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|  | Title: | Reference: |
| | Minutes of the 40th Scientific Committee Author: Annie BAGLIN | COROT.LESIA.11.006 Version: 1 Date: 4 / 10 / 2011 |

Minutes of the 40th Scientific Committee

Held at Institut d'Astrophysique de Paris, salle du Conseil, on September 23rd 2011.


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| Prepared by: | Annie Baglin | |
| Accepted by: | The SC members | |

MODIFICATIONS OF THE DOCUMENT

| Ed. | Revs. | Date | Modifications | Visa |
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REFERENCE DOCUMENTS

| Reference | Title of the document |
|-------------------|--|
| SC40-DR1-OV.pdf | Mission status |
| SC40-DR2-EM.pdf | Recent results in seismology |
| SC40-DR3-SCMA.pdf | Status of the treatments |
| SC40-DR4-FB.pdf | archive |
| SC40-DR5-OLM.pdf | Planning for a proposal for an extension |
| SC40-DR6-HR.pdf | The german white paper for the extension |
| SC40-DR7-EM.pdf | Seismology programme, present and future |

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DIFFUSION:

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|------------------|------------------------|
| G. ALECIAN | OPM |
| R. ALONSO | Observatoire de Geneve |
| M. AUVERGNE | OPM/LESIA |
| A. BAGLIN | OPM/LESIA |
| F. BAUDIN | IAS |
| P. BORDE | IAS |
| S. CHAINTREUIL | OPM/LESIA |
| M. DELEUIL | LAM |
| M. FRIDLUND | RSSD/Estec |
| R. GARRIDO | IAA/Spain |
| T. GUILLOT | OCA |
| A. HATZES | Tautenbourg |
| E. JANOT-PACHECO | Sao Paulo University |
| E. MICHEL | OPM/LESIA |
| C. MOUTOU | LAM |
| A. NOELS | IA Liege |
| M. OLLIVIER | IAS |
| E. PORETTI | Obs Brera, INAF |
| H. RAUER | DLR Berlin |
| D.ROUAN | LESIA |
| I. ROXBURGH | QMW London |
| J. SCHNEIDER | OPM |
| G. VAUCLAIR | OMP |
| W. WEISS | IA Vienna |
| K. ZWINTZ | IA Vienna |
| O. LA MARLE | CNES, Paris |
| O. VANDERMARQ | CNES, Toulouse |
| C. IMAD | OPM/LESIA/secretariat |

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Participants:

All members except G. Vauclair, E. Janot , T. Guillot, K. Zwintz, W. Weiss P. Bordé and F. Baudin attended only the afternoon session.

1. Mission status

Olivier V. presents the status of the mission (see SC40-DR1-OV).

The satellite and the instrument (with only chain 2!) are working very well. 20 runs have been achieved.

There has been a loss of pointing for a few seconds, probably due to an impact (tbc).

A constant attention is paid to the TM download. There are still some losses, mostly at Alcantara, but the recent strategy to use it as a back-up is successful and in the recent runs the losses have decreased significantly.

2. Recent results, papers in preparation, presentations

2.1. The Seismology Programme

EM gives some hints on the papers being published or submitted recently (see SC40-DR2-EM.pdf).

2.2. The Exoplanet Programme

MD presents the status of the planet discoveries and the publications.

The discovery papers of the planets announced at the sSymposium in Marseille, have been submitted but two: C-21b and C-24b whose first draft have circulated among CoIs. Three of these papers are currently under revision : C-16b, C-19b and C-22b. The summer ground-based observation campaign is still not over. Candidates from various runs, from LRc02 to LRc07, have observed. The summary will be done by the beginning of October and the publication strategy then decided.


Two Run Report papers are currently under revision : LRa01, SRa03/LRa03 (submitted in APSS) . SRc01 is just being accepted. LRc02 draft should be sent soon to CoIs for comments. For the other runs, the strategy of publication will be discussed at the CEST to be held next week.

2.3. The Additional Programmes

Postponed to the next SC as WW is absent.

2.4. Upgrade of the Scientific Results web page

A preliminary upgrade has been uploaded. The SC members are asked to check it before next wednesday and send their remarks to AB before the end of september
The address of the page is http://smc.cnes.fr/COROT/A_res_scie.htm

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Action SC40-1 : Check the web page on scientific results. Remarks before 30/09 to AB.

2.5. CoRoT II Symposium

Every body considers it as a very good meeting. Though part of the programme tried to insist on star / planet interaction, this orientation was not very successful.

