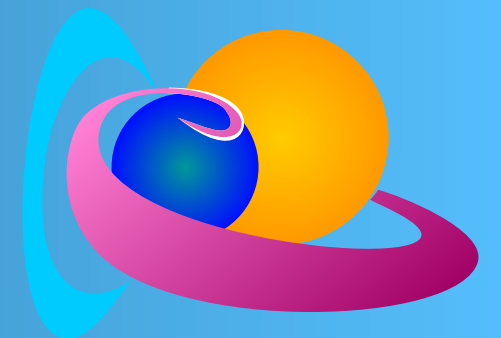
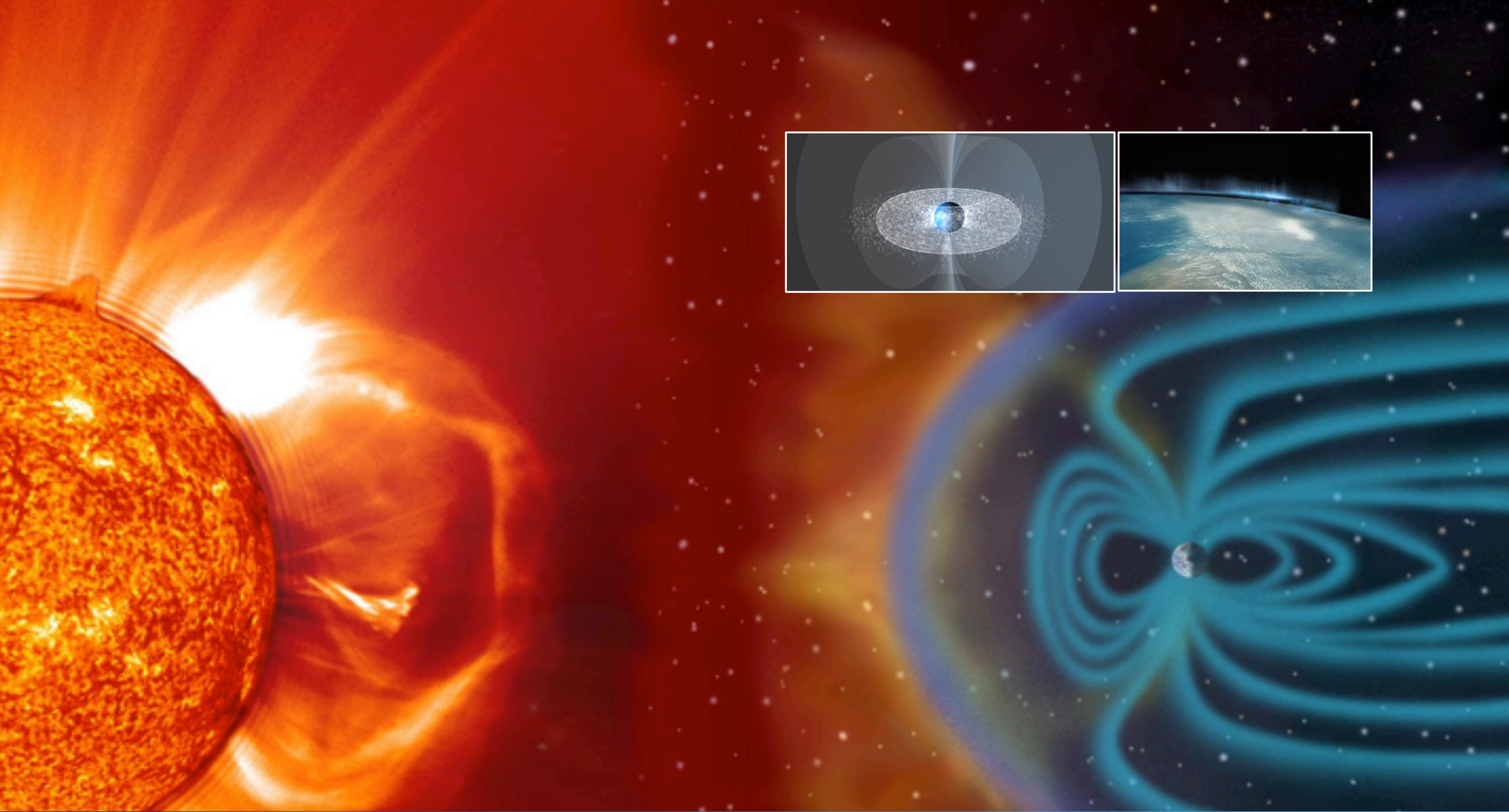




