

SWWT Plenary meeting report

Wednesday, 19 November 2014, 14:30 to 16:00

Room Mosane 7-9, Palais des Congrès, Liège, Belgium

Participants

The 35th SWWT Plenary meeting was attended by 87 people.

Agenda

1. Welcome and Introduction (Stefaan Poedts)
2. The SSA Programme and SWE Segment status + prospects until 2016 (Jussi)
3. Some considerations about the SSA Period 3 (Jussi)
4. Short SWWT Topical Working Groups reports (TWP leaders):
 - a. Drivers of Space Weather - Solar Magnetic Topology (H. Lundstedt)
 - b. Drivers of Space Weather - Solar Storms (O. Malandraki)
 - c. Ground Effects (A. Viljanen)
 - d. Atmospheric Effects (S. Bruinsma)
 - e. Ionospheric Effects (M. Angling)
 - f. Spacecraft, Launcher and Aircraft Environments (S. McKenna-Lawlor)
 - g. Education, Outreach and Emerging Markets (N. Crosby)
 - h. Space Weather Forecast (L. Trichtchenko)
5. H2020: current status and upcoming calls
6. Action Item Review (S. Poedts)
7. Any other business

Minutes

1. Welcome and Introduction (Stefaan Poedts)

SP welcomed everybody to the 35th SWWT Plenary Meeting and thanked RvdL and ROB for the opportunity to organize this meeting during ESWW11.

2. The SSA Programme and SWE Segment status + prospects until 2016 (Jussi)

JPL presented the SSA SWE system after Period 1 and the SWE segment objectives in SSA Period 2. Then the SWE activities in progress were overviewed. Next, the new SWE activities that are about to start were mentioned, beginning with the SW Expert Service Centres Definition and Development (currently still in negotiation phase), and also including the enhanced SW monitoring system, the Proba 2 mission operation extension to 2015-2016, the development of the SWE ground segment and the SWE data centre hosting extension. Then further SWE activities foreseen in P2 were addressed, including additional SW service developments, SWE Data Centre operations and maintenance, development of the virtual space weather modelling centre, analysis of utilization of European science/technology demonstration missions (e.g. SWARM, PROBA-3,...), and continued development of SWE applications (e.g. SPENVIS). JPL presented his considerations on the SWE system evolution in SSA P3.

3. Some considerations about the SSA Period 3 (Jussi)

Key topics that are foreseen to be addressed in the proposal SWE Segment proposal for SSA Period 3 will be development and maintenance an SSA SWE observation system (space and ground segments) that ensures availability of the data for the SWE services; the evolution of the SWE services towards an operational system, and the development of new technology following the SSA SWE Technology Plan.

4. Short SWWT Topical Working Groups reports (TWP leaders):

- ***Drivers of Space Weather - Solar Magnetic Topology (H. Lundstedt)***
HL was not present and did not (yet) provide any input. By email HL indicated that he never managed to form an active SWWT working group. However, HL finds the subject really interesting and continues to develop further the topological models and with SDO magnetic field data as input.
- ***Drivers of Space Weather - Solar Storms (O. Malandraki)***
Some information on the Splinter on Solar Storms organised last year during ESWW10 was presented, with topics briefly covered. It was reported that a lot of fruitful discussion between the participants took place. Detailed presentation followed of the Splinter organised this year on Friday 21 November 14:30-16:00, by Nicole Vilmer, Olga Malandraki, and Norma Crosby entitled "Solar Storms: Flares, CMEs, and Solar Energetic Particle (SEP) events". Speakers and topics were reported, expected to trigger a lot of discussions on the interesting topics of shock acceleration on space weather related SEP events, flare prediction, crew dosimetry in France and origin and frequency of superstorms.
- ***Ground Effects (A. Viljanen)***
The 3-year EU/FP7 project EURISGIC (European Risk from Geomagnetically Induced Currents) was formally finished in February 2014, but many related activities have still continued. A key research

topic has been estimating the size of the largest possible GIC events. These studies have extrapolated statistics of geomagnetic variations, or have applied plasma simulations for historic large events. As a conclusion, mid-latitudes can experience events comparable to (sub)auroral latitudes. GIC recordings mostly in power grids are carried out in a few countries as well as long-term measurements of the geoelectric field. There has also been collaboration with national grid operators to assess the occurrence of GIC and its effects on power transmission and transformers.

See slides report GE TWG in Annex 2.

- ***Atmospheric Effects (S. Bruinsma)***

SB could not be present but reported that there is no news for Atmospheric Effects this time as there are no good SWARM data yet. Hopefully next year.

- ***Ionospheric Effects (M. Angling)***

The ionospheric effects topical working group is concerned with the impact of the ionosphere on radio systems. At ESWW10 (2013) two main themes were identified as the priorities for the group. First was to convene a session at ESWW11. This was achieved with a very well supported sessions that attracted many valuable oral and poster contributions. It is anticipated that the TWG will participate in convening a new session for ESWW12 in 2015. The second aim was to provide an independent review capability for the ESA SSA programme. This activity is clearly dependent on ESA requesting assistance. At the time of writing the TWG is assisting with the SSA SWE Architectural Design Review.