The Proceedings will be published at Paris Observatory.

Only 40 people over more than 160 have send their manuscript yet.

AB send an e-mail to all the authors (oral+ posters) asking for their contribution with October 10th as a dead line.

2.6. Meetings in general

It seems that very often, CoRoT results are not sufficiently presented in meetings.

It is proposed to ask the members of the CoRoT team to be careful to make presentations as often as possible, when then attend a meeting.

MF proposes to have somebody keeping track of this and making sure that if people go to meetings they at least attempt to present CoRoT status and results.

Nobody has yet been nominated. So it eems to be postponed to the next SC !

3. The Observing programme

3.1. Next winter

The semester will contain 3 runs. The precise dates are mostly driven by the coordination with ground based and space instruments.

EM presents the propositions of the sismology programme (SC40-DR7-EM.pdf, first part)

* **SRa04** is dedicated to an Hg Mn star HD 45975

In fact this star belongs to the cluster NGC 2232 (50 My) and it has been possible to observe at the same time 4 other members : a B star, a red giant, an A0 star, and a PMS star.

It will last 53 days in the sismo field.

* **SRa05** is dedicated to the cluster NGC 2264, observed in the exofield like in SRa01.

It will start on december 2 and last 38 days. This Run belongs to a wide international multi satellite and ground project of coordinated observations with MOST (for the brightest stars of the cluster) Spitzer, Chandra and VLT.


A news will be send to CNES to annouce this international campaign.

* **SRa06** (or LRa06,(?) as it lasts 80 days) is dedicated to the reobservation of CoRoT7, with coordinated observations with HARPS. CoRoT 12 and 21 can be reobserved ; priority is given to CoRoT 12.

In the simos field it will be possible to reobserve HD 49933 again (to confirm the stellar cycle) and also HD 46375 and its mixed mode, and may be also the O star HD 50230 and its p modes...

It is stressed that it would be very important to make sure that CoRoT 7 (observed in the imagette mode) will be in a region of the CCD without hot pixels.

Same requirement for CoRoT 12 if possible.

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Action SC40-2 : Define a strategy to place CoRoT 7 in a region of the CCD without hot pixels (OV, MA.....)

3.2. Next summer

EM proposes an O star, a beta cep, a solar like star (SC40-DR7-EM.pdf, first part)
The possible extension of the eyes (14° radius instead of 10) could give access to regions of better quality for the exoplanet observations.

Action SC40-3 : CM will propose acceptable regions and communicate with EM, before next SC.

Decision for this period will have to be taken at the next SC

4. Publication policy

AB met C. Bertout to discuss the recent difficulties with A&A on several papers.

It turns out that for the present pending papers, a solution will be found.

However, the editors still ask for papers containing several discoveries, and different runs for the run reports.

Though this subject will be rediscussed at CEST, the SC expresses already its disagreement with this policy. It is stated that, considering the variety of situations and the quantity of complementary observations needed to confirm the planetary nature of the candidates, most of the CoRoT planet discoveries are worthwhile a paper.

It is then proposed to submit first the papers to A and A but to send them to another journal (MNRAS, ApJ, PASP,...) if not accepted by A and A.

5. Data treatments and deliveries

5.1. Proposition of modifications

The evolution of the pipe-line of corrections is presented by SC (See SC40-DR3-SCMA.pdf) .

* The jitter correction improvement taking into account the relativistic aberration, and the temperature corrections are being implemented

* Exo Imagettes pipe-line : after a long discussion, it appears that the situation has to be clarified. MD says that the responsibility of this pipeline is at LAM and Benjamin Gardes is in charge of it.


MF asks for a simple diagramme defining precisely the flow of the treatments, the actors, and the responsible for each element, in particular the flow for the imagettes pipe-line and also for CoRoT-9 reobservation.

Action SC40-4 : Produce this diagram asap (!under AB)

* Artie H responsible for action SC 37-3 says that Ofir will not be able to work on his proposition before long, as he is preparing the defense of his thesis ; action closed.

* Sismo imagettes

The question has been raised by OV of the need to download the sismo imagettes, which are

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very TM consuming. These imagettes were supposed to improve the light curves specially during the SAA crossings, but it has been demonstrated that it does so. Sismo imagettes are presently only used at the beginning of each run to prepare the « masques fins ».

So the question is raised on how to use the corresponding TM.