SOLAR-TERRESTRIAL CENTRE OF EXCELLENCE

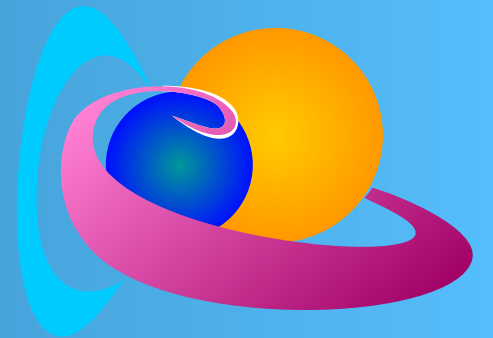
2023 annual meeting





SOLAR-TERRESTRIAL CENTRE OF EXCELLENCE

Interaction between sun & earth systems





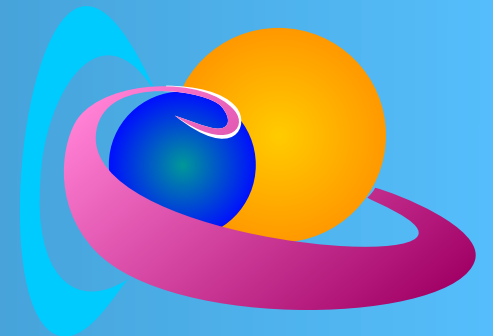
SUN-SPACE-
EARTH for
SCIENTISTS

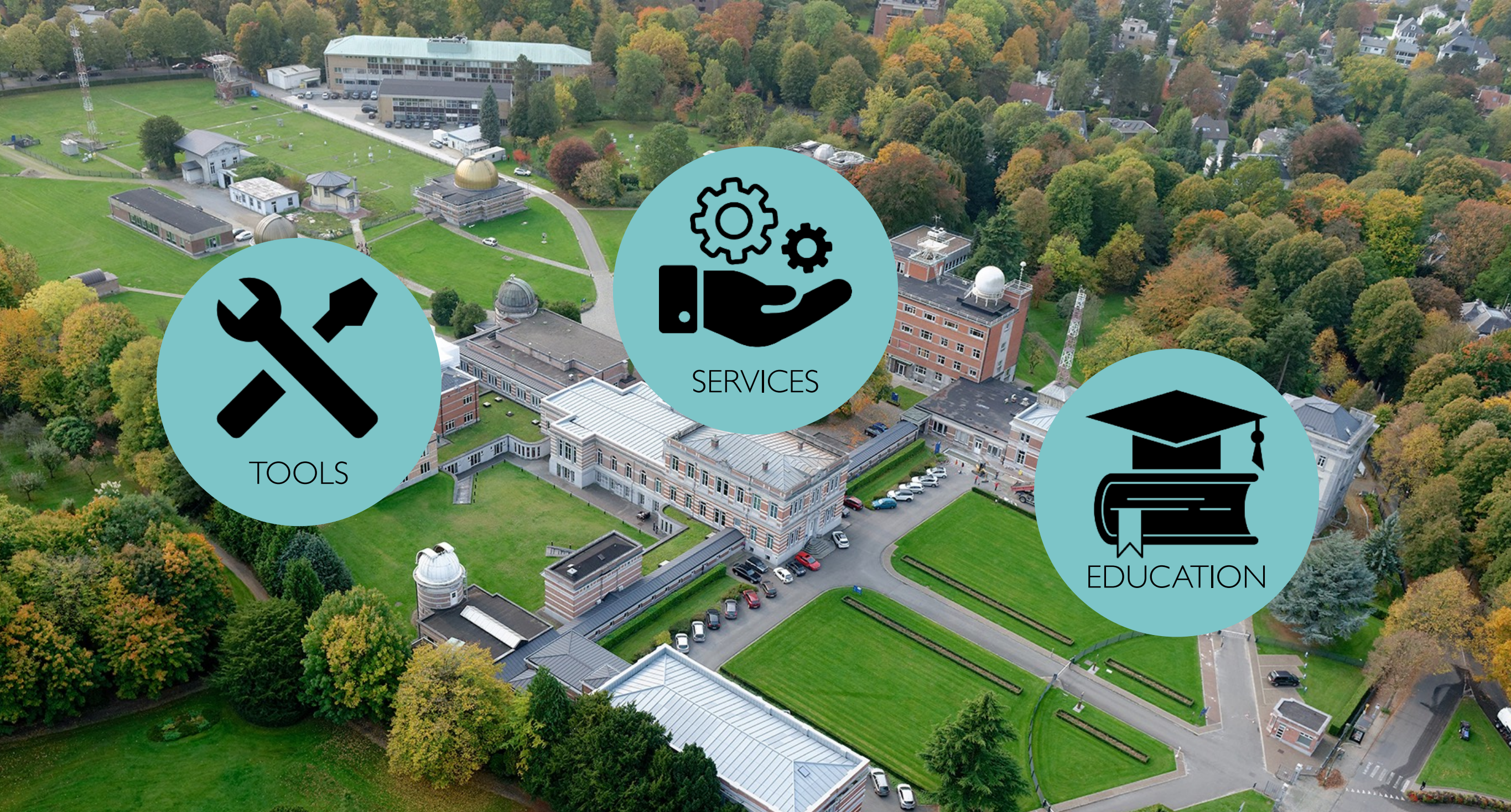
SUN-SPACE-
EARTH for
PROFESSIONALS

SUN-SPACE-
EARTH for
CITIZENS

SUN-SPACE-
EARTH for
NATIONS

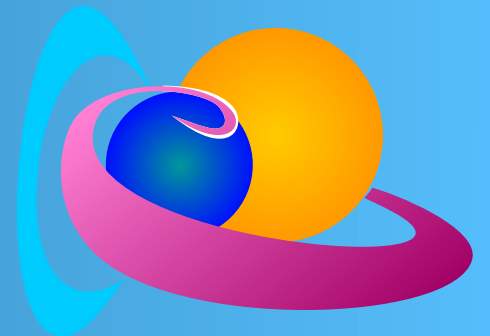
SOLAR-TERRESTRIAL CENTRE OF EXCELLENCE
For Whom

