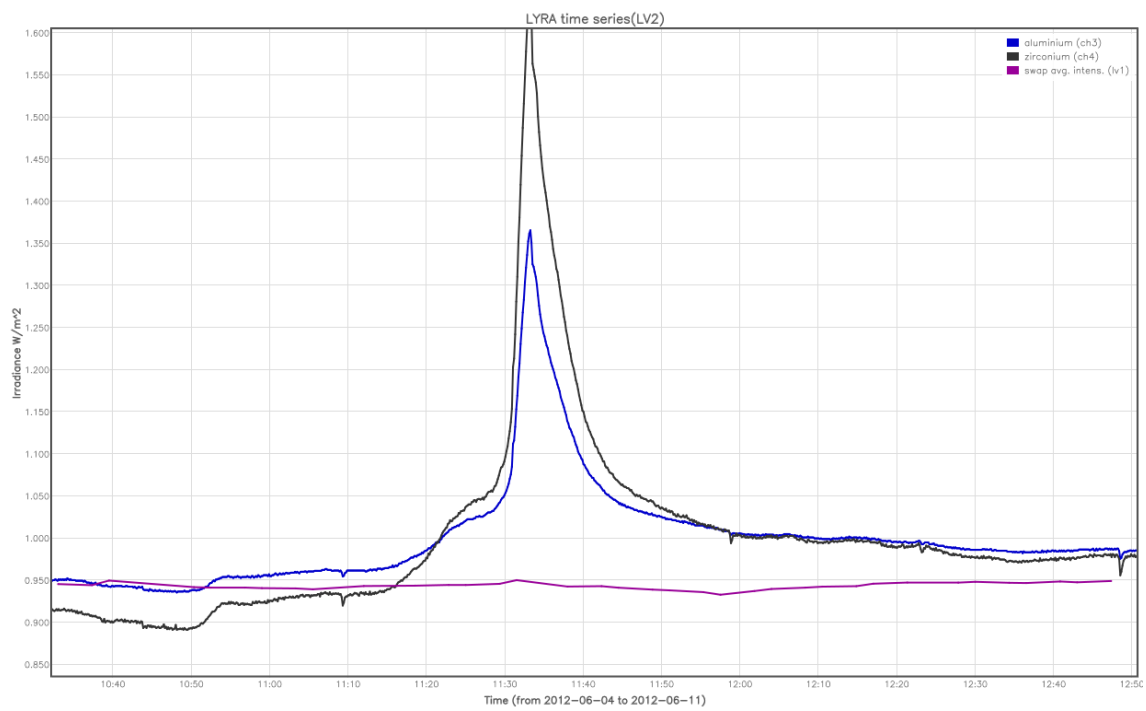
On Saturday 9th, two M flares (M1.9, M1.8) occurred in AR 11504. A full normal SWAP movie, exhibiting the two M flares can be found here: http://proba2.oma.be/swap/data/mpg/movies/20120609_SWAP_DoubleMflare_EastLimb.mp4

A SWAP difference image for the M1.9 flare is provided below as well as the LYRA curves :

M1.9 flare as seen in the SWAP difference movie, 09/06 @ 11:20



M1.9 flare as recorded by LYRA, 09/06 @ 11:20

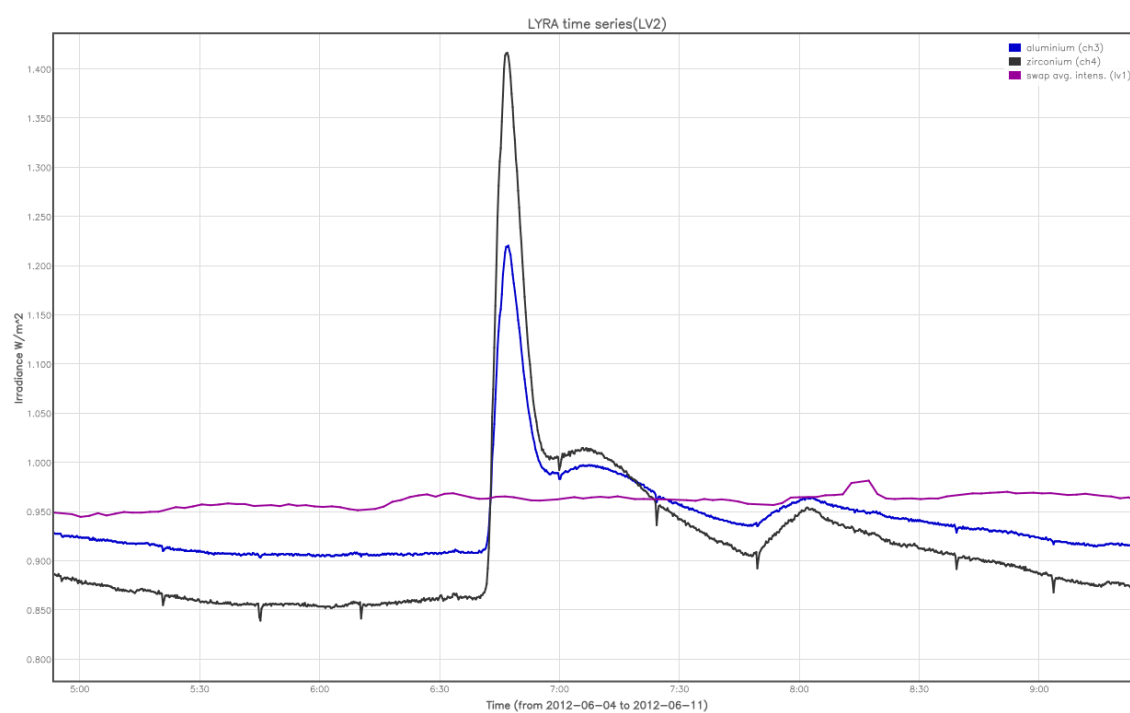


On Sunday 10th, an M1.3 flare occurred in AR 11504.

