

Space Weather Working Team Meeting # 14 Space Expo, ESTEC, Noordwijk, 5th November 2003

Present

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Annick Blusson, CLS
Liljana Cander, RAL
M. Cermack, ACG Space Techs.
Norma Crosby, BIRA-IASB
Erwin Flueckiger, Univ. Bern
Sergio Ghione, CNR
Paul Gille, LPCE
Alexi Glover, ESA-ESTEC
Alain Hilgers, ESA-ESTEC
Frank Jansen, Univ. Greifswald
Norbert Jakowski, DLR
Bryn Jones, SolarMetrics/MSSL
Hanna Lappalainen, FMI
Francois Lefeuvre, LPCE
Clovis de Matos, ESA-HQ
Mauro Messerotti, INAF-Trieste
Risto Pirjola, FMI
Antti Pulkkinen, FMI
Willi Riedler, IWF Graz
Koen Stegen, BIRA-IASB

Apologies

Mike Hapgood, RAL
Reinhart Leitiger, Univ. Graz

1. Review of actions in progress

1.a AI 1, (COST 724)

The status of COST 724 was presented by J. Liliensten in the “Programmatics” session of the workshop.

1.b AI 2 (ESF)

A question was raised about thematics common to SWWT, COST and E-STAR. It was agreed that the same thematic could be considered by the different entities provided it is not with the same objective. As regards to the SWWT activities they must be directed towards Space weather applications, with the ultimate goal of service development.

Activities on the relations between Space Weather and climate, with a possible extension to paleoclimate and astrobiology, were discussed. It was recommended to include them in an existing topical group. In order to avoid a dispersion in the “Atmosphere” topical group (practically centred on satellite drag) it was decided to include it in “Education, Outreach and Emerging Markets”, for a trial period until the next SWWT meeting in June 2004.

Following a discussion at the last SWWT meeting, a question was raised about the interest of a topical group on “health”. Part of these activities are already funded by other European entities. New topics may be of interest. But at the moment they may be considered as an emerging market. At the present stage they must be included in the topical group on Education, Outreach and Emerging Markets”.

1.c. AI 3, 4, 5 (SWEET, MOPLE)

The MOPLE proposal will not be submitted in response to the next FP6 call for aeronautics and space. With the support of the COST 271 membership, Norbert Jakowski (DLR) decided to continue to collaborate with the FMI-led STREP proposal, now reworked and called SW-RISK (Space Weather – Risk Indices from Scientific Know-how) .

1. d. AI 6 (contacts with: GMES and GALILEO - P. Gille)

During his presentation entitled “ESA and Space Weather” (Programmatics session of the workshop), Clovis de Matos made clear that the ESA General Study Programme (GSP) considers that, after the funding of the Space Weather Applications Pilot Project, Space Weather activities geared towards a possible future programme, will have to be funded from an alternative source. This confirms the need to see how Space Weather activities could be funded by other European entities. Presently, two possibilities have been explored: the submission of a STREP proposal to a call of the Aeronautics & Space thematic of the FP6 programme and ESA/GMES. Both were initially unsuccessful.

Information on several meetings, including the “GALILEO day” (Brussels – 04/09/2003) and a meeting organised with representatives from the Aeronautics and research coordination in the area of space unit, (EC/DG.RTD/H3, Brussels - 22/09/2003), were presented by Paul Gille (see Appendix A).

An important point in the discussion was the possibility to introduce Space Weather activities in one or several of the five GALILEO thematics retained for the next AOs. Actions were taken by Bertram Arbesser-Rastburg:

- to explore the possibility of including Space Weather activities in GALILEO thematics (**Action 1**, deadline 30/11/2003)
- to contact the Galileo Joint Undertaking (GJU) (**Action 2**, deadline 30/11/2003)

The information will be sent to the SWWT members.