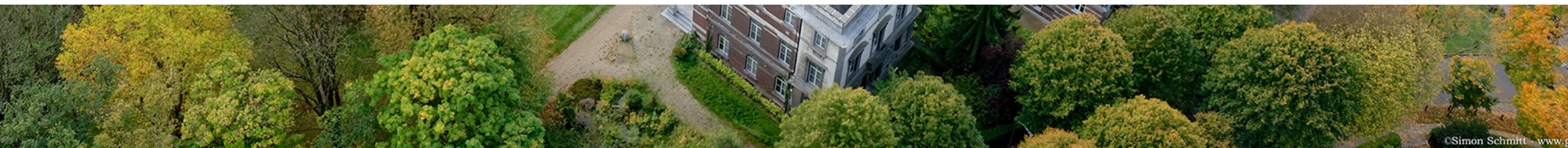


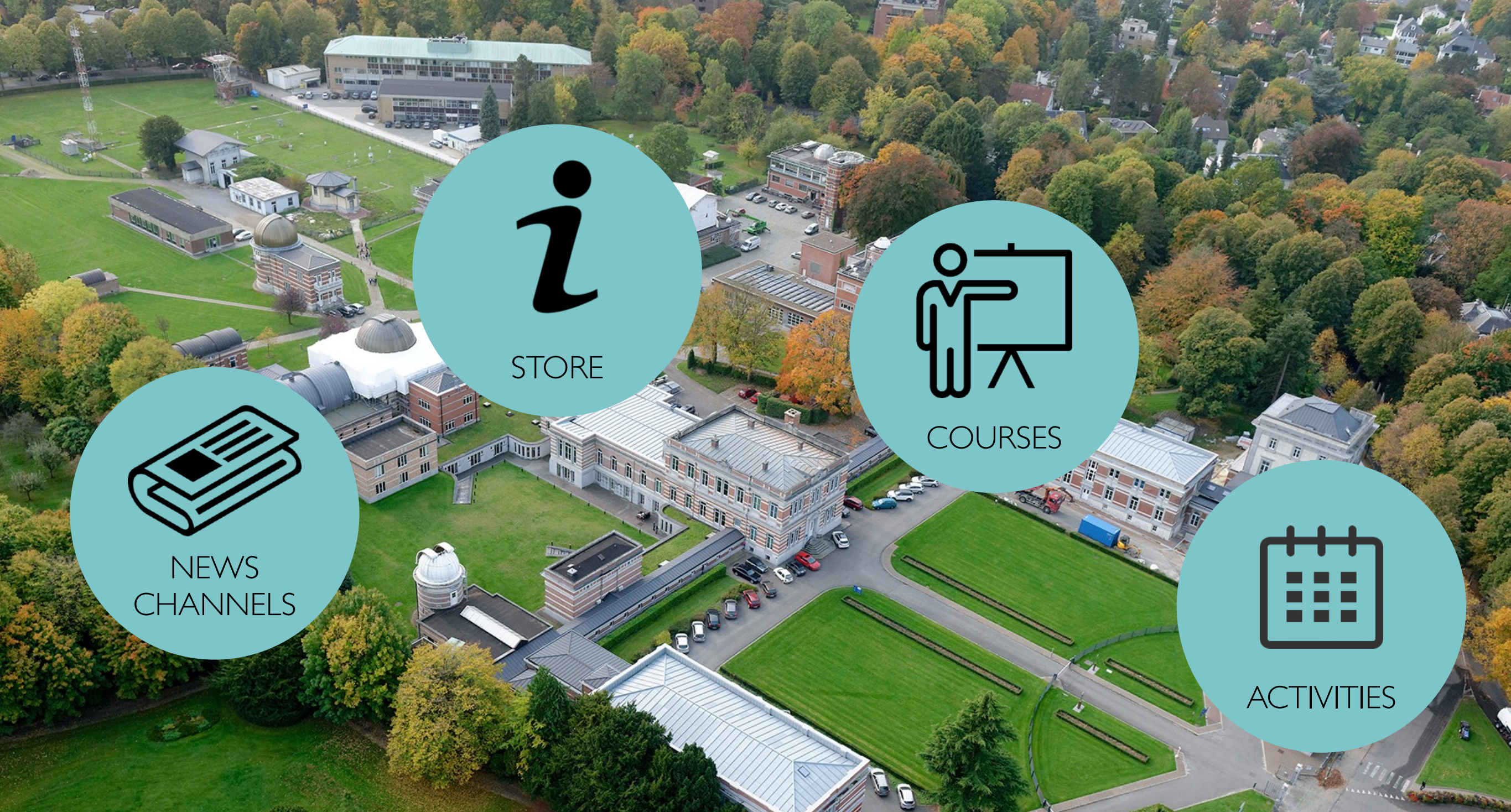


SOLAR-TERRESTRIAL CENTRE OF EXCELLENCE

What

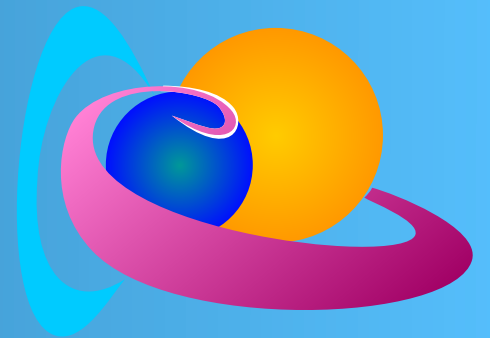






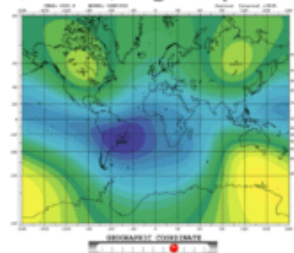
SOLAR-TERRESTRIAL CENTRE OF EXCELLENCE

Dissemination methods





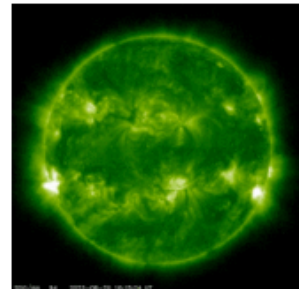
Quo vadis, magnetic pole?



