



Minutes of the Kick-off Meeting of the FP7 HELcats Project

14-15 May 2014

The kick-off meeting of the FP7 HELcats project was held on 14-15 May 2014 in the Visitors Centre of the RAL Space department of the STFC-Rutherford Appleton Laboratory, Harwell, UK. The meeting was attended by all of the HELcats beneficiaries, and by the REA Project Officer, as listed below.

Attendees:

Richard Harrison (Project Coordinator)	[STFC]
Jackie Davies (Scientific & Technical Manager)	[STFC]
Sabri Mekaoui (Project Officer; <i>attended first day</i>)	[REA/EU]
Mario Bisi	[STFC]
Eckhard Bosman	[UGOE]
Volker Bothmer	[UGOE]
Eoin Carley	[TCD]
Bob Forsyth	[IMPERIAL]
Peter Gallagher	[TCD]
Emilia Kilpua	[UH]
Christian Möstl (<i>attended by Skype</i>)	[UNIGRAZ]
Chris Perry	[STFC]
Adam Pluta	[UGOE]
Luciano Rodriguez	[ROB]
Alexis Rouillard	[UPS]
Matthew Wild	[STFC]
Sarah Willems (<i>attended second day</i>)	[ROB]

The following paragraphs provide a brief summary of the presentations and discussion. The presentations have been lodged on the HELcats website (www.helcats-fp7.eu).

HELcats KICK-OFF MEETING

Location: RAL Space, STFC-Rutherford Appleton Laboratory

Visitors Centre, Ground Floor, R68

Chair: Professor Richard Harrison (STFC)

AGENDA

WP: Work Package

Wednesday 14th May		
1.	10:00 – 10:30	Introduction: <i>Richard Harrison</i>
2.	10:30 – 11:00	EU perspective: <i>Sabri Mekaoui (EU project officer)</i>
3.	11:00 – 11:30	WP1 /General HELcats overview: <i>Richard Harrison (WP1 lead)</i>
4.	11:30 – 11:45	WP2 Overview/Manual CME identification: <i>Jackie Davies (WP2 lead)</i>
5.	11:45 – 12:00	WP2 Automatic CME identification: <i>Luciano Rodriguez</i>
6.	13:30 – 13:45	WP3 Overview/Forward modelling: <i>Volker Bothmer (WP3 lead)</i>
7.	13:45 – 14:00	WP3 Geometrical modelling: <i>Jackie Davies</i>
8.	14:00 – 14:15	WP3 Inverse modelling: <i>Peter Gallagher</i>
9.	14:15 – 14:30	WP4 Overview: <i>Christian Möstl (WP4 lead)</i>
10.	14:30 – 14:45	WP4 Coronal comparison: <i>Volker Bothmer</i>
11.	14:45 – 15:00	WP4 In-situ comparison: <i>Emilia Kilpua</i>
12.	15:30 – 16:15	WP5/WP6 Overview: <i>Alexis Rouillard (WP5/6 lead)</i>
13.	16:15 – 16:30	WP7 Overview/Type II observations: <i>Jonathan Eastwood (WP7 lead)</i>
14.	16:30 – 16:45	WP7 IPS observations: <i>Mario Bisi</i>
15.	16:45 – 17:00	WP8 Dissemination overview: <i>Chris Perry (WP8 lead)</i>
16.	17:00 – 17:15	WP8 IRAP tools/AMDA: <i>Alexis Rouillard</i>
17.	17:15 – 17:45	Wrap up: <i>Richard Harrison</i>
Thursday 15th May		
	10:00 – 12:00	General discussions on standardization, information dissemination, AOB

1. Introduction - Richard Harrison (STFC)

After an initial welcome to the attendees, and provision of logistical information for the meeting, all attendees introduced themselves and the agenda was outlined. The meeting was structured such that it would start with some introductory presentations, then run through each Work Package (WP) in turn, both to provide a complete overview of the project and to pick up on particular issues that need to be addressed at this time for detailed discussion on the second day. In particular, the consortium was delighted to welcome Sabri Mekaoui.

