

# Minutes of the 45th Scientific Committee

Author: Annie BAGLIN

Reference:

## COROT.LESIA.12.009 Version: 1

Date: 19/10/2012

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# Minutes of the 45th Scientific Committee

Held at Institut d'Astrophysique de Paris, Salle du Conseil on October 9th 2012

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
SC45-DR1-OV.pdf	Mission status
SC45-DR2-MOSC.pdf	Data pipe-lines, evolution
SC45-DR3-SCMO.pdf	Data pipe-line, treatments and distribution
SC45-DR4-JC.pdf	The Exoplanet Detection Working Group
SC45-DR5_EP.pdf	Ground based FU
SC45-DR6-EM.pdf	Winter 2012/2013 observations
SC45-DR7-AB.pdf	The bulge
SC45-DR8-AB.pdf	What has been observed
SC45-DR9-EM.pdf	What has been observed in the sismofield



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# DIFFUSION:

G. ALECIAN	OPM
R. ALONSO	Observatoire de Geneve
M. AUVERGNE	OPM/LESIA
A. BAGLIN	OPM/LESIA
F. BAUDIN	IAS
P. BORDE	IAS
J. CABRERA	DLR, Germany
S. CHAINTREUIL	OPM/LESIA
M. DELEUIL	LAM
M. FRIDLUND	RSSD/Estec
R. GARRIDO	IAA/Spain
T. GUILLOT	OCA
A. HATZES	Tautenburg
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

T. Guillot, still in the US, Magali Deleuil, teaching, Konstanz Zwintz moving, Artie Hatzes (meeting at ESO), replaced by Sascha Grizwa,

Roi Alonso by Skype.

## 1. Mission status

Olivier V. presents the last recent news about the mission, which is still performing very well (see SC45-DR1-OV.pdf), after 2113 days in orbit.

The summer programme is now over, and has been achieved with a very low data loss rate. The anticenter pointing has started on October  $5^{th}$ .

The last step for the decision of extension is a meeting of the Steering Committee including all the partners on October 30<sup>th</sup> in Paris, organized by the CNES Programme Directorate (Olivier La Marle). At this occasion, a Press Release is foreseen.

Concerning the next summer pointing, starting on March 27<sup>th</sup> 2013, OV asks for a rapid decision. It will have to be taken before the next SC.

A proposition will be send to the SC members very soon asking for an advice and the final decision will be taken by the Advisory board of the SC, by early December.

The decision to try to use imagettes on the planet candidates implies some important modifications in the operations (see § 2.1).

#### 2. Data

## 2.1. Evolution of the pipe-line of correction

MO (see SC45-DR2-MOSC.pdf) presents the major evolutions related to the new use of the imagettes in the exo field.

The status of the imagettes pipe-line is being modified by S. Barros to include the computation of the barycentre, and so it is not yet available in routine mode.

Tests will be performed during LRa07 to evaluate more precisely the accuracy obtained on the barycentre position: a target, already observed in SRa02 and identified as a diluted EB has been identified and observed with an imagette.

#### 2.2. Data treatments and distribution

Presented by SC (see SC45-DR3-SCMO.pdf)

#### 2.3. The exoplanet Detection Working Group (EDWG)

Pascal Bordé recalls that he has served as coordinator of the detection-working group for the past two years. During that time, he was been benefiting from CNRS funding that relieved him of half of his teaching duties at his home University. With the closing of that time, he fells that he can no longer do properly the detection group coordination job. Therefore, he asks the Scientific Council both to consider his resignation and the appointment of Juan Cabrera as his successor. He says that he is confident that Juan has all the skills and experience needed for the job, and he wishes him the best. He will continue to be a member of



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the detection team.

Concerning the Scientific committee, Pascal expresses his will to continue; he will then become the official representative of IAS, as the former one (Marc Ollivier) is now appointed as the Instrument Scientist.

The Scientific Committee blesses this proposition, thanks Pascal for his work as the coordinator of the Detection Working group (EDWG), welcomes Juan Cabrera as his successor and as a new member of the SC.

Then Juan presents his views on the evolution of the activities of the EDWG (see SC45\_DR4\_JC.pdf).

To overcome the lack of manpower he proposes to try to hire students, but also to optimize the work avoiding duplications, to define standards better.....