The persistent movement of the North magnetic pole towards Siberia may have some consequences on local space weather impacts such as aurora visibility and geomagnetically induced currents.

[view](#)

X-class flare



After a drought of nearly 3 months, the Sun unleashed an X-class flare on 20 June.

[view](#)

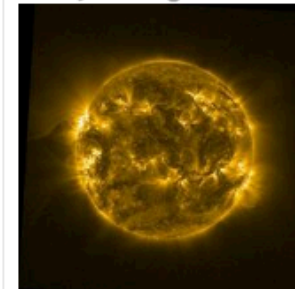
SILSO change of management



Due to a reshuffling of responsibilities, SILSO will from now on run under the single Directorship of Laure Lefèvre, and therefore any future questions related to the SILSO management or data should be addressed to Laure.Lefevre@oma.be. We take this opportunity to thank both Frédéric Clette and Laure Lefèvre for their dedication to the SILSO operations during many years.

[view](#)

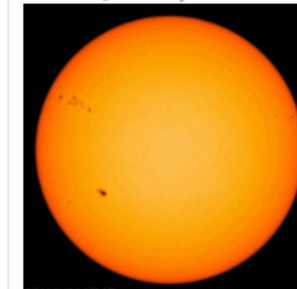
Steady as she goes...



The STCE's [SC25 Tracking page](#) has been updated. Solar activity continues its march towards solar cycle maximum which is currently expected in 2024.

[view](#)

Naked eye sunspots



Over the last 2 weeks, some sizeable sunspot groups were visible with the (protected) naked eye.

[view](#)

SPACE WEATHER WEEK



NEWSLETTER

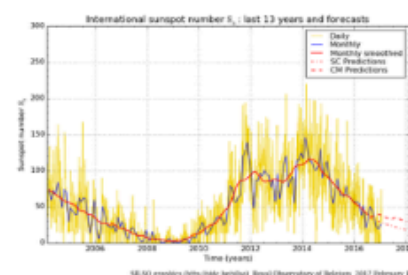


UPCOMING

- STCE Annual meeting
2023/06/29 - 10:00 to 14:00
- Public presentation: Een nog beter begrip van de Zon dankzij Solar Orbiter
2023/06/30 - 20:00 to 23:00
- Lecture: The Sun
2023/08/21 - 14:00 to 15:00
- Open Doors at the Humain Radioastronomy Station
2023/09/09 - 00:00 to 2023/09/10 - 23:45
- Space Weather Introductory Course
2023/09/18 - 08:45 to 2023/09/20 - 16:00

[more](#)

Fundamental Research



The STCE does Fundamental Research.

Submitted by KM on Mon, 2017/02/06 - 10:35

[Read more](#)

Public Outreach



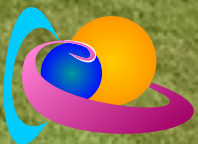
The STCE does public outreach during the STCE Annual Meeting and the Open Doors of the Space Pole in Uccle.

One of the highlights of the Open Doors is always a visit to the Solar Dome. A small introductory presentation is first given in the corridor of the SIDC. Skilled observers and space weather forecasters explain in laymen terminology what sunspots are, how they are observed, why these observations are so important, and how solar eruptions affect us and our technology. Then, the small groups of 10-15 people are guided stairs towards the top of the solar dome. There, the various solar telescopes are shown and their specific applications are discussed. Weather permitting, the visitors can also make solar observations using a projected solar image from the white light solar telescope. During and after the visit, there is plenty of opportunity to ask questions to the guides.

Submitted by KM on Mon, 2017/02/06 - 09:57

[Read more](#)

SWx INTRODUCTORY COURSE





TOPICS

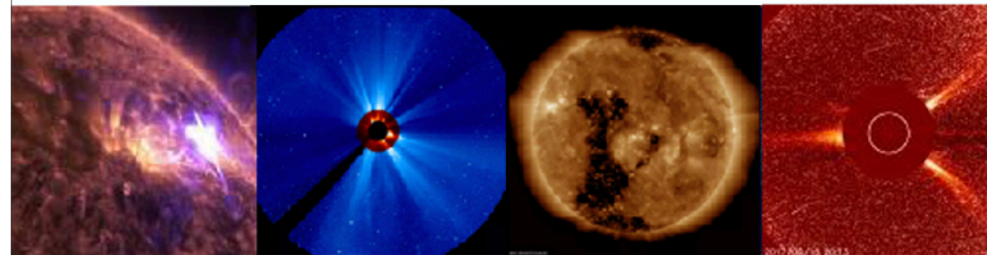


Sun
Solar storms
Heliosphere
Ionosphere
Thermosphere
Magnetosphere
Instruments & sensors
Impacts
Tools



SOLAR STORMS

At a certain moment, energy might be released on a shorter time scale. A solar storm is the change that occur on the Sun or in the solar atmosphere. This change might be in an abrupt, impulsive and brutal way (flare, Coronal Mass Ejection or CME, proton storm) or in a non-eruptive manner (Coronal Hole - CH).  