As regards to GMES, other thematics, such as Transport, INSPIRE, ... should be investigated for space weather applications. This point was raised during the 22/09/2003 meeting in Brussels. An

action is taken by Paul Gille and Francois Lefevre to identify these interests (**Action 3**, deadline 30/11/2003).

During the preparation of the EU white paper on space sciences it was noted that Space Weather was not referred to. However, in the present edition of the white paper, Space Weather is mentioned.

1 e. AI 7 (ILWS – H. Opgenoorth, R. Marsden, E. Daly, F. Lefevre)

A report issued by the European ILWS committee was presented by Richard Marsden during the workshop. François Lefevre, who participated at the last meeting, as the SWWT chairman, noted that several members of the European ILWS committee ignored the work done during the parallel ESA studies on the possible definition of a future European space weather programme. Modelling activities as well as satellite projects, including radiation belt and ionospheric mappers, are of huge interest for science as well as for applications. F. Lefevre sent the members of the European ILWS committee web addresses for the most relevant reports. In addition, all scientists involved in space weather activities must contact their national representatives on the committee. (**Action 4**).

1.f AI 8 (promotion of SW activities - F. Lefevre)

Several proposals were included in the report of the topical group on Education, Outreach and Emerging Markets (see Appendix D). As several outreach activities are forecast at national levels as well as at European levels, it was asked to Frank Jansen and Norma Crosby to collect and circulate all information on ongoing outreach activities (**Action 5**).

According to the importance of the solar events observed in October (particularly on 28 and 29 October) several urgent actions were agreed.

all members should send information on the effects of the October solar events to Frank Jansen (all SWWT members, **Action 6**)

to collect and to circulate all information on the effects of the October solar events (**Action 7**).

Now, it will be important to compare the effects of the October solar events to lower magnitudes events more frequently observed.

Alexi Glover agreed to investigate whether next year's space weather workshop could be extended to a week. This may take place with other (TBC) activities in parallel as proposed by Frank Jansen.

1. g. AI 9 (effects on human health)

See item 1.b.

1. h. AI 10 (SEC)

A support letter was sent by F. Lefevre on behalf of the SWWT.

2. E-STAR initiative

A presentation of the E-STAR initiative was made by Jean Lilensten during the Programmatic session of the workshop.

3. Status of the SWP Proposal (Risto Pirjola, H. Lappalainen)

After a meeting between the SWWT board and representatives from the Aeronautics and research coordination in the area of space unit, (EC/DG.RTD/H3, Brussels - 22/09/2003), it became clear that it would not be sufficient to improve the SWEET proposal, but a new proposal should be written which focussed on GMES risks. This is the reason why a new philosophy has been adopted and a new name has been given. The project, again led by FMI, is now called SW-RISK (Space Weather – Risk Indices from Scientific Know-how). The proposal philosophy was presented during the workshop. The transparencies are available on the ESA Space Weather Workshop Website:

http://www.estec.esa.nl/wmwww/wma/spweather/workshops/spw_w5/proceedings.html

The boundary conditions were recalled by Risto Pirjola. The SW-RISK proposal must be viewed as a way to introduce Space Weather activities in GMES and not as a way to provide funds to a maximum number of groups interested in Space Weather.

The only tool applicable for Space Weather activities is a STREP. Collaborations and interactions with a large risk IP are possible and recommended. The number of consortium members should not exceed 10 (the optimum number is 8) and the number of sub-contractors limited. The total budget is around 2.5 M€ (50% from EU). Each participant must have a well defined role. All tasks and WPs must be well motivated with the GMES risk goals in mind.

The SW-RISK proposal is based on four Work Packages:

- WP 1000 European capabilities in Modelling & observing the SW risks
- WP 2000 Support for Earth Observation
- WP 3000 Service for Telecommunication & Navigation
- WP 4000 Service for avionics & ground-based technological system users

A link is foreseen with the ESA Space Weather European Network (SWENET). R. Pirjola confirmed that a budget will be dedicated to this relationship. The SWENET forum is open to the Space Weather community.