## 2.4. CoRoT data and the public

**About CoRoT Pub:** Eric M. remarks that there is no place where one can find a simple but complete and updated list of publications based on CoRoT data (a regular demand from our institutions). The pages at CNES site dedicated to the 'CoRoT scientific results' is not supposed to provide such a list and is more intended to put the scientific results in perspective.

The status "Public" in CoRoTPub is the only one, which is seen outside the CoRoT community. Very few of the paper are in the Public status whereas 295 papers have been submitted. E.M. suggests having a delay (tbd) after which publications posted on CoRoTPub would be skipped to the status 'Public'.

After discussion, it is decided that CoRoTPub is definitely an internal tool not intended to communicate such a list to the Public. It is proposed that instead of this 'Public' page, CoRoTPub could propose a link to ADS with a query gathering all papers with CoRoT in the title

Action SC45-0: EM: Propose a draft of this link, next SC

**About Wikipedia**: There was an action to Arlette from the last SC asking for a refurbishing. Arlette asks if it is possible to use part of the extension document. The answer is yes, and the action to Arlette is now for the next SC.

**Should CoRoT data become public immediately** or only after the proprietary period, as presently?

A vivid discussion has started when F.B. reports that CoRoT seems to be considered as a private mission....

Kepler has announced that data are now completely public...is it completely true?

It seems that an effort could be made to improve the access to the data and the public Web pages.

Some SC members propose to participate, and AB will contact them



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Action SC45-1: AB Organize the work of the group on the improvement of the access to CoRoT data

It is also proposed to increase the number of CO-Is.

AB proposes to transform all the GIs into CO-Is, stressing for instance the important role of Andrea Miglio, Carla Maceroni, etc...She also proposes to release the restriction of 5 Co-Is per participating country, and to base the CO-I ship only on the personal contribution of each scientist.

It is decided that AB will send (again) the present list of CO-Is to the SC members to prepare a modification at the next SC.

Action SC45-2: AB: send the list of CO-Is to all SC members

## 3. CoRoT Week 11

It will be held in Tenerife (La Laguna) on March 19 to 22.

Roi Alonso presents the proposition of the Tenerife team, which is discussed and accepted by the SC.

It will be held in an old movie house; the room can accommodate 200 people.

It is confirmed that it will be more a workshop than a Symposium, with a lot of time dedicated to discussions. It has to be widely open.

The SC thanks the proposed LOC to organize this event.

For the SOC, in principle it should be the SC. It is decided to consult it to establish the programme, and then the ABSC + Roi and Hans will act as the SOC.

It is decided to have an SC meeting in Tenerife, just before the CW, on Monday 18<sup>th</sup>.

The CW meeting could contain 6 sessions of half a day, and a free afternoon with an excursion.

The SC proposes to announce it already to all the CO-Is. A web page will be set-up soon.

The following agenda is proposed:

- 3 sessions for the Program of the extension
- 2 sessions to Data treatment and analysis

One session on Future and legacy

Action SC45-3: AB: Send the announcement to all Co-Is

**Action SC45-4**: AB: Send a preliminary program to all SC members for discussion. Answer before October 16<sup>th</sup>.

# 4. Results and publications

- \* EM presents 2 papers:
- -On the delta Scuti star HD 174966 observed during the short run SRc01, in which the



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identification of an equal spacing is proposed and used to constrain modeling; submitted to A&A

- On HD 52265, solar-like star with a known planet which frequency analysis has already been published by Ballot et al.; In this new paper, the possibility to constrain the inclination I from the modes amplitudes is illustrated; it is submitted to PNAS
- \* CM presents the important activity of the exo group.
- \* The summer follow-up campaign on LRc07 and LRc08 fields was good, with 4 new planets + one from SRa04 awaiting publication. The CEST team is preparing the announcement of 5 new planets, in 2-3 papers (led resp. by Parviainen (CoRoT 27), Cabrera (CoRoT 28+29), Bordé (CoRoT 30+31)). They are mainly hot Jupiters (~Mjup and P<5d) but 2 are massive ones (P=10d and 3Mjup and P=4d and 10Mjup)
- \* The work is continuing on SRa01-0770 not confirmed with RV, re-observed in SRa05; though it is not sure it is a cluster member, it could be validated as planet anyway (Aigrain).
- \* The LAM team is progressing a lot on the validation procedure when RV is not conclusive, with the tool called PASTIS. Publication is on the way, and the analysis of a dozen of promising cases for which we could not conclude yet but have a lot of data. (Diaz)
- \* Magali is still working on the "mega paper" summarizing all candidates up to LRc08
- \* A review on CoRoT/exo for the Icarus special issue on exoplanet is foreseen for end of November
- \* The publications of the reobservation of CoRoT 7 and CoRoT 9 are being prepared, could be issued by the end of the year (Barros, Haywood, Hebrard)-
- \* CoRoT /exo program was presented this summer at COSPAR (Wuchterl), in Sagan school (Deleuil), in Beijing at IAU (Deleuil) and in Madrid EPSC (Deeg + Cabrera)
- \* MF mentions that a paper on host stars characterization is in progress with Magali and himself.
- \* Since LRa07 we are using the new EXODAT catalog, built up to cover a larger area on the sky; it is based on PPMXL. All special targets that we may need to be included in the scheduling must be identified with their PPMXL catalog number
- \* WW recalls that a wide activity is going on in the domain presently called Additional Programmes, mostly stellar rotation, stellar activity, stellar granulation, binaries and clusters. The SC discusses the status of these activities, and whether there is still a need for AOs. The answer seems to be no. The group leaders can make the selection. But then what's about the opening to the entire world?

