

Space Weather Splinter

21 April 2009

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Agenda

1. Welcome
2. ESA Space Situational Awareness programme
3. Space Environment and Effects Network of Technical Competence
4. Space weather opportunities in Framework 7
5. COST action ES0803 - Developing Space Weather Products and Services in Europe
6. US report on extreme space weather
7. Discuss possible actions
8. AOB

Space Situational Awareness

- ESA SSA programme approved at Nov 2008 MC
 - Three-year initial programme (review 2011 MC)
- Build *operational* services to monitor conditions in space:
 - Objects, debris – collisions, hostile threats to spacecraft
 - Space weather & NEOs (emphasis on former)
 - Space weather is flagship for cooperation with US
- UK in core programme at minimum level (€330k)
 - Not (yet?) in options: space weather & data centres
- Relevance to MIST/UKSP
 - R&D to set up programme (e.g. SpW monitors, new services)
 - Demonstrates economic impact

SEENoTC

- ESA network
 - Members: B, D, E, F, S, UK + Eurospace
 - UK reps: Mike Hapgood & Ian McCrea
- Focus on Space Environment & Effects
 - Environment includes particle radiation & plasma
 - Sensors, data access, models
- Harmonise R&D in these areas
 - Identify relevant research
 - Look for synergies
 - Encourage collaboration
 - Seek future opportunities

Framework 7 - Space

- 3rd call expected 31 July, with a deadline of 30 November
- Expect ~€40-45m for *Strengthening Space Foundations*
 - Including *Reducing the Vulnerability of Space Assets*
 - Space weather and space debris, not in 1st and 2nd calls
 - Effects on spacecraft: forecasting, mitigation & modelling
 - Proposals must complement ESA SSA Programme
- UK FP7 space information day
 - BNSC planning for July, brief on 3rd call
 - promote networking for UK participants
 - BNSC aware space weather is UK interest
 - perhaps advising on finding partners across Europe

Framework 7 – Research Infrastructure

- FP7 supports development of RIs
 - Projects to provide better infrastructure for research (instruments, services, tools, ...)
 - I3 model: human networking, trans-national access and research on infrastructure (e.g. tools development)
 - HELIO – new heliospheric data access project starts 1 June under e-infrastructure line,
 - Next call is targeted rather than bottom-up, initial lobbying for space weather unsuccessful so far
 - EURIPOS – proposed ionosphere/plasmasphere project, session at EGU

HELIO objectives

- To create a collaborative environment where scientists can discover, understand and model the connection between solar phenomena, interplanetary disturbances and their effects on the planets (esp. the Earth)
- To establish a consensus on standards for describing all heliophysical data and champion them within international standards bodies, e.g. the IVOA
- To develop new ways to interact with a virtual observatory that are more closely aligned with the way researchers wish to use the data
- **Desire is to create something in useful to the community,** however it chooses to use it. Therefore need input and feedback from the community during all phases of the project

The HELIO Consortium

<i>Country</i>	<i>Institution</i>	<i>Contact</i>
UK	University College London (MSSL)	R.D. Bentley (PI)
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FR	Observatoire de Paris (LESIA)	J. Abouadarham
FR	Universite Paul Sabatier Toulouse (CESR)	C. Jacquey
UK	Science and Technology Facilities Council (RAL)	M.A. Hapgood
FR	Universite Paris-Sud (IAS)	K. Bocchialini
IT	Istituto Nazionale di Astrofisica (Obs. Trieste)	M. Messerotti
UK	University of Manchester	J. Brooke
IE	Trinity College Dublin	P. Gallagher
US	Rensselaer Polytechnic Institute	P. Fox
US	Lockheed Martin Space Systems Company (LMATC)	N. Hurlburt
US	NASA (<i>Heliophysics Science Division at GSFC</i>)	D.A. Roberts
Int.	ESA (<i>Science Ops Dept., Space Environment & Effects group</i>)	L. Sanchez