2. EU Perspective - Sabri Mekaoui (REA)

Information on how the Commission sees the project and how it will be managed at the EU level was outlined. This included an overview of procedures and reviews, and comments on financial and legal aspects. REA – the Research Executive Agency – actually provides the organisation of evaluation and the execution of projects provides the project oversight. Sabri (the HELCATS Project Officer: PO) is from the REA Space Research Unit, and his role is to see that we execute and provide what was promised in the DoW. He stressed that the DoW/Annex is, in fact, a legal document; we have stated in the DoW that we will provide specific deliverables and achieve particular milestones, and he will monitor these. However, he did stress that there is room for flexibility (e.g. timing of meetings, reports, etc.), but that the key is to maintain communication with him. He did stress that we are not allowed to extend the project (in terms of time or money).

The project covers a fixed period of three years, from 1 May 2014, with a fixed budget. We have a defined and agreed reporting and review structure, and work schedule. Sabri provided a few brief practical comments/advice to aid the running of the project: There should be a quarterly e-mail to the PO from the Project Coordinator (PC) to ensure regular communication (added to action list below). Frequent communication is the key and, certainly in case of problems, the PO should be contacted immediately. We should keep timesheets – these need to be retained for a number of years beyond the project end in case of audits. For travel, the Commission view is that the funding of travel should necessitate presentations/participation. It is hard to justify travel to meetings to simply listen and ‘network’. We should include the EU flag on presentations! When we publish papers/reports, we should acknowledge the EU support – a standard acknowledgement is provided.

3. WP1/General HELCATS overview - Richard Harrison (STFC)

The HELCATS consortium was congratulated on succeeding with the proposal and negotiation. The aim of the kick-off meeting is to touch base on what we have signed up to do and to start our activities. The aims of the project, as stated in the proposal, were revisited, and the structure of the consortium reviewed. The WP structure was outlined and it was noted that WPs 1, 2, 5 and 8 all start in month one (May 2014), with WPs 3 and 6 starting in month 7 (Oct 2014), followed by WPs 4 and 7 starting in month 10 (Jan 2015). The management structure as outlined in the proposal was shown; it was stressed that the Steering Committee (SC) includes all institute leads and all WP leads and that the HELCATS PO (not defined in the proposal figure) is Sabri.

WP1 is the management WP so the meetings, reviews and deliverables of the next year were outlined (see tables in the presentation). It was agreed that the specific details of the meetings should be discussed on the second day. With regard to the deliverables, the first is the minutes of

the kick-off meeting, to be provided in month 1. The second is the website launch. The website address was given as <http://www.helcats-fp7.eu/> and the draft pages were viewed by the team and discussed. In the sense that the website has been launched, the deliverable has been satisfied, but the site is in a preliminary state and the attendees were asked to view the site and suggest comments on format, items for inclusion, etc. (see action list).

Finally, it was noted that the meeting would be followed by tutorials on the processing and exploitation of the STEREO/HI data, by Jackie Davies and Alexis Rouillard, respectively.

4. WP2 Overview/Manual CME identification - Jackie Davies (STFC)

WP2 provides the foundation for the HELCATS project through the development of the manually-identified CME catalogue based on the STEREO/HI data. The presentation included a basic review of STEREO/HI, its observations, and the methodology of manual selection. Details are given in the presentation, posted with these minutes. It was noted that WP2 also includes an element that is the scientific/technical management of HELCATS.

5. WP2 Automatic CME identification - Luciano Rodriguez (ROB)

In addition, WP2 includes an element to assess the use of automated CME identification in HI data through the extension of significant expertise with coronagraph techniques employed at the Royal Observatory Belgium (ROB). The CACTus approach was discussed, and how it could be modified to exploit HI data.

6. WP3 Overview/Forward modelling - Volker Bothmer (UGOE)

WP3 extends the initial HI catalogue from WP2 through application of (geometrical, forward, and inverse) modelling to derive kinematic parameters, ultimately to provide a capability for comparison of different approaches and assessment of their relative success. The methods to be applied in the WP were outlined. In particular, the forward-modelling technique was described in some detail including examples using STEREO/COR and HI observations applied by the UGOE group.

7. WP3 Geometrical modelling - Jackie Davies (STFC)

One modelling approach to be utilised in WP3 is the application of the geometrical models developed in recent years to exploit HI data – namely the so-called Fixed Phi, Harmonic Mean, and Self-Similar Expansion methods, all of which make use of time-elongation profiles extracted from J-maps. Much of the development of these models has been done by institutes within the consortium, including UNIGRAZ, UPS, and STFC.