M1.3 flare as seen in the SWAP difference movie, 10/06 @ 06:39



M1.3 flare as recorded by LYRA, 10/06 @ 06:39



4. Review of solar activity (4 Jun 2012 - 10 Jun 2012)

This week the flaring activity was mostly at the C-class level. GOES observed 39 C-class flares, and 4 M-class flares. The M2.1 flare was observed on June 6 in NOAA AR 1494 (Catania 63) and it was accompanied with the coronal dimming and partial halo CME which did not reach the Earth. Catania sunspot group 77 (NOAA AR 1504) produced three impulsive M-class flares without associated Earth-directed CMEs.

5. Review of geomagnetic activity (4 Jun 2012 - 10 Jun 2012)

Geomagnetic conditions were quiet to active this week. ACE solar wind data showed the arrival of the solar sector boundary on June 3, which preceded the arrival of the fast stream, due to the recurrent coronal hole early on June 4. The solar wind speed reached the value of about 750 km/s on late June 4, and was fluctuating around this value until June 9. This long lasting influence of the high speed stream was accompanied with the stable value of the interplanetary magnetic field (about 5 nT). Due to the fast stream the geomagnetic conditions reached the active level. The K index measured by the local stations (Dourbes and IZMIRAN) recorded the intervals of K=4 during June 4, June 5 and June 6.

6. Noticeable Solar Events (4 Jun 2012 - 10 Jun 2012)

DAY	BEGIN	MAX	END	LOC	XRAY	OP	10CM	TYPE	Cat	NOAA	NOTE
6	1954	2006	2013	S19W05	M2.1	1B	0	II/3 IV/3	63	1494	
9	1120	1132	1135	S15E80	M1.9		150		77	1504	Location derived from Solar Soft Latest Events.
9	1645	1653	1656	S17E74	M1.8	SF	0		77	1504	
10	0639	0645	0650	S15E66	M1.3		100		77	1504	Location derived from Solar Soft Latest Events.

LOC: approximate heliographic location

XRAY: X-ray flare class

OP: optical flare class

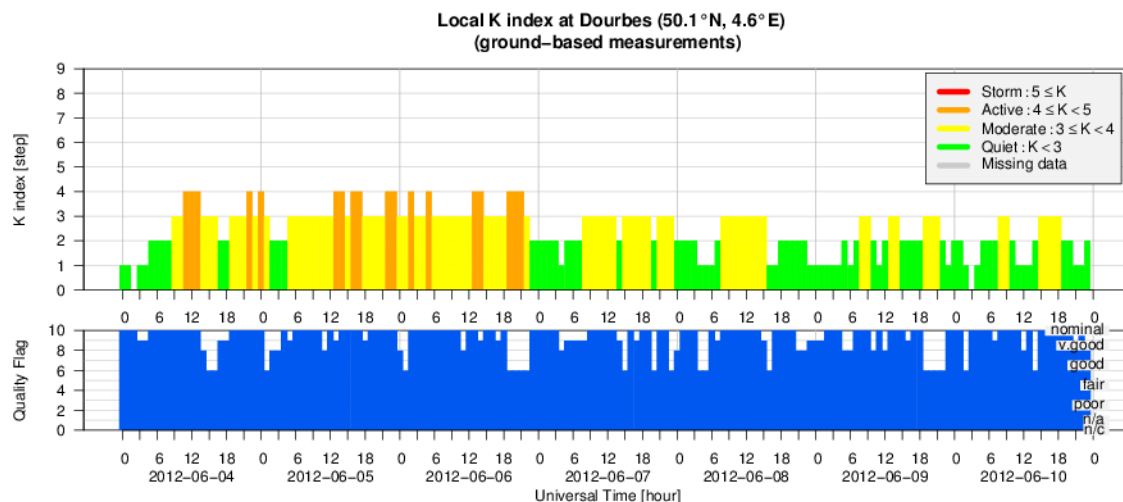
10CM: peak 10 cm radio flux

TYPE: radio burst type

Cat: Catania sunspot group number

NOAA: NOAA active region number

7. Geomagnetic Observations at Dourbes (4 Jun 2012 - 10 Jun 2012)



8. Future Events

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

Solar Wind 13 in Hawaii, USA

Start : 2012-06-17 - End : 2012-06-22

The Thirteenth International Solar Wind Conference, organized by the University of Alabama in Huntsville's Center of Space Plasma and Aeronomic Research (CSPAR) and the the University of California, Berkeley's Space Sciences Laboratory, will take place at Sheraton Keauhou Resort on Big Island, Hawaii, USA, from 17 to 22 June 2012. Please note that scientific sessions will start on Monday 18 June.

The conference will conform to the traditional solar wind themes, addressing the current state of knowledge in the relevant fields of solar and heliospheric physics. In particular, the conference will focus on the physics of the corona, the origin and acceleration of the solar wind, its dynamical interactions throughout the heliosphere and the interstellar medium and its boundaries. The program will be composed of both invited lectures and contributed talks and posters.

