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|  | Title: | Reference: |
| | Minutes of the 36th Scientific Committee Author: Annie BAGLIN | COROT.LESIA.10.004 Version: 2 Date: 25/06/2010 |

Minutes of the 36th Scientific Committee

Held at CNES HQ (Paris) on May 21st 2010, in room visio4.


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| Prepared by par: | 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 |
|------------------------|--|
| SC36-DR1-OV | Mission status OV |
| SC36-DR2-WW | Additional programmes impact W.W. |
| SC36-DR3-EMCCAB | An observing programme for the extension (EM CM, AB) |
| SC36-DR4-extPpalCR.xls | Table of possible fields |
| SC36-DR5-JS | Reobservation of CoRoT 7 |
| SC35-DR6-PB | Final report of the peer review of the CDC (Pascal B.) |
| SC35-DR7-MA | Corrections MA |
| SC35-DR8-CS | Data treatment and deliveries MA, SC |

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|---|---|---|
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DIFFUSION:

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

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Participants:

All members except A. Hatzes, O. La Marle, S. Chaintreuil, K. Zwintz
 In visio conf: M. Deleuil, C. Moutou (LAM) and E. Janot-Pacheco (Brazil)

1. Mission status

Olivier V. presents the status of the mission (see SC36-DR1-OV).

The satellite and the instrument (with only chain 2!) are working very well.

The drift has been stopped successfully. The ascending node is now at 10° (centre of the eyes at 100 and 280) and a very slow drift ($\sim 0.4^\circ$ per year) remains in the direction of increasing right ascension.

LRc05 is being observed, and on July 6th a rotation around the seismology field will be done towards LRc06. LRc06 will start on July 8th till the beginning of October.

A constant attention is paid to the TM download. There are still some losses, but less than before. Strong efforts are made to overcome the difficulties of the ICONES network.

2. Recent results, Announcements

2.1 The Seismology programme

Type I papers on solar-like pulsators keep coming out (HD170987, Mathur et al. A&A accepted)

Several scoops in the domain of hot stars announced at last CS as submitted or to be submitted are accepted:

- Degroote et al. A&A **accepted**: discovery of solar-like pulsations in an O star.
- Aerts et al. A&A **accepted**: periodic mass loss episodes due to an oscillation with variable amplitude in a hot supergiant.


Some new ones are submitted or about to be:

- Mahy et al. submitted to A&A: Plaskett's Star: Analysis of the CoRoT photometric data
- Briquet et al. to be submitted to A&A: A seismic study of the O9V star HD 46202 from CoRoT space based photometry.

For red giants, the results announced at last CS have been submitted and rejected by Science and are to **be submitted to A&A**: First detection in a red giant of the departure from the regular asymptotic frequency spacing. This feature is attributed to the zone of partial ionisation of HeII. In the Sun this feature has been used to constrain not only the localisation of the HeII partial ionisation zone but also the abundance of He.

2.2. The Exoplanet programme

The observation campaign for the summer targets has just started. It is too early to have secured new planets. The press announce has been delayed to June 14th in order to have the announce papers submitted. CoRoT-8b, 10b papers are accepted; CoRoT-12b, 13b & 11b papers have been submitted. CoRoT-14b & 15b are pretty well advanced and the first draft should circulate before the announcement.

| | | |
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2.3 The Additional programmes

As foreseen WW presents statistics about the publications of the APs with respect to the Core programmes.

It turns out that the APs are very fruitful. (See SC36-DR2-WW)

2.4 PR activities

A press release will be issued very soon, in principle with 7 new planets. It is already written and circulates for agreement among the different parties. It will be issued by LAM, CNRS and CNES.

The PR contacts are not yet collected (Action SC34-2 OLM to be continued).

2.5 The CNES web page on « Scientific results »

This page satisfies the SC, which is now public.

A strong effort will be needed to update it every month!

2.6 CoRoT Pub Upgrade

The users have asked several improvements. TG has obtained an estimate of the cost. SC 35 has taken the decision, but the work is not yet done.

It is decided to put a warning explaining that it is a working site and cannot be considered as the list of publications based on CoRoT data: To obtain such a list click here (link to ADS search with CoRoT in the abstract or the title).

Action SC36-1: TG prepares the CoRoT pub update, asap

3. General programme of the next 3 years

3.1. Preselection of candidate fields

Following the general priorities discussed at the last SC, a list of high interest possible targets has been made for both fields.

EM and CM have looked at these fields and produce a preliminary document estimating the quality of these fields, from the exoplanet core programme point of view.


This document with some comments called now SC36-DR3-EMCCAB, has been send to the SC one week before this meeting, and is commented during the meeting by Eric, Claire and all participants.

EM presents a table with the characteristics of each field, which was also send to the SC a week ago. The firm conclusions from the discussion are included in the two last columns of the table as “comments” and “simultaneous” (SC36-DR4_extppalCR.xls)

After long discussions it seems that

- For red giants, priority should be given to bright targets in clusters; among the clusters which have been proposed. Berkeley 92, NGC2244, NGC 6705 are poor fields, but NGC 6633 is very promising as it seems possible to observe 3 or even 4 red giants in the seismology field.

- For solar like stars, the search for solar-very-like candidates (with global parameters closer to the solar ones) brings 3 possible targets, with $m_V \sim 6.8$. According to our present knowledge of the instrument performances and solar-like oscillations, such magnitudes

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should allow detection of the oscillations, but the final precision on mode parameters remains uncertain. The centre direction seems quite poor except for HD 168443, which hosts 2 planets.

- For O stars, in the centre direction the fields are extremely poor. In the anticentre, some observations are possible in the sismo field. It seems possible to observe some of these objects with other types of targets.