FLARE



CORONAL MASS
EJECTION
CORONAL HOLE



PARTICLE STORM



10



Change in energy output on the scale of minutes, hours, days.

Remote sensing (seeing) – in situ (taste and touch the ambient space)

Space weather is the change of energy that occur in the space environment.

A Flare is a sudden strong increase of the solar e.m. radiation. The light flash is localised on the solar surface.
SDO/AIA

A Coronal Mass Ejection is a plasma cloud that is ejected into space. You consider it as a cloud and not as a bunch of individual particles. It is superimposed on the background solar wind. You can see a CME as a complex magnetic bag with different magnetic layers with plasma in it that travels as a tsunami through space. It can go faster/as fast as/slower than the background solar wind. When it is faster, you will see a shock in front of the cloud. This is exactly the same as the shock you see in front of a speed boat.

A CME is visible as a white cloud in corona graphic images like the one on the slide. A coronagraph is a telescope that creates an artificial eclipse and makes pictures in the visible light of the region

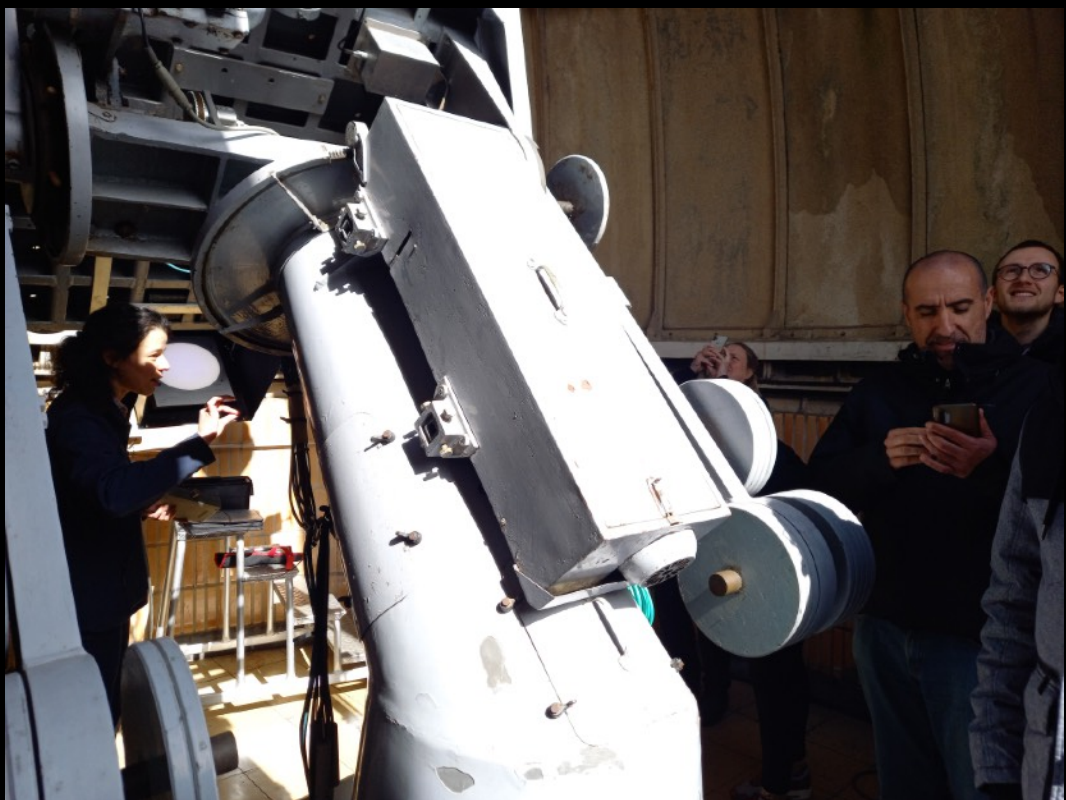
Mon 14/03

09:00	morning coffee	Royal Observatory of Belgium - Directors Building	09:00 - 09:15
	9,8,7, ignition, 6, 5, 4, prepare for take off, 3,2,1, 0 lift off	Petra Vanlommel	09:15 - 09:45
	Introduction to Space Weather	Petra Vanlommel	
10:00		Royal Observatory of Belgium - Directors Building	09:45 - 10:30
	Break	Royal Observatory of Belgium - Directors Building	10:30 - 10:45
	Basic concepts	Eike D'Huys	
11:00		Royal Observatory of Belgium - Directors Building	10:45 - 11:30
	Space Weather Briefing of the STCE SWx Service Centre		11:30 - 11:45
	Basic concepts	Eike D'Huys	
12:00		Royal Observatory of Belgium - Directors Building	11:45 - 12:15
	Lunch		
		Royal Observatory of Belgium - Directors Building	12:15 - 13:15
13:00	Sensors overview	Jan Janssens	
		Royal Observatory of Belgium - Directors Building	13:15 - 14:00
	Visit - solar dome		14:00 - 14:30
14:00		Royal Observatory of Belgium - Directors Building	
	Drivers of Space Weather	Eike D'Huys	
		Royal Observatory of Belgium - Directors Building	14:30 - 15:15
15:00	Break	Royal Observatory of Belgium - Directors Building	15:15 - 15:30
	Drivers of Space Weather	Eike D'Huys	
		Royal Observatory of Belgium - Directors Building	15:30 - 16:15
16:00	Reflections on the day		16:15 - 16:30
		Royal Observatory of Belgium - Directors Building	