Several ideas have been suggested : secure the TM through more redundancy, increase the number of sismo targets, compute onboard and download the barycenter of each target in the exofield. MA will present the feasibility of these options at the next SC.

Action SC40-5 : How to use the TM of the sismo imagettes, MA, next SC

* A question is raised by AN of the possibility to include the Suzanne Aigrain pipeline in the chain. As this treatment works on N1, it cannot be an option on top of the standard N2. The SC proposes to start a validation of this pipe-line before taking any decision, but it seems that we have not said who would do that !

5.2. Candidate detections

Several questions concern the number of candidates

* First OV asks if the number of candidates is in agreement with the predictions of the blind tests. Aldo B. at LAM is working on it, introducing artificial transits on true CoRoT light curves. The significance of the test is still a matter of debate and is being improved. MF insists on the need to quantify activity.

* Pascal B. works presently on the problem raised by the small number of candidates in the recent runs.

Even though some rumors said that it could be due to the quality of the data (essentially an increase of the number of hot pixels), PB confirms that the quality of the data does not seem to be degraded and that is it not an instrumental problem.

Action SC40-6 : PB : formulate the fact that we do not have degradation/instrumental problems in this context in a quantitative way and that we all then try to get this to the world along our different channels


5.3. Deliveries, archive evolution

FB presents the update of the queries of the Mission archive, which are still quite high (see SC40-DR4-FB.pdf) .

6. Long Term Archive

Frederic B. and Olivier V. accept to prepare some propositions for the organisation of this task for SC 42

Action SC40-7 ; Proposition for the organisation of the LTA : FB and OV SC 42.

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7. Extension of the observations after 2013 ?

OLM presents the different steps and the planning of the procedure to propose a second extension (See SC40-DR5-OLM.pdf).

* Send a letter to the Programme directorate asap

* The SC has to produce a Scientific Programme as an autonomous project for the proposed period. The duration can be either 2 or 3 years, depending on the programme.

The german team has already discussed and written a white paper (see SC40-DR6-HR.pdf) , which proposes a very refreshing idea to use the sismo field, with more targets to detect planets.

The feasibility has to be checked through the number of possible targets.

EM proposes some reobservations for instance to increase the accuracy on the frequencies and measure the He abundance. Also he recalls the proposition to observe hot stars and young regions (not covered by Kepler) (SC40-DR7-EM.pdf, second part)

AB recalls that CoRoT has opened his eyes and that some new regions are accessible

The planning is quite tight to be ready for the end of december 2011. To prepare this document the organisation is as follows :

1- Draft : next SC, **end of november**

Action SC40-8 : AB send a call for ideas to all the Co-Is and GIs : deadline November 1st

Discussions are foreseen at CEST, at the Giant WG next week

EM will contact the different responsible of the SismoWGs.

Decision on the final content : **SC 41**

2- -Second version **December 15th** to be checked asap by the SC

Make sure that you will be able to do that during this period !

3- Final version **End of december**


8. General management

8.1. SC members

AB proposes to nominate Ennio Poretti as a member of the SC, as he is very active in all the FU activities and also the general seismology programme.

The SC manifests its enthousiam for this proposition .

AB is asked to propose this membership to Ennio

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8.2.Next SC meeting.

The next SC has to be quite soon, at the end of November
 AB organises a Doodle.

9. Actions

9.1. From this SC

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|--------|--|---------|-----------------|--|
| SC40-1 | Check the web site scientific results. Remarks before 30/09 to AB. | all | 30/09 | |
| SC40-2 | Define a strategy to place CoRoT 7 in a region of the CCD without hot pixels | OV, MA, | Rapidly ! | |
| SC40-3 | propose acceptable regions and communicate with EM, | CM | before next SC. | |
| SC40-4 | Produce a diagram of the data flow | ? | asap | |
| SC40-5 | How to use the TM of the sismo imagettes, | MA | Next SC | |
| SC40-6 | formulate the fact that we do not have degradation/instrumental problems | PB | asap | |
| SC40-7 | Proposition for the organisation of the LTA | FB, OV | SC 42 | |
| SC40-8 | send a call for ideas to all the Co-Is and GIs | AB | asap | |

9.2. Actions still open

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|--------|---|------------|---------------|--|
| SC37-1 | Document the imagette photometry accuracy | PB | Asap, next SC | |
| SC39-1 | Upgrade the webpage on Scientific results | AB. | Asap | |
| SC28-4 | Document on corrections | SC, MA. AB | Dec 2008 | |