- ***Spacecraft, Launcher and Aircraft Environments (S. McKenna-Lawlor)***

See slides report SALE TWG in Annex 3.

- ***Education, Outreach and Emerging Markets (N. Crosby)***

Norma B. Crosby (NC) reminded the participants that the SWWT EOEM (Education, Outreach and Emerging Markets) Topical Working Group (TWG) has its own webpage (<http://spaceweather.eu/swwt/eoem>). She highlighted the main issues that had been discussed at the EOEM Splinter last year at ESWW10. The question of whether the EOEM TWG should be restructured into two sub-groups (Subgroup1: Education and Outreach; Subgroup 2: Emerging Markets) or two separate TWGs had been examined. Nothing is yet decided and currently the EOEM TWG remains as it is. Indeed, defining what is meant by "Emerging Markets" must be clarified and how best to target (define) the potential users. Furthermore, last year the EOEM Splinter participants were divided into four groups and performed brainstorming exercises on the above subgroups (topics). Following the brainstorming, summaries were given by each group (see PDF for details). NC had mentioned last year that she was looking for the next EOEM TWG spokesperson(s). This year she was happy to announce the new EOEM spokespersons (Dr. Petra Vanlommel, Royal Observatory of Belgium; Dr. Gaël Cessateur, Physikalisch-Meteorologisches Observatorium Davos). The official appointment of these two people will occur at the ESWW11 EOEM Splinter "Education and Communication: Citizen Science" on Friday 21 Nov. 2014.

See slides report EOEM TWG in Annex 1.

- **Space Weather Forecast (L. Trichtchenko)**

Splinter Session Forecaster Forum was on Tuesday, November 18, 14:00-15:30, Room: Reine Elisabeth

Topic: Forecast successes and failures.

Proposed period for forecast review and analysis September-November 2014, i.e.

1. September 09-12 event,
2. flaring activity during October passage of AR 12192,
3. Solar Energetic Particles enhancements on October 31-November 1 (without obvious source).

The following are the brief conclusions inferred from the discussions:

Solar: Jan Janssens (SIDC), Manuela Temmer (Gratz)-lead forecasters,

Conclusions: each solar Active Region is unique and acts in its own way, despite many new “guesses” there is no possibility to forecast IMF Bz yet, even if there are several large regions with flaring, the SEPs and CMEs might not be following. Forecasts of the solar activity during September and October were difficult and not good.

Ionosphere: Matthew Francis (IPS)-lead forecaster.

Conclusions: due to the large uncertainty of the forecasts of solar activity, the forecast of the ionosphere was difficult. Comparisons of automatic and manual forecasts verification gives unexpected result in one case when manual forecast fails while automatic was better.

Impacts on satellites: David Pitchford (SES Engineering)-lead discussion and has reported that there were no impacts on satellite during the identified time frame.

In general:

Unlike previous two Forecaster Forum meetings, the number of participants was modest (other splinters in parallel?), and much less active. Perhaps in the next year the format will be back to previous with the lead forecaster giving the overview of the forecasting operating procedures at their specific centre and the colleagues will discuss/questioning and sharing their experiences/procedures..

5. H2020: current status and upcoming calls

FLARECAST and PROGRES are the two H2020 Protec 1 projects that are currently in negotiation phase. FLARECAST is led by M. Gourgoulis (Athens) and PROGRES is led by M Balikhin (U. Sheffield). The ALARM proposal (Deimos) and about 10 other proposals were not selected.

6. Action Item Review (S. Poedts)

There are no Action Items from last meeting but there are still some actions open from the meeting before that, i.e. SWWT PM-33:

AI M33/1	Draw up a list of national contact points within civil contingency agencies.	ON-GOING
AI M33/2	Draft white paper, describing the potential impact of Space Weather on civil infrastructure.	ON-GOING
AI M33/3	AG – Investigate means to support SN-1 database hosting as a community service.	ON-GOING

AI M33/1: This action on SP and the whole SWWT SB is still going on. SWWT SB members are asked to provide the contact information of the civil contingencies agency of their country so that it can be added to the list.

AI M33/2: This action on SP is still on-going. Larissa offered assistance and SP will take this up with her.

AI M33/3: This action on AG has become obsolete in the sense that the SN-1 database has been included in the Space Weather portal and thus accessible for everybody. However, AG clarified that the search engine is not available to everyone. Since this would be desirable, a new action on AG is defined to ask to make the search engine available.

AI M35/1: AG to ask ESA if the search engine in the “data base that was formerly called SN-1” available so that everybody can use it.

7. Any other business

There was an announcement by Iwona Stanislawski of the URSI flagship meeting 1st URSI Atlantic Radio Science Conference (URSI AT-RASC), 18-25 May 2015, ExpoMeloneras Convention Centre, Gran Canaria. Commission G (Ionospheric Radio and Propagation) and Commission H (Waves in Plasmas). Deadlines: Paper submission December 15, 2014; Notification February 28, 2015. Further details at: <http://www.ursi.org/en/home.asp> and <http://www.at-rasc.com/call.asp>

The meeting closed at 16:05PM