Website: <http://www.sw13.org/>

SHINE Conference 2012 in Wailea Maui, Hawaii

Start : 2012-06-25 - End : 2012-06-29

SHINE stands for Solar Heliospheric and INterplanetary Environment. It is an affiliation of researchers within the solar, interplanetary, and heliospheric communities, dedicated to promoting an enhanced understanding of the processes by which energy in the form of magnetic fields and particles are produced by the Sun and/or accelerated in interplanetary space and on the mechanisms by which these fields and particles are transported to the Earth through the inner heliosphere.

SHINE research focuses in particular upon the connection between events and phenomena on the Sun and their relation to solar wind structures in the inner heliosphere. The goal of SHINE activities is to enrich and strengthen both physical understanding and predictive capabilities for these phenomena.

Website:

<http://shinecon.org/Current%20Meeting.htm>

Toulouse Space Show (France)

Start : 2012-06-25 - End : 2012-06-28

Toulouse will host the most important players in the global aerospace industry, particularly those focusing on space applications. It will provide the opportunity to meet with more than 1000 experts, service providers, clients, users, researchers and students from all over the world.

Website:

<http://www.toulousespaceshow.eu/tss12/en/>

European Week of Astronomy and Space Science in Rome, Italy

Start : 2012-07-01 - End : 2012-07-06

We have the pleasure to invite you in July 2012 to attend the European Week of Astronomy and Space Science, the now classical Ewass meeting, formerly known as Jenam. In 2012, the meeting will take place in Rome, Italy, at the Pontificia Università Lateranense.

Website:

<http://www.ifs-roma.inaf.it/ewass2012/>

International Summer School 'Solar Astrophysics: Modern trends and techniques' in Bogota, Colombia

Start : 2012-07-03 - End : 2012-07-19

The Sun is our closest and most well studied celestial object. From the beginnings of human civilizations, the Sun has played a major role in their development, and in the rituals and customs that can still be perceived in the modern world. Unprecedented advances and new missions have revealed the real complexity of the Sun. New missions like SDO, SolarProbe Plus and other satellite missions (RHESSI, SOHO , TRACE , YOHKOH , etc.) provide information that may help to unveil the secrets of our star . The Observatorio Astronomico Nacional and the Universidad Nacional de Colombia organises an International Summer School in Solar Physics, with the purpose of promoting the solar research in Colombia and help in the personal development of postgraduate students and young postdocs in this area from other countries.

The International Summer School is intended to provide an advanced training in the field of solar physics to last year undergraduate students who are willing to write their final work in any area of solar physics, postgraduate students, and young post-docs having already some initial work in the fields of solar physics.

Website:

<http://www.observatorio.unal.edu.co/eventos/solarschool/>

BUKS2012 in Fodele Beach, Crete, Greece

Start : 2012-07-04 - End : 2012-07-07

The Sun is the most important astronomical object for humankind with solar activity having a direct impact on Earth. From a fundamental point of view the Sun offers an exceptional physics laboratory where the interactions of the astrophysical plasma and the magnetic field can be studied in detail.

The BUKS workshops on MHD waves and oscillations of the solar atmosphere is organised by the following research groups from Belgium, Spain and the UK:

- * The Centre for Plasma Astrophysics, Katholieke Universiteit Leuven, Belgium
- * The Solar Physics & Space Plasma Research Centre, University of Sheffield, UK
- * The Solar & Magnetospheric Theory Group, University of St Andrews, UK
- * The Centre for Fusion, Space & Astrophysics, University of Warwick, UK
- * The Solar Physics Group, Universitat de les Illes Balears, Spain
- * The Astrophysics Research Centre, Queen's University Belfast, UK

BUKS2012 will also honour the contributions of Prof Marcel Goossens to the field of MHD waves and offer an opportunity to celebrate his 65th birthday.

Website:

<https://habu.pst.qub.ac.uk/groups/buks2012/>

23rd NASA Space Radiation Investigators' Workshop in Durham, North Carolina (USA)

Start : 2012-07-08 - End : 2012-07-11

The 23rd Annual NASA Space Radiation Investigators' Workshop will be held July 8-12, 2012, at the Washington Duke Inn, Durham, North Carolina. The purpose of this workshop is to provide an opportunity for active researchers in the NASA Space Radiation Program to share the results of their work and to explore new directions for research that may benefit the NASA program. The workshop format will include plenary sessions, poster sessions, and a poster contest to recognize and honor student investigators. In addition, there will be special sessions on space physics and technology allowing opportunities for a comprehensive discussion on NASA's overall space radiation protection goals.

Principal investigators receiving NASA funds (including those from the NASA /DOE joint program and the NSBRI) are required to attend; principal investigators funded by the Department of Energy are strongly encouraged to attend. Although attendance at the workshop is by invitation only, other scientists with a legitimate interest in space radiation research are also welcome. If you wish to attend, please send your requests directly to . Requests should be accompanied by an explanation of your relationship to the Space Radiation Program and the type of contribution you wish to make.

Website:

<http://www.dsls.usra.edu/meetings/radiation2012/>

ESOF 2012 in Dublin, Ireland

Start : 2012-07-11 - End : 2012-07-15

From 11th-15th of July 2012 international researchers, policy makers, business leaders and global media will gather in the Convention Centre in Dublin, Ireland to take part in the Euroscience Open Forum (ESOF), 2012. A science conference like no other, ESOE 2012 is unique in representing the largest convergence of the Sciences, Humanities and Culture in Europe in 2012. Some of the keynote speakers at ESOE 2012 will include Craig Venter, Rolf-Dieter Heuer, Charles Bolden, Mary Robinson, and Bob Geldof.