COST ES0803

The screenshot shows a web browser window titled "COST ES0803 - HOME page - Windows Internet Explorer". The address bar displays the URL "http://www.costes0803.noa.gr/beta/index.html". The browser interface includes a menu bar (File, Edit, View, Favorites, Tools, Help) and a toolbar with navigation buttons. The main content area features a header with the COST logo and the text "COST ES0803 Developing Space Weather Products and Services in Europe". Below the header is a navigation menu with buttons for Home, Network, WorkGroups, Meetings, Products, Documents, and Blog. The main content is divided into two columns. The left column contains a "WELCOME TO COST ES0803 HOME PAGE" section with a paragraph about Space Weather and a list of objectives. The right column contains a "NEWS" section with three entries: "COST 724 Final Report" (dated 06.02.2009), "Next MC Meeting and Workshop" (dated 20.12.2008), and "Kick off Meeting" (dated 10.11.2008). At the bottom right, there is a login form for MC members and a "Forgot your Password?" section.

WELCOME TO COST ES0803 HOME PAGE

Space Weather originates mainly in solar activity and affects the interplanetary space and planetary magnetospheres, ionospheres and atmospheres. It can affect ground and space technological systems as well as humans in space. Extreme space weather conditions have economical consequences and may threaten safety and security of the technological infrastructures. In the US, important progress in modeling and predicting Space Weather effects has been made through the launch of large-scale research projects and the implementation of national prediction systems.

Although Europe has much scientific expertise on the physics and effects of Space Weather, its optimal use suffers from a lack of coordination between the national research programmes. This COST Action has the primary goal to form an interdisciplinary network between European scientists dealing with different issues of Geospace, as well as warning system developers and operators, to:

- Foster the ties between European Geospace research and space technology establishments,
- Assess the European potential in advanced Space Weather observational and modeling techniques and in reliable products and services
- Define the needs of a broad range of users and
- Determine and recommend the specifications for new products and services that best meet the user's requirements.

NEWS

06.02.2009
COST 724 Final Report
The COST724 F.Report is hosted in this site under DOCUMENTS. [Click to download the PDF \(17MB\)](#) read more

20.12.2008
Next MC Meeting and Workshop
Frascati, Italy, 1-3 April 2009
Local Organizer: Ermanno Amata, INAF. read more

10.11.2008
Kick off Meeting
Brussels, Belgium, 16-17 November 2008
Further information will be posted soon...

This area is restricted only to:
MC members

Username:
Password:

Forgot your Password?
If you are a COSTES0803 MC member, please enter your e-mail address in the form below and you will receive your credentials as soon as possible.
Email:

<http://www.costes0803.noa.gr/beta/index.html>

Spring MIST @ NAM, April 2009

COST ES0803 structure

- WG 1. Advanced methods to model and predict space weather effects
 - SG 1.1: Progress in scientific understanding of space weather
 - SG 1.2: Performance of available research and operational models
 - SG 1.3: Improvement for operational models
 - SG 1.4: Codes for new space weather products and services
- WG 2. Space weather products and services
 - SG 2.1: Identification of current space weather resources
 - SG 2.2: Market segmentation including cartography and users requirements
 - SG 2.3: Feasibility study for new market-oriented products and services *
- WG 3. Exploitation, Dissemination, Education, Outreach
 - SG 3.1: Upgrade of the European Space Weather Portal
 - SG 3.2: Dissemination of advanced scientific and technical results
 - SG 3.3: Seminar and training courses
 - SG 3.4: General public outreach to the non-specialist

COST ES0803 organisation

- Provides EU funding for travel / networking
 - Workshops, ...
- UK reps: Alan Aylward, Alan Thompson
 - MH deputy
- 1st workshop 1-3 Apr 2009
 - Weak UK attendance: AT + Rami Qahwaji (Bradford)
 - <http://gifint.ifsir-roma.inaf.it/paperi.html>
- Encourage more UK involvement
 - 13 UK expressions of commitment
- Is there a wider constraint on UK involvement in Euro SpW? Time? Money? RC interest?

US report on extreme SpW

- Workshop in May 2008, report in Jan 2009
- Attracted wider attention
 - March 09 NS article stimulated much interest
 - Including a couple of PQs (but also nutty fringe)
- Uses Carrington event as canonical example
 - Builds on 2006 ASR special issue
 - Example of Low Frequency High Impact event – transcends everyday experience, needs science input
 - Some government awareness of this issue
- How to follow up in sensible way?
 - MH exploring what science is needed

MIST

AOB?

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