8. WP3 Inverse modelling - Peter Gallagher (TCD)

An additional modelling approach to be applied in WP3 is the use of the inverse modelling methods employed by the TCD group, in particular allowing the projection to solar source regions from the HI observations.

9. WP4 Overview - Christian Möstl (UNIGRAZ)

Christian attended the meeting via Skype, having been unable to travel from Graz for the workshop. However, he was able to deliver his talk and to participate actively in the discussions that followed

as well as those of the second day. This WP, led by UNIGRAZ, is concerned with the inter-comparison of the HI catalogues with generated in-situ and solar source catalogues, using the outputs of WP4, to verify the approaches of WP3. This validation will be done using a statistical approach via comparison of the catalogues.

10. WP4 Coronal comparison - Volker Bothmer (UGOE)

The UGOE group will use the HI catalogue to define windows (both spatial and temporal) in which to catalogue the potentially-associated solar-source features of the catalogued CMEs using a range of spacecraft, such as SDO, SOHO, STEREO, and Proba-2.

11. WP4 In-situ comparison - Emilia Kilpua (UH)

In parallel with the analysis of solar-source regions, the UH group will provide an analogues analysis of in-situ phenomena potentially associated with the arrival of CMEs, including a consideration of the different CME regimes (such as the shock, sheath regions, etc.).

12. WP5/WP6 Overview - Alexis Rouillard (UPS)

WP5 is an activity that is undertaken in parallel to the previous WPs, geared to Co-rotating Interaction Regions (CIRs)/Stream Interaction Regions (SIRs) rather than CMEs. This includes the identification and cataloguing of CIRs in HI data and a derivation of the kinematic parameters of these events, including a consideration of their potential solar sources and in-situ signatures, through backward and forward projections.

WP6 exploits the results from the CME and CIR catalogues, both to assess the success of numerical MHD heliospheric codes and to provide potential inputs to run such MHD codes. This includes, in particular, the Enlil MHD numerical code. The HELCATS project, through WP6, will exploit the HI data to assess the success of Enlil in predicting the state of the heliosphere, and also assess the use of the heliospheric data to initialise Enlil.

13. WP7 Overview/Type II observations - Jonathan Eastwood, given by Bob Forsyth (IMPERIAL)

Bob Forsyth explained that he was representing Jonathan Eastwood, who was unable to attend. WP7 introduces radio data into the HELCATS study, exploiting the derived HI-oriented catalogues by allowing detailed comparisons with two particular radio phenomena that are associated with solar ejecta, namely Type II radio bursts and Interplanetary Scintillation (IPS). The Type II phenomenon was explained and an example of a previous coordinated analysis of HI data and Type II radio observations was shown. The radio analyses in WP7 will be slightly different from the analyses in other WPs, in that the work under WP7 is designed to identify common events (HI and radio) to assess the added value of combining heliospheric imaging and radio data.

14. WP7 Observations of IPS - Mario Bisi (STFC)

The IPS technique was explained. Various IPS-capable observatories were introduced, including EISCAT and LOFAR, and an example of a coordinated analysis using LOFAR IPS data and HI was shown for a small CME as well as some other direct comparisons between the STEREO HIs and other analysis techniques that could be employed for a very-small number of cases if applicable. Again, the aim is to use the HI event lists to identify those CMEs for which IPS data are available in order to assess the value of the IPS data in combined CME studies.

15. WP8 Dissemination overview - Chris Perry (STFC)

WP8 covers a wide range of dissemination topics, including the publication of the catalogues and of results of the validation analysis, the annual open meetings, presentations to the community, and the lodging of documents, including the catalogues and publications, on the website. However, it also includes consideration of issues such as standardizing of catalogue formats, metadata, naming conventions etc.; this opened discussion regarding several related issues that were taken forward for more-comprehensive discussion on the second day.

16. WP8 IRAP tools/AMDA - Alexis Rouillard (UPS)

A very specific and important element to WP8 is the IRAP propagation tool and the CNRS web-based data mining tool, AMDA. The former was demonstrated at the meeting.

17. Wrap up - Richard Harrison (STFC)

The first day concluded after the WP descriptions with the chair noting that clear WP presentations confirmed the focused and well-organised status of the project, with each team well able to deliver clear elements of the well-constructed project.