Website: <http://www.esof2012.org/>

39th COSPAR Scientific Assembly in Karnataka, India

Start : 2012-07-14 - End : 2012-07-22

The 39th COSPAR Scientific Assembly will be held at the Global Education Centre, 2 Infosys Training Centre Mysore, Karnataka India from 14 - 22 July 2012. This Assembly is open to all bona fide scientists.

Website:

<http://www.cospar-assembly.org/>

CISM Summer School in Boulder (USA)

Start : 2012-07-16 - End : 2012-07-27

The CISM Space Weather Summer School is a 2-week intensive program targeted to first-year graduate students but also attended by undergraduates and space weather professionals. The daily schedule includes morning lectures, followed by afternoon laboratory sessions where students further explore the day's topics using CISM model simulations, observational data, and sophisticated visualization tools. CISM is making the laboratory materials publicly available for use by others, for example to supplement lecture courses or for student independent study. The deadline for applications is May 1.

Website:

<http://www.bu.edu/cism/SummerSchool/overview.html>

IGS Workshop 2012 in Olsztyn, Poland

Start : 2012-07-23 - End : 2012-07-27

The Department of Astronomy and Geodynamics of the University of Warmia and Mazury (UWM) is hosting the 2012 IGS Workshop.

This workshop will be composed of plenary sessions with invited oral presentations, and afternoon sessions composed of poster sessions and IGS Working Group splinter meetings. For this workshop we are soliciting abstracts for the poster sessions.

The key dates for this workshop are as follows:

- * Poster Abstract Submissions: March 25 - April 30, 2012.

- * Registration: March 25- May 28, 2012.

- * Hotel Reservations: March 25- May 28, 2012.

- * Workshop: July 23 - July 27, 2012.

Website:

http://www.uwm.edu.pl/kaig/igs_workshop_2012/

International Radiation Symposium in Berlin (Germany)

Start : 2012-08-06 - End : 2012-08-10

The IRC's International Radiation Symposium 2012 provides a forum for the scientific community to exchange recent results and evolving ideas relevant to many areas of atmospheric radiation. Quadrennially convened, the IRS assembles a global network of scientists and students engaged in studies pertaining to the Earth-atmosphere-Sun system, and encourages international cooperation in radiation research crucial to understanding and predicting Earth's dynamic climate and habitability. The IRC invites you to Berlin and welcomes your participation in this endeavor.

Website: <http://irs2012.org/>

Asia Oceania Geosciences Society (AOGS) Assembly in Singapore

Start : 2012-08-13 - End : 2012-08-17

An international body established since 2003, the Asia Oceania Geosciences Society (AOGS) aims to promote geosciences and advance its applications for the benefit of humanity in Asia and Oceania.

Sessions:

- * Atmospheric Sciences
- * Biogeosciences
- * Hydrological Sciences
- * Ocean Sciences
- * Planetary Sciences
- * Solar & Terrestrial Sciences
- * Solid Earth Sciences
- * Interdisciplinary Working Groups

Website:

<http://www.asiaoceania.org/aogs2012/public.asp?page=home.htm>

Solar Information Processing Workshop (SIPWork VI), at Montana State University, Bozeman

Start : 2012-08-13 - End : 2012-08-16

You will have noticed the slight re-branding of these workshops from 'Image' to 'Information' processing. We think it is time to expand the attention of these workshops to discuss more generally how information about the Sun can be derived, stored, shared, transformed and analyzed using appropriate techniques from many other disciplines. We will still be covering image processing and computer vision techniques applied to solar physics, but we will also be including other topics such as machine learning, data mining and new computing strategies. The re-branding simply acknowledges and makes explicit what the community has been doing to determine the physics of the Sun.

Link: <http://www.sipwork.org/>

Hinode-6 in St. Andrews, UK

Start : 2012-08-14 - End : 2012-08-17

There will be 7 sessions, with 2 invited speakers per session. The following speakers have been invited to Hinode-6:

Website:

<http://www-solar.mcs.st-and.ac.uk/~hinode6/Hinode-6/Welcome.html>

XXVIII IAU General Assembly in Beijing, China

Start : 2012-08-20 - End : 2012-08-31

In August 2012 China will for the first time host the General Assembly of the International Astronomical Union in Beijing. This triennial gathering of astronomers from around the world to discuss and debate the most recent discoveries about the universe is an important part of the vitality of our science. Astrophysics remains one of the most exciting areas of human endeavor, and the venue of the Beijing GA will be equally impressive: the new China National Convention Center that is housed in the Olympic Park in a beautiful, spacious building and area that is full of amenities for conference participants and visitors.

The contributions of Chinese astronomy to human knowledge and our understanding of the cosmos have been of historical significance, from the earliest to modern times. GA participants will have an opportunity to experience the wide range of astronomical activities now taking place in China that include new projects, facilities, and institutes. They will also report on, and hear, the latest research results from every field of astronomy. An exciting scientific programme is being developed that will hold the interest of everyone. I am pleased to welcome all Union members and invited guests to join us in Beijing for what will be a memorable General Assembly.

Website:

<http://www.astronomy2012.org>

Fermi Solar Data Analysis Workshop in Greenbelt, MD (USA)

Start : 2012-08-22 - End : 2012-08-23

We are pleased to announce the Fermi Solar Data Analysis Workshop to be held at Goddard Space Flight Center on August 22-23, 2012. Although primarily an Astrophysics observatory, the Fermi Gamma-ray Space Telescope, and its Gamma-ray Burst Monitor (GBM) and Large Area Telescope (LAT), provide unique capabilities in the 8 keV - 300 GeV band to monitor and study both the quiescent and flaring Sun. Fermi has already made many observations of solar X-ray and gamma-ray emissions, and many more can be anticipated during the next few years with the peak in solar activity expected in 2013.