- B and Be stars are common enough and shall be accommodated with other targets
- Reobservation of CoRoT-7b for at least 2 month (50 days?) seems very important
- Reobservation of CoRoT-9b only for a short period has to be considered in more details

- Reobservation of NGC 2264 coordinated with Spitzer is interesting
- Would be good to find a confirmed HgMn to observe it for at least an intermediate period.

3.2. Towards an Observing programme

The general idea is that the most important things have to be planned first, as the instrument will age and could even die!

3.2.1. Next winter observations

* A strong interest for a reobservation of CoRoT-7 (observed in LRa01), and the SC seems to favour this observation asap, e.g. next winter.

JS proposes to follow the variation of the inclination of 7b and 7c with time. (See SC36-DR5_JS).

Observing time has been applied for HARPS (answer very soon).

The duration required is 50 days at least.

An optimisation of the sismo field is necessary, as this region has already been observed twice during IRa01 and LRa01.

* Priority should also be given to a solar like star, for which the anticentre direction is more favourable. It should be a quite long run, more than 100 days.


The discussion has select two possibilities:

- HD 42618, a G4V star with $V=6.9$, with a rich sismo field and easy rotation to accommodate 2 exo fields around.

The scientific (and strategy) emergency to observe a solar-very-like candidate is discussed. It should be a quite long run, more than 100 days.

- Reobservation of HD 46375, (K1 IV star $V=7.8$ + planet, observed 24 days in SRa02). It could also permit the reobservation of the Plaskett star HD47129, and another O star both member of NGC 2244, member of the cluster HD 46150, and also a B1 I HD47240.

As there is some need for complementary informations, no final decision could be taken immediately. It is decided to interact rapidly by mail to prepare the decision before the end of next month.

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Action SC36-2: EM, CM and AB will circulate the mail asap and draw conclusions June 25th

3.2.2. *Other anticentre possible fields*

- NGC 2264
- find a confirmed Hg Mn star
- NGC 2236 in the sismo field, to be checked

3.2.3. *Centre fields*

The best candidates are:

- NGC 6633 on which a strong interest is expressed : 3 to 4 giants in the seismo field and possibility of rotation. Good field for exo
- Corot-9, but not next year (
- A red giant HD 166284, observable another K2 II ($\pi=8$) HD 166460 and a nearby F5 V ($\pi=21$)
- Solar like stars HD165401, HD 168443 (with two planets), with at first sight poor secondary candidates.

4. **Data**

4.1. **Review of CDC:**

Final conclusions by Pascal Bordé (see SC36-DR6)

The peer review recommends to organise at least one users workshop

Action SC36-3: PB: contact Rafael Garcia and propose a programme for this meeting to be discussed at next SC

4.2. **Corrections being implemented**

See SC36-DR7 –MA

4.3. **Status of the treatment and deliveries**

See SC36-DR8 –SC

5. **Meetings and workshops**

5.1. **Project of a Stellar physics meeting**

MF proposes to think about having a very informal meeting devoted to stars and their planetary environment. More to come next SC


5.2. **CoRoT Brazil workshop**

EJ announces that the dates are now fixed: November 29th to December 1st

Arrival on the 28th. Venue, as usual: Hotel Ocean Palace, Natal

The major topics will be

- Mission status,
- Scientific programme for the 3 next years
- Planets and circumstellar environment
- AcroCoRoT: activity, rotation, convection
- Seismology (essentially hot stars)
- Future projects: mainly PLATO

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Brazil can support some travel expenses from Europe for invited speakers.
 The Corot scientific budget can also help a few young invited collaborators
 The web page will be ready by May 27th

Action SC36-4: Send that announcement to all Co-is and GIs, ASAP

5.3. Corot II symposium

Due to the difficulties of the telecommunications, it has not been possible to discuss this topic in more details

The date and the venue are chosen: June 2011, week 24, from 13th to 17th, at Parc Chanot Marseille.

A web site will be open soon and the different topics should be presented (Detection and characterisation of planets, seismology, Additional programmes etc....)

Action 36-5: all : prepare a more elaborated project at next SC

6. General management

6.1. SC

L. Jorda has resigned.

The question is raised about his replacement. A.B. recalls that presently there is a slight majority of seismologists, and propose to nominate a “young” exoplanetist, very active in CoRoT data analysis and interpretation.

A ballot will be organised among the SC based on a list of names proposed, after checking the interest of the nominee to take this task.

Action SC 36-6: AB organise the ballot asap

6.2. CO-Is:

S. Turck-Chièze proposes to promote L. Piau and K. Uytterhoven as CO-Is, who are presently Associated Scientist.

Taking into account the rules for the Co-Iship (see document on Scientific Organisation and Data rights) and their implication in CoRoT, the SC considers that their positions correspond very well to a status of Associated Scientist, compared to other colleagues. The demand is rejected.

6.3. Next meeting


In September

Action SC36-7: fix the date of SC-37 through a doodle

7. Actions

7.1. Actions from this SC

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| SC36-1 | TG prepares the CoRoT pub update | TG | asap | |
| SC36-2 | EM, CM and AB will circulate the mail and draw conclusions | EM,CM,AB | asap June 25th | |

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|--------|---|-----|---------|--|
| SC36-3 | Contact RGarcia and propose a programme for the users meeting | PB | Next SC | |
| SC36-4 | Send the announcement to all Co-is and GIs | AB | asap | |
| SC36-5 | prepare a more elaboratde project | all | Next SC | |
| SC36-6 | Organise a ballot for replacing LJ | AB | asap | |
| SC36-7 | Doodle for the date of SC 36 | AB | asap | |

7.2. Actions still open

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| SC28-4 | Document on corrections | SC, MA, AB | Dec 2008 | |
| SC34-2 | Identify the CNES point of contact and organize a telecon to initiate the work | OLM | asap | |