INTERACTIVE EXERCISES/



MEET & GREET



ONLINE EDITIONS



ONLINE TOOLS: ZOOM

Zoom Meeting

Participants: Petra Vanlommel, Jan Janssens, Michael Gregorius | GSSAC, Alina Kraai, Peter allard, Elke D'Huys

Polls

Polling 1: Aviation: storm parameters

Polling is closed 6 voted

1. The ionosphere reflects frequencies that are ... than the critical plasma frequency

lower (6) 100%

higher (0) 0%

2. Is a Polar Cap Absorption caused by a geomagnetic storm?

yes (3) 50%

no (3) 50%

3. The effective radiation dose received during a solar radiation storm is lower near the poles.

True (1) 17%

False (5) 83%

Share Results Re-launch Polling

Typ hier om te zoeken

Zoom Meeting

Participants: Jan Janssens, Petra Vanlommel, Kris, Fenja Schophaus, Charlotte DG

Participants (14)

Find a participant

- Jan Janssens (Co-host, me)
- Petra Vanlommel (Host)
- Elke D'Huys (Co-host)
- Charlotte DG
- Fenja Schophaus
- Kris

Invite Mute All

Chat

leadingpolarity.png 464.66 KB

From Bastien Van Belleghem to Everyone:
i lost connexion, sorry

From Elke D'Huys to Everyone:
Glad to have you back! ;-)

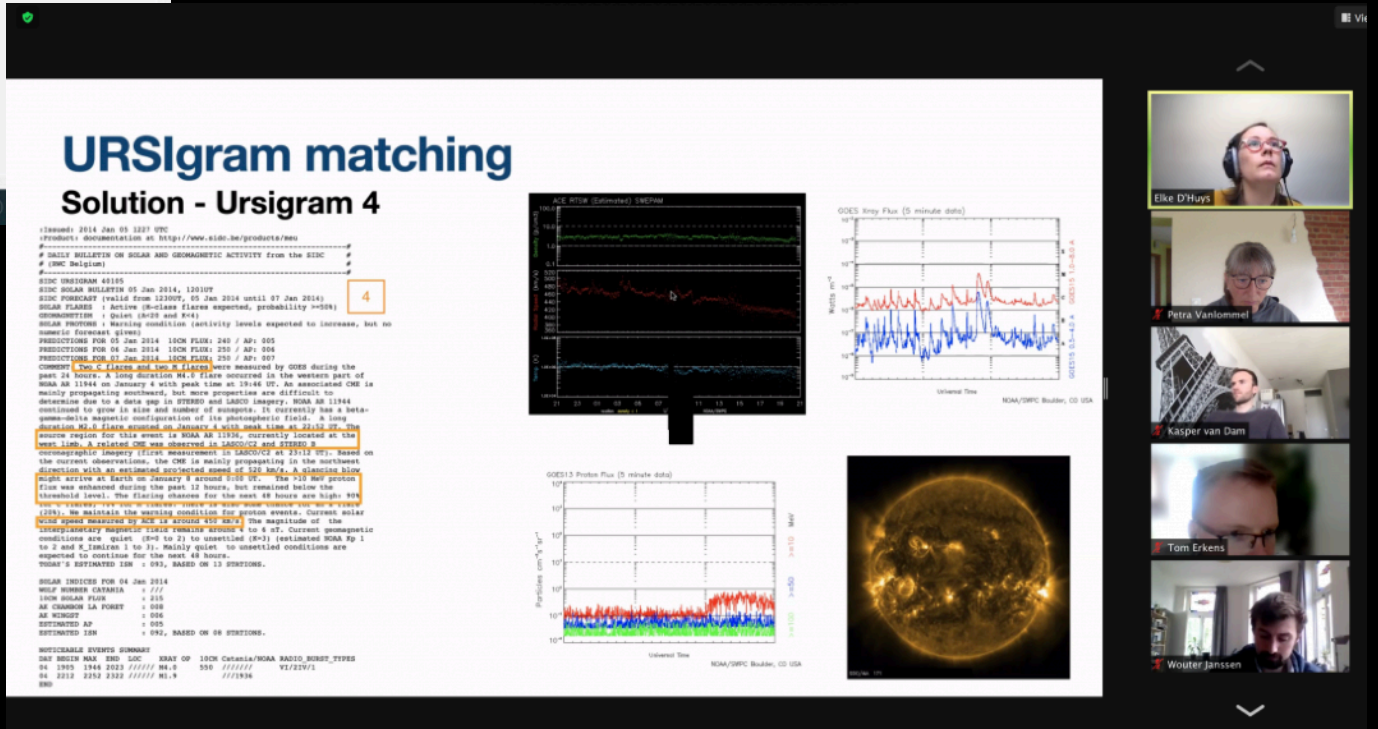
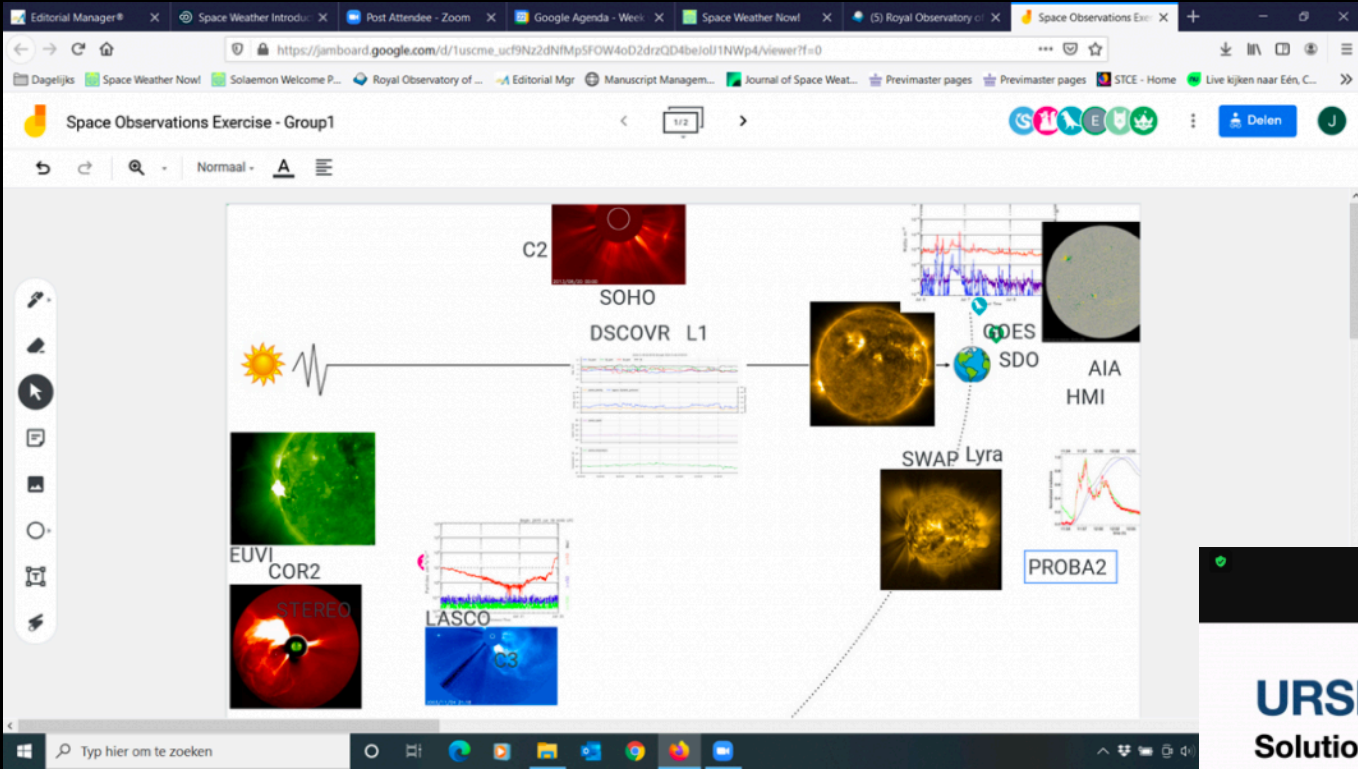
To: Than... (Direct Message) File