It was agreed that the SW-RISK proposal is coordinated by FMI within the framework of the SWWT and supervised by the core group which represents the SWWT.

The exact role of WP 2000 is still under discussion. The EU considers that, by default, risks on satellites must be taken into account by ESA or by other space agencies.

Although there is only limited possibility to join the SW-RISK proposal, groups who would like to contribute must send an expression of interest to Risto Pirjola and Hanna Lappalainen by November 30 (**Action 9**). The application must include:

- general information of the person(s) and institute(s)/company,
- one page description of expertise and foreseen contribution to the Work Packages set out above, as defined in the FMI proposal (Appendix B).

The core group will select consortium members and sub-contractors before December 15th (**Action 10**).

4. Topical Groups

Questions were raised about the association between Topical Groups and Space Weather services. After discussion it was decided not to alter the distribution of Topical groups but to ask them to clearly identify the services they cover. It was agreed that the Topical Groups would decide via email if an alternative name would be more appropriate. The spokesperson of each Topical group is asked to send to Alexi Glover a one page report defining the objectives and any minutes of meetings (**Action 11**)

A review of the activities of the Topical groups was made.

Fundamental Research (Spokesperson : J. Liljensten)

The topical group did not meet, but actions are in progress within the frameworks of COST 724 and E-STAR.

Ground effects (Spokesperson : R. Pirjola)

A very interesting meeting was organised just before the workshop. Members of this TWG have been very successful in interesting users and to investigate further the optimal way in which to provide space weather services.

Atmospheric effects (Spokesperson : A. Blusson)

A meeting was not organised during the workshop owing to time constraints. It was noted during the review, that all current participants in this group work on drag effects.

Ionospheric effects (Spokesperson : Lj. Cander)

A meeting was organised during the workshop. Terms of reference were adopted. The minutes will be made available.

Spacecraft and Aircraft Environments (Spokesperson: B. Jones)

No meeting has been organised during the workshop owing to time constraints.

Education, Outreach and Emerging Markets (Spokesperson : N. Crosby)

A meeting was organised during the workshop. Minutes will be made available.

Programmatics (Spokesperson : F. Lefeuvre)

Programmatics is the main task of the SWWT board. An e-mail will be sent to all persons registered in the topical group in order to see how contacts with other European entities may be taken.

5. AOB

It was agreed that the next meeting would take place in June 2004. Location to be confirmed.

SUMMARY OF ACTIONS

Action 1 - To explore the possibility of including Space Weather activities in GALILEO thematics (Bertram Arbesser-Rastburg, deadline 30/11/2003)

Action 2 - To contact with the Galileo Joint Undertaking (GJU) with reference to Action 1 (Bertram Arbesser-Rastburg, deadline 30/11/2003)

Action 3 – To explore the possibility of submitting a proposal to FP6 thematics other than Aeronautics & Space (Paul Gille and Francois Lefeuvre, deadline 30/11/2003).

Action 4 – To contact the national representatives in the European ILWS committee to ensure that the work carried out during the ESA funded parallel space weather studies is not duplicated in the initial phases of ILWS (all SWWT members).

Action 5 – To collect and to circulate all information on ongoing outreach activities (Norma Crosby, Frank Jansen).

Action 6 – To send to Franck Jansen all information on the effects of the October solar events (all SWWT members).

Action 7 –To collect and circulate all information on the effects of the October solar events (Frank Jansen).

Action 8 – To consider the possibility of extending next year's space weather workshop to a European 'space weather week' (Alexi Glover).

Action 9 – To send an expression of interest to Risto Pirjola and Hanna Lappalainen by November 30 (groups interested to contribute to the STREP proposal led by FMI).

Action 10 – To select partners and sub-contractors in the SW-RISK STREP proposal by December 15 (SWP-core group, 15th December).

Action 11 – To send to Alexi Glover a one page report defining the topical group objectives and the minutes of any meetings (Topical groups Spokespersons)