This workshop is meant to be informal and interactive. It will start with reviews of X-ray and gamma-ray solar studies to date, including results already obtained with the Fermi observatory. Extensive tutorials will be given on both GBM and LAT data analysis techniques, with time set aside for hands-on practice on your own laptop. We invite all of those interested in learning more about Fermi's Solar capabilities, and interested in interacting with experts in the field, to attend this 2-day workshop.

Website:

http://fermi.gsfc.nasa.gov/science/mtgs/workshops/da2012_solar/

TRANSMIT Summer School 2012 in Neustrelitz, Germany

Start : 2012-09-10 - End : 2012-09-14

The Summer school is part of the training program of the Marie Curie Initial Training Network TRANSMIT, funded by the European Commission. Young scientists involved in TRANSMIT shall be trained and educated for being aware and getting basic understanding of ionospheric threats in different fields of application. Awareness and knowledge of ionospheric threats is the starting point of subsequent work to reduce or mitigate them in practical applications.

Well recognized experts in their fields will give lectures to better understand/learn about:

- * Physical nature of ionospheric perturbations at all scales
- * Ionospheric impact on radio wave propagation
- * Detection/Monitoring of ionospheric perturbations
- * Estimation the degree of ionospheric perturbation
- * Mitigation techniques for avoiding threats in technical systems

It is expected that lectures and discussions at the summer school will help in particular early stage researchers to improve their scientific work.

Website:

<http://www.transmit-ionosphere.net/>

Fifth Solar Orbiter Workshop in Brugge, Belgium

Start : 2012-09-10 - End : 2012-09-14

We are pleased to announce that the fifth Solar Orbiter Workshop will take place in Brugge, Belgium from Monday September 10 to Thursday September 13. Friday September 14 will be dedicated to a Science Working Team (SWT) meeting. The workshop will focus on the science questions addressed by this exciting and recently approved mission, which is a partnership between ESA and NASA . The scientific synergy of Solar Orbiter with Solar Probe Plus and other missions will also be highlighted.

Website:

<http://www.stce.be/solarorbiter5/>

International Space Weather Initiative (ISWI) School, in Bandung, Indonesia

Start : 2012-09-17 - End : 2012-09-26

The International Space Weather Initiative (ISWI) is a program of international cooperation to advance the space weather science by a combination of instrument deployment, analysis and interpretation of space weather data from the deployed instruments in conjunction with space data, and communicate the results to the public and students. ISWI is a follow-up activity to the successful IHY 2007, but focusing exclusively on space weather . The goal of the ISWI is to develop the scientific insight necessary to understand the science, and to reconstruct and forecast near-Earth space weather . This includes instrumentation, data analysis, modeling, education, training, and public outreach. ISWI has conducted many programs not only to popularise space science all over the world but also to create favorable conditions for joint research and training in some sort of global framework. In the framework of IHY and ISWI, some research groups have been established in several countries. In order to establish the strong space research group, particularly in Asia-Oceania countries, a training to the young students and researchers is necessary. In the framework of this program, the Space Science Center of National Institute of Aeronautics and Space (LAPAN) is honored to host the 2012 ISWI and MAGDAS School in Space Science, the school to young solar physicists and geophysicists, to be held on 17-26 September 2012 in Bandung Indonesia.

Website:

<http://iswimagdas2012.dirgantara-lapan.or.id/>

In-situ Heliospheric Science Symposium in Maryland, MD (USA)

Start : 2012-09-18 - End : 2012-09-20

In-situ observations by spacecraft provide [note in no particular order] the ground truth for comparison and constraining models, have transformed our ideas of the heliosphere , provide a natural laboratory for plasma physics, have challenged our pre-conceived ideas, and have discovered completely unexpected phenomena. This workshop will focus on in-situ observations of the heliosphere made by the unprecedented suite of instruments currently returning observations, including the STEREO spacecraft, near-Earth spacecraft (ACE,WIND , SOHO) and the Voyager spacecraft that are probing the region approaching the heliopause. It is a follow on from the ACE/WIND /STEREO ... workshop held in Kennebunkport in June 2010. The program will include an overview of recent results from current missions, invited presentations, and splinter sessions with a heavy emphasis on discussion. These sessions will focus on the solar cycle variations, solar wind , solar energetic particles, suprathermal ions, coronal and interplanetary transients, and anomalous and galactic cosmic rays.

Website:

<http://stereo.ssl.berkeley.edu/meetings/Sept.2012meeting/>

International Meteor Conference in La Palma, Spain

Start : 2012-09-20 - End : 2012-09-23

Every year, the International Meteor Organization (IMO) organizes the International Meteor Conference (IMC). This conference deals with all aspects of meteor observation as well as the underlying physics and is aimed at both amateurs and professionals.

The International Meteor Organization (IMO) will hold the 31st annual International Meteor Conference (IMC) on La Palma, Canary Islands, Spain, from 20 till 23 September, 2012. The conference will be organized by the Astro Travels agency in collaboration with the Cabildo of La Palma island authority which will sponsor this event.

Website:

<http://www.imo.net/imc2012/>

RADECS 2012 in Biarritz, France

Start : 2012-09-24 - End : 2012-09-28

The 21st European Conference on RADIATION AND ITS EFFECTS ON COMPONENTS AND SYSTEMS will be held in Biarritz, France, on September 24-28, 2012.