Type message here...

Typ hier om te zoeken

15:58 22/02/2021

ONLINE TOOLS: GOOGLE JAMBOARD





Solar-Terrestrial Centre of Excellence


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 You are marked as an administrator or owner for this Quiz. While you can take this Quiz, the open/close times prohibit other users from taking this Quiz.

SPACE WEATHER WEEK



NEWSLETTER



UPCOMING

- Workshop 'Electromagnetic radiation sensors'
2022/04/22 - 09:30 to 15:00
- Public Lecture on Solar Corona in EUV at Urania (in Dutch)
2022/04/26 - 20:00 to 22:00
- STCE at the Symposium on Space Educational Activities in Barcelona
2022/04/27 - 00:00 to 2022/04/29 - 23:45
- Public Lecture on SoLO/EUI at Astropolis (in Dutch)
2022/04/28 - 19:00 to 21:00
- KU Leuven/ CmPA Seminar: Dynamical evolution and oscillation of highly magnetised compact

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SWx Introductory Course - Quiz

This is the SWIC quiz to test your Space Weather knowledge gained during the SWIC.

We serve 30 fast questions checking your top-of-your-head knowledge. You receive 1 point per correct answer.

You will also get 10 questions about ursigrams, gaining you 2 points per correct answer.

This is an open book test - use of www search engines and course material is allowed.

After 80 minutes, the quiz ends irrevocably.

Everybody gets a certificate depending on their score: Diamond (more than 45 points), Gold (41 to 45 points), Silver (34 to 40 points), Bronze (26 to 33 points) or participation (less than 25 points). The certificate will be sent to you personally by email in the week following the quiz.

Good luck!



Diamond Certificate

The Solar-Terrestrial Centre of Excellence declares that participated in the Space Weather Introductory Course and successfully completed the test with an outstanding score of x/50.