Discussion:

The second day focused on discussions of a range of specific issues needing further consideration as we launch the project. Notes on these points are included below:

1. Fix basic arrangements for monthly telecons – It was agreed that STFC should define the phone-in procedures for the monthly telecons (action listed below) and that the best day of the week is a Wednesday, preferably in the morning, starting a month or so after the kick-off meeting.
2. Fix basic arrangements for meetings – The following schedule was agreed:

Month/Date	Meeting	Host
1 (May 2014)	Kick-Off Meeting	STFC
6 (Oct 2014)	Bi-annual project meeting/ workshop, plus technical review	ROB
12 (May 2015)	Bi-annual project meeting/ workshop, plus technical review – plus annual open workshop	UGOE
18 (Oct 2015)	Bi-annual project meeting/ workshop, plus technical review	UH
24 (May 2016)	Bi-annual project meeting/ workshop, plus technical review – plus annual open workshop	UPS
30 (Oct 2016)	Bi-annual project meeting/ workshop, plus technical review	TCD
36 (May 2017)	Bi-annual project meeting/ workshop, plus technical review – plus annual open workshop	IMPERIAL

3. Standardisation, etc. – After some discussion, it was agreed that a small working group should consider and then make recommendations on issues relating to catalogue formats, version control, units, naming conventions, etc.; this needs to be done within a month of the kick-off meeting. For this to proceed, an initial list of the catalogues, and their suggested content, is required. See actions below.

4. Catalogue information – Issues relating to what we include in catalogues were discussed, e.g. do we include the direction, speed (and launch and arrival timing) of ecliptic CME components as that information for the CME apex? How do we include uncertainties? It was thought that this is best considered by distributing to all a fraction of the HI catalogue (3 months) as it stands now, for comment.
5. Website – The website was discussed. Several suggestions were made at the meeting, but everyone is invited to view the site and make further suggestions.
6. Outreach – Early outreach options were discussed. A first press release is required and a ‘corporate style’ (logo, slide format) set of templates needs to be considered.
7. Scientific meetings – We must advertise HELCATS widely, and make HELCATS presentations at science meetings (as planned). A discussion of where/when can be included in upcoming telecons. However, Luciano advertised the upcoming Solar Information Processing workshop in Belgium in August. It was suggested that a HELCATS poster be displayed. Indeed, it was suggested that we should provide a generic HELCATS poster, that could be updated as required (it was suggested that the one that was produced by Jackie for the Hot Spring Mist meeting in Bath, UK, in April could act as a starting point which included the HELCATS management and WP leaders as authors).

Tutorials:

Following the formal closure of the meeting, two tutorials were given on the processing and exploitation of the STEREO/HI data, by Jackie Davies and Alexis Rouillard.

ACTIONS:

No.	Action	Actionee	Date for completion
1	Presentations at kick-off meeting to be sent to Richard for inclusion on the website	All	30 May 2014
2	Comments on website and what could/should be included should be sent to Jackie	All	30 June 2014
3	Minutes of kick-off meeting and the associated presentation files to be placed on the HELCATS website	Richard Harrison	30 June 2014
4	The MIST HELCATS poster should be placed on the HELCATS website; arrangements made for display at the August meeting in Belgium	Jackie Davies	30 June 2014
5	Construct the first press release	Chris Perry	30 June 2014
6	Consider the HELCATS 'style' required for slides, reports, etc, and recommend to the consortium	Chris Perry	30 June 2014
7	Ensure that a quarterly e-mail to Sabri is in the schedule	Richard Harrison	30 May 2014
8	All beneficiaries to ensure that they maintain accurate timesheets - for audits	All	30 May 2014
9	Beneficiaries to note the meeting dates and locations as defined earlier	All	30 May 2014
10	Those leading catalogue development to provide a list of the catalogues, and what they imagine the catalogues will contain, to Chris Perry	All	30 June 2014
11	Send a three-month portion of the HI catalogue as it exists, to all, for comment on what could be included (e.g. ecliptic data, uncertainties, etc.)	Jackie Davies	30 June 2014
12	Comments on the HI catalogue (action 11); should other parameters be included?	All	10 July 2014
13	Working group to consider and recommend issues on standardisation, etc., led by Chris Perry, and to include Peter Gallagher and others as required	Chris Perry	20 July 2014

DELIVERABLES DUE

D1.2 - Minutes of the kick-off meeting

D1.1 - Website (launch)