The aim of RADECS conferences is to provide an annual European forum for the presentation and discussion of the latest advances in the field of radiation effects on electronic and photonic materials, devices, circuits, sensors, and systems. The scope of the conference encompasses technological processes and design techniques for producing radiation tolerant systems for space, aeronautical or terrestrial applications, as well as relevant methodologies for their characterization and qualification. The conference features a technical program, an Industrial Exhibit, and one day meeting on ground effects offered on September 24 (RADGROUND). The technical program includes oral and postersessions.

The areas of interest for contributions to be submitted to RADECS 2012 include, but are not limited to:

- * Basic mechanisms of radiation effects in electronic and optical materials
- * Space, atmospheric and terrestrial environments
- * Radiation effects on electronic and photonic devices, circuits and systems
- * Radiation effects on sensors and emerging devices
- * Technology and design hardening
- * Radiation hardness assurance
- * Irradiation facilities and testing

Website: <http://radecs2012.org>

63rd International Astronautical Congress in Naples, Italy

Start : 2012-10-01 - End : 2012-10-05

At the forthcoming 63rd International Astronautical Congress in Naples a special session on the theme 'Effects of Space Weather on GEO Satellites' will be held as part of the 25th Symposium on Space Policy, Regulations and Economics.

This session will discuss case histories and mechanisms of effects of space weather on GEO satellites, models for prediction, and mitigation approaches. We would like to invite you to consider submitting abstracts for this session.

The call for papers can be found at The deadline for abstract submission is 29 February 2012.

http://www.iafastro.org/docs/2012/iac/IAC2012_CallForPapers.

Website: <http://www.iac2012.org/>

Space Weather and Challenges for Modern Society in Oslo, Norway

Start : 2012-10-22 - End : 2012-10-24

2012 - 2013 is expected to be years with high solar activity. This can trigger larger solar storms which can generate geomagnetic induced currents (GIC) on the earth. GIC can affect the normal operation of specific industrial operations and critical infrastructure (e.g power grids, telecom, navigation systems, etc).

During space weather events, like solar storms, electric currents in the magnetosphere and ionosphere experience large variations, which manifest also in the earth's magnetic field. These variations induce currents (GIC) in conductors operated on the surface of the earth. Electric transmission grids and buried pipelines are common examples of such conductor systems. GIC can cause problems, such as increased corrosion of pipeline steel and may disturb and possibly damage high-voltage power transformers and it can also have damaging effects on communication systems, navigation systems and oil and gas operations.

Vulnerable industries are the oil and gas industry, railways, telecommunication industry, navigation industry and not at least the society, which is very vulnerable concerning short or long term interruption of critical infrastructure.

The conference will focus on increasing the general knowledge of solar storms, space weather and GIC and the possible consequences for different industries and critical infrastructure, and look into reasonable means of protection, and consider possible early warning solutions.

Website:

<http://www.tiems.info/about-tiems/oslo-conference-2012.html>

Ninth European Space Weather Week in Brussels, Belgium

Start : 2012-11-05 - End : 2012-11-09

We are pleased to announce that the Ninth European Space Weather Week will take place at the Académie Royale de Belgique, Brussels, Belgium between 5 and 9 November 2012.

This meeting is being jointly organised by the Solar-Terrestrial Centre of Excellence (STCE), ESA, the SWWT and the COST ES0803 communities. The local organisation is done by the STCE. This event will continue to build on the advances made during the first eight European Space Weather Weeks held between 2004 and 2011.

Website:

<http://www.sidc.be/esww9/>

International Symposium on Solar-Terrestrial Physics in Pune, India

Start : 2012-11-06 - End : 2012-11-09

The International Symposium on Solar-Terrestrial Physics will be held during November 6 - 9, 2012 at the Indian Institute of Science, Education and Research, Pune, India. This meeting under the aegis of the SCOSTEP is expected to draw leading scientists from around the world in the increasingly important, interdisciplinary fields of Solar activity and its impact on geospace and life on the Earth. With major observational solar facilities being planned in India, this meeting is especially pertinent in the Indian context.

The meeting is expected to involve professional scientists as well as graduate students, and will have a mixture of invited and contributed talks and posters. There will also be a one-day tutorial for the benefit of young people beginning work in the field of solar-terrestrial physics.

Website:

<http://www.iiserpune.ac.in/~isstp2012/>

Eclipse on the Coral Sea: Cycle 24 Ascending in Palm Cove, Queensland (Australia)

Start : 2012-11-12 - End : 2012-11-16

As we emerge from one of the deepest and longest solar minima on record, with a new and powerful eye on the Sun -SDO- we invite all those with an interest in solar activity to gather in beautiful Palm Cove, Australia to review and assess our current knowledge and understanding of our magnetic star, and to experience the awe and wonder of a total solar eclipse on November 14, 2012.

Website:

<http://moca.monash.edu/eclipse/>

Total solar eclipse

Start : 2012-11-13 - End : 2012-11-13

For more information:

<http://eclipse.gsfc.nasa.gov/OH/OH2012.html#SE2012Nov13T>

EC Space Conference in Larnaca, Cyprus

Start : 2012-11-15 - End : 2012-11-16

The European Commission will organise the 'Let's embrace space - FP7 Space Conference 2012', in cooperation with the Cypriot EU Presidency, on 15 and 16 November 2012 in Larnaca, Cyprus.

This scientific conference will present the current status and results of the 3rd call of FP7 space research, and also discuss future options for European research in the space field. In doing so, the conference will aim at demonstrating the evolution and use of space tools for a sustainable economic and environmental development in a European and global context.