 Certificate

 *Ronald Van der Linden*
STCE General Manager

CONTINUOUS EVALUATION

The third day (Thursday), when we had sessions about the effect of space weather, was **hard**, it was a lot of information on one day. If it is possible maybe one of these

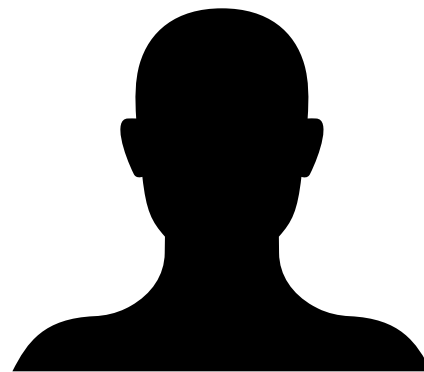
I found it very useful to have many **repetition** and **questions** during the different sessions in the course

I have to say, I am deeply impressed. Your **didactic** ability to pass on your vast **knowledge** to us trainees is admirable. I now understand much better than I did before the

I understand that the course was an introduction to the Space Weather and that you have to cover the generalities at the beginning . As I am not new to the discipline, I found the pace of the first two days to be **slow** for me.

What I liked about your course is that all the information was **spread out** over 4 days so that there is enough time to explain the theory. What I liked too were the **summaries** from time to time. It is also important to have some **exercises** to get busy with the stuff, then it is easier to remember things. Actually I can't name things for you to improve the course.

But in my opinion, you covered the most important aspects in the **lectures** and the rest could be found in all the **notes** on the slides. I also liked the **exercises**, which were important to understand how the theory is applied in practice.



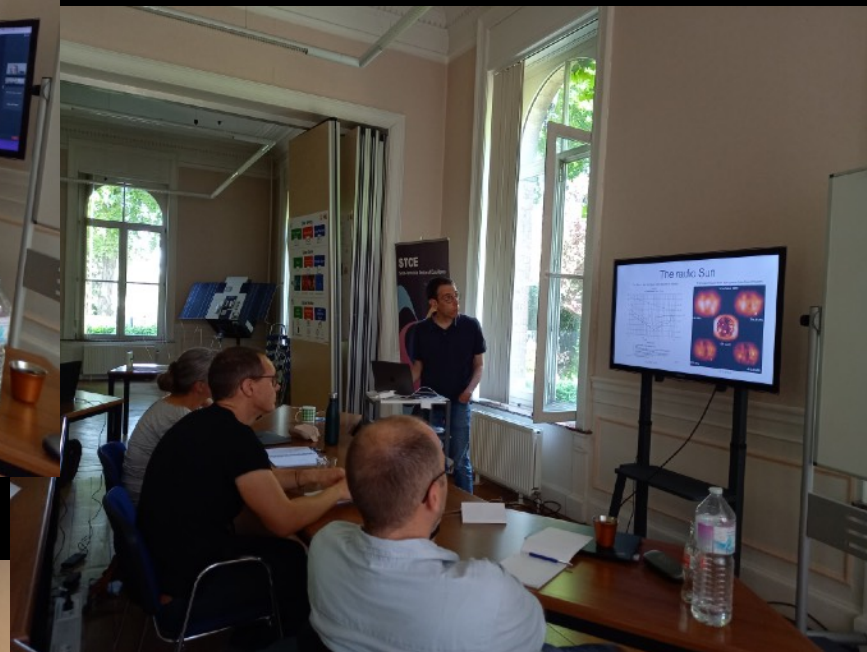
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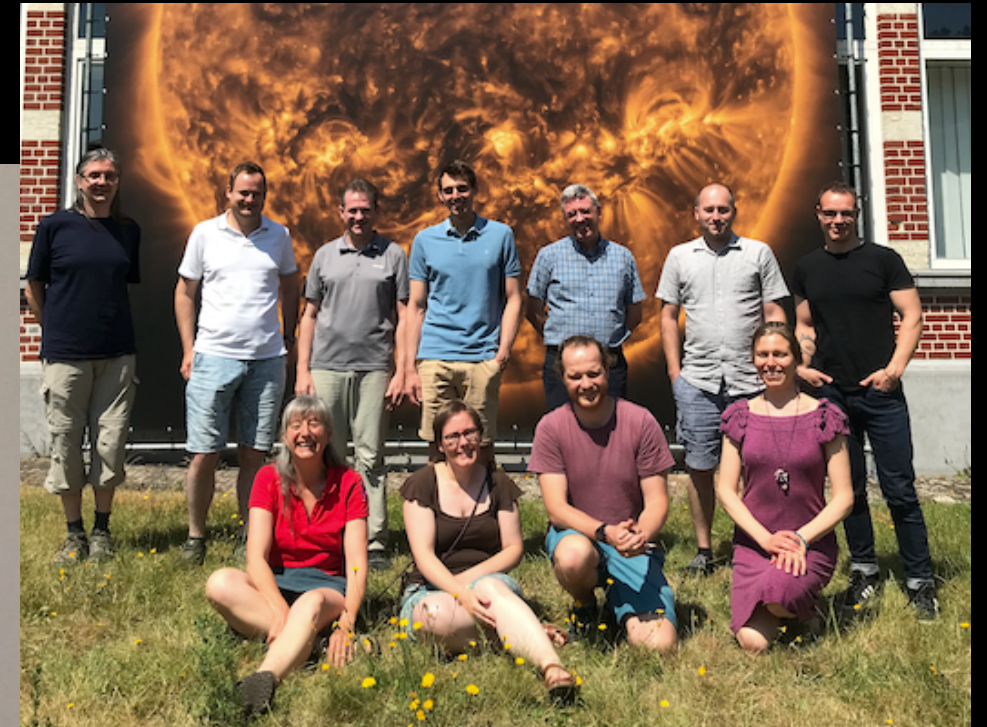
NEW COURSE

SWx impacts on the ionosphere

GNSS & HF



SWx impacts on the ionosphere GNSS & HF



With your help