# 5. Observing programme

#### 5.1. Last summer

LRc09 was dedicated to the observation in the sismofield of HD 179079. The light curve shows nice solar like oscillations. Presently no transit of a close-in orbit has been detected.



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More detailed analysis is needed to detect (or not) the reflected light.

It also contains a RG with parallax, but the spacing is probably too small too be observed.

LRc10 was dedicated to the reobservation in the sismofield of the EB 169 689. The secondary eclipse has been catched as expected. The light curve is under analysis.

EP presents the Ground based FU and its results (see SC45-DR5\_EP.pdf)

#### 5.2. This winter

This season is centered on the observation in the sismofield of 4 O stars, and the reobservation of the planet host star HD 46375 (see SC45\_DR6\_EM.pdf). It has been possible to find two different pointings, with little overlap with SRa02 on the exofield. (LRa07 and LRa08)

As presented by OV, the rotation will take place on January 9th, and the end of the pointing is March 27th.

#### **5.3.** Next summer

As stressed by OV we have to choose the pointing quite soon.

So probably, it will have to be decided before the next SC.

The SC confirms that the priority will be to observe Red Giants as close as possible from the bulge, and during the whole season, to reach the highest possible frequency accuracy and the lowest possible frequency domain.

The RGWG has already proposed a field, which is at approx. 15° from the center of the CoRoT eye, in the South (see SC45-DR7 AB.pdf).

From the instrumental and satellite point of view, it seems possible.

But as the field is quite crowded, a detailed feasibility study has to be made.

In case it will be negative, it is said that we have to prepare a Back-up

Action SC45-5: AB, organize the feasibility analysis, and the preparation of a back-up for LRc11/12

#### 6. How the data have been used

First AB presents a table summarizing the observations, their drivers, and the targets really observed (see SC45-DR8-AB.pdf).

During this SC, and in the absence of Magali, only stellar physics programmes are discussed. In the sismofield, Eric analyses the way data have been used (see SC45-DR9-EM.pdf).

As there was little time left, the presentation were not discussed in details. This will be done at the next SC.

The exoplanet hunting programme will then be presented and discussed.

Then, we will try to draw conclusions and actions for the future!



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# 7. Actions

SC28-4	Document on corrections	SC, MA. AB	Dec 2008
SC41-3	Discussion at CEST on the publication policy	MD	Next CEST
SC41-4	Update the list of builders, CO-Is, SC members	AB	Next SC
SC43-2	Upgrade of the web page	PB, FB	Next SC
SC44-2	Propose an improvement of the Wikipedia paper	AN	asap
SC44-3	Built a new instrumental team and organize a first meeting	МО	Early fall
SC44-4	Organize the test of the different methods for contaminants detection	МО	asap
SC44-5	Define and implement a new correction of the BKG	MO, SC, MA	asap
SC45-0	Propose a draft and a the link, for the list of publications	EM	next SC
SC45-1	Organize the work of the group on the improvement of the access to CoRoT data	AB	ASAP
SC 45-2	Send the list of CO-Is to all SC members	AB	ASAP
SC 45-3	Send the announcement to all Co-Is	AB	ASAP
SC 45-4	Send a preliminary program to all SC members for discussion.	AB	October 16th
SC45-5	Organize the feasibility analysis, and the preparation of a back-up for LRc11/12	AB	asap