Website:

<http://www.fp7-space.eu/news-119.phtml>

Solar Physics with Radio Observations in Aichi, Japan

Start : 2012-11-20 - End : 2012-11-23

Nobeyama Radioheliograph (NoRH) has been observing the Sun since 1992. This year is the 20th year of science operation. Instruments are still in good shape and producing images of the Sun every day with the same quality as the beginning. Due to the nature of the instrument and long and uniform observations, data can be used for wide variety of solar physics and also for solar terrestrial physics. To mark the 20 years of operation, we will organize a symposium to summarize what has been done with NoRH and to discuss what we should do in the future. Papers to be presented in the meeting will be mainly concerned with the results from NoRH and future plans.

Website:

<http://st4a.stelab.nagoya-u.ac.jp/SPRO2012/>

Tracing the Connections in Solar Eruptive Events in Petaluma, CA, USA

Start : 2012-11-30 - End : 2012-12-05

The overarching objective of the conference is to examine the connections amongst the phenomena that lead to solar eruptive events. The current state of themes includes:

- * Measuring the Coronal Magnetic Field;
- * Connections to, and Reactions of, the Large-Scale Corona;
- * Large-scale Magnetic Connectivity of Active Regions;
- * Transfer of Energy to, and Storage of Energy in, the Corona;
- * The High-Energy Particle - Flare - CME connection.

Working groups will address topics such as:

- * Energy Transfer throughout a Solar Eruptive Event;
- * Global Energetics of an Ensemble of Events;
- * Coronal Influences to the Lower Atmosphere;
- * CME Initiation and Type II Bursts;
- * The Release of Energetic Particles in the Low Corona;
- * Flows vs. Waves;
- * Microflares/Nanoflares.

Website:

<http://hessi.ssl.berkeley.edu/petaluma/index.shtml>

Earth-Sun System Exploration 5 in Kona, Hawai'i USA

Start : 2013-01-13 - End : 2013-01-19

Information coming soon!

Website:

<http://sd-www.jhuapl.edu/Aurora/ESSE/index.html>

Chapman Conference on Fundamental Properties and Processes of Magnetotails in Reykjavik, Iceland

Start : 2013-03-10 - End : 2013-03-15

Spacecraft observations have established that all magnetized planets in our solar system interact strongly with the solar wind and possess well-developed magnetotails. Magnetotails are the site for many dynamic processes critical to the circulation of mass, energy and magnetic flux. The great differences in solar wind conditions, planetary rotation rates, ionospheric conductivity, and physical dimensions from Mercury's small magnetosphere to the giant magnetospheres of Jupiter and Saturn provide an

outstanding opportunity to extend our understanding of the influence of these factors. Therefore, this Chapman conference will provide a forum in which various communities can come together and discuss recent achievements of observational, theoretical, and modeling studies with the objective to develop a deeper understanding of fundamental properties and processes of planetary magnetotails through a comparative examination.

Annular solar eclipse

Start : 2013-05-10 - End : 2013-05-10

For more information:

<http://eclipse.gsfc.nasa.gov/SEplot/SEplot2001/SE2013May10A.GIF>

IAU Symposium: Nature of prominences and their role in space weather in Paris, France

Start : 2013-06-10 - End : 2013-06-16

Topics:

- * Prominences : formation, dynamics
- * Prominence plasma properties, including prominence seismology
- * Magnetic field : measurements, topology, support
- * Large-scale patterns and cyclic evolution
- * Prominence destabilization, CMEs, reconstruction in 3D
- * ICMEs in the heliosphere, magnetic clouds; their impact on the Earth environment
- * Stellar quiescent and eruptive prominences and stellar CME
- * Requirements for future instrumentation and prospects for future missions

Website:

<http://www.iau.org/science/meetings/future/symposia/1065/>

Hybrid solar eclipse

Start : 2013-11-03 - End : 2013-11-03

For more information:

<http://eclipse.gsfc.nasa.gov/SEplot/SEplot2001/SE2013Nov03H.GIF>

9. New documents in the European Space Weather Portal Repository

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

STCE annual meeting 2012 - Stratospheric aerosol characterization: GOMOS and other activities

Presentation given at the workshop 'Retrieval of Aerosol Properties from Satellite and Ground-Based Measurements' in the frame of the annual STCE meeting 2012

<http://www.spaceweather.eu/en/repository/show?id=186>

STCE annual meeting 2012 - Atmospheric Composition Measurements at Princess Elisabeth Station

Presentation given during the workshop 'Retrieval of Aerosol Properties from Satellite and Ground-Based Measurements' held in the frame of the STCE annual meeting 2012

<http://www.spaceweather.eu/en/repository/show?id=187>

STCE annual meeting 2012 - Climate monitoring with Earth Radiation Budget measurements

Presentation given during the workshop 'Retrieval of Aerosol Properties from Satellite and Ground-Based Measurements' in the frame of the STCE annual meeting 2012.

<http://www.spaceweather.eu/en/repository/show?id=188>

STCE annual meeting 2012 - VLIDORT and Linearized MIE for the Retrieval of Aerosol Parameters

Presentation given during the workshop 'Retrieval of Aerosol Properties from Satellite and Ground-Based Measurements' in the frame of the STCE annual meeting 2012.

<http://www.spaceweather.eu/en/repository/show?id=189>

STCE annual meeting 2012 - Retrieval of desert dust aerosols vertical profiles from IASI measurements in the TIR atmospheric win

Presentation given during the workshop 'Retrieval of Aerosol Properties from Satellite and Ground-Based Measurements' in the frame of the STCE annual meeting 2012.

<http://www.spaceweather.eu/en/repository/show?id=190>

STCE annual meeting 2012 - Aerosol retrieval from spectral measurements in twilight conditions: ground-based and satellite-based

Presentation given during the workshop 'Retrieval of Aerosol Properties from Satellite and Ground-Based Measurements' in the frame of the STCE annual meeting 2012.

<http://www.spaceweather.eu/en/repository/show?id=191>

STCE annual meeting 2012 - PROBA2: a success story

This presentation was given in the frame of the STCE annual meeting of 2012.

<http://www.spaceweather.eu/en/repository/show?id=193>

STCE annual meeting 2012 - On-orbit degradation of solar and space weather instruments, lesson learned

This workshop wrap up was presented during the STCE annual meeting 2012.

<http://www.spaceweather.eu/en/repository/show?id=194>

STCE annual meeting 2012 - Reduced MHD Turbulence, Homogeneous case and applications to loops and coronal holes

Presentation given during the workshop 'Alfven Waves and Turbulence in Solar-Terrestrial Plasmas' organised in the frame of the STCE annual meeting 2012.

<http://www.spaceweather.eu/en/repository/show?id=195>

STCE annual meeting 2012 - STORM: Solar system plasma Turbulence - Observations, inteRmittency and Multifractals

Presentation given during the workshop 'Alfven Waves and Turbulence in Solar-Terrestrial Plasmas' organised in the frame of the STCE annual meeting 2012.

<http://www.spaceweather.eu/en/repository/show?id=196>

STCE annual meeting 2012 - Implementing turbulence in kinetic modeling of solar wind particles

Presentation given during the workshop 'Alfven Waves and Turbulence in Solar-Terrestrial Plasmas' organised in the frame of the STCE annual meeting 2012.

<http://www.spaceweather.eu/en/repository/show?id=197>

STCE annual meeting 2012 - Kinetic-scale Alfvénic turbulence in the solar wind: dissipative versus dispersive effects

Presentation given during the workshop 'Alfven Waves and Turbulence in Solar-Terrestrial Plasmas' organised in the frame of the STCE annual meeting 2012.

<http://www.spaceweather.eu/en/repository/show?id=198>

STCE annual meeting 2012 - Testing theoretical models of MHD turbulence by solar wind data

Presentation given during the workshop 'Alfven Waves and Turbulence in Solar-Terrestrial Plasmas' organised in the frame of the STCE annual meeting 2012.

<http://www.spaceweather.eu/en/repository/show?id=199>

STCE annual meeting 2012 - Multifractal turbulence and magnetic reconnection at the leading edge of an interplanetary CME

Presentation given during the workshop 'Alfven Waves and Turbulence in Solar-Terrestrial Plasmas' organised in the frame of the STCE annual meeting 2012.

<http://www.spaceweather.eu/en/repository/show?id=200>

STCE annual meeting 2012 - Alfven Waves and Turbulence in Solar-Terrestrial Plasmas

This workshop wrap up was presented during the STCE annual meeting 2012.

<http://www.spaceweather.eu/en/repository/show?id=201>

STCE annual meeting 2012 - Interferometric Meteor Radar in Dourbes

Presentation given during the workshop 'Radio Science' organised in the frame of the STCE annual meeting 2012.

<http://www.spaceweather.eu/en/repository/show?id=202>

STCE annual meeting 2012 - BRAMS status

Presentation given during the workshop 'Radio Science' organised in the frame of the STCE annual meeting 2012.

<http://www.spaceweather.eu/en/repository/show?id=203>

STCE annual meeting 2012 - Detecting whistlers with a VLF antenna located in Humain (Belgium)

Presentation given during the workshop 'Radio Science' organised in the frame of the STCE annual meeting 2012.

<http://www.spaceweather.eu/en/repository/show?id=204>

STCE annual meeting 2012 - EISCAT proposal: high altitude radar echoes

Presentation given during the workshop 'Radio Science' organised in the frame of the STCE annual meeting 2012.

<http://www.spaceweather.eu/en/repository/show?id=205>

STCE annual meeting 2012 - Solar radio observations

Presentation given during the workshop 'Radio Science' organised in the frame of the STCE annual meeting 2012.

<http://www.spaceweather.eu/en/repository/show?id=206>

STCE annual meeting 2012 - Solar Irradiance, How could solar radio observations help?

Presentation given during the workshop 'Radio Science' organised in the frame of the STCE annual meeting 2012.

<http://www.spaceweather.eu/en/repository/show?id=207>

STCE annual meeting 2012 - Protection of the Humain station

Presentation given during the workshop 'Radio Science' organised in the frame of the STCE annual meeting 2012.

<http://www.spaceweather.eu/en/repository/show?id=208>

STCE annual meeting 2012 - Science and Space Weather Opportunities for PROBA2

This workshop wrap up was presented during the STCE annual meeting 2012

<http://www.spaceweather.eu/en/repository/show?id=209>

STCE annual meeting 2012 - Retrieval of Aerosol Properties from Satellite and Ground-Based Measurements

This is the wrap up of the work presented during the workshop 'Retrieval of Aerosol Properties from Satellite and Ground-Based Measurements' that was organised in the frame of the STCE annual meeting 2012.

<http://www.spaceweather.eu/en/repository/show?id=192>

STCE annual meeting 2012 - Water vapour, meteorology and climate

The presentation is the avant première of the workshop 'Water vapour, meteorology and climate' that will be organised in the frame of the STCE annual meeting 2012.

<http://www.spaceweather.eu/en/repository/show?id=210>

STCE annual meeting 2012 - Radio Science

This is the wrap up of the work presented during the workshop 'Radio Science' that was organised in the frame of the STCE annual meeting 2012.

<http://www.spaceweather.eu/en/repository/show?id=211>