

Minutes of the 41th Scientific Committee

Author: Annie BAGLIN

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# **Minutes of the 41th Scientific Committee**

Held at Institut d'Astrophysique de Paris, salle de l'Entresol, on November 25th 2011.

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
SC41-DR1-OV.pdf	Mission status
SC41-DR2-MA.pdf	Reobservation of CoRoT-7
SC41-DR3a-CM.pdf	Evalaution of the exofields: crocodile diagram
SC41-DR3b-EM.pdf	The status of the sismoprogramme
SC401DR4-WW.pdf	Report on the APWG activities programme
SC41-DR5a-SC.pdf	Flow chart of the treatments
SC41-DR5b-SC.pdf	Data status
SC41-DR6-SB.pdf	The exoplanet imagette pipeline
SC41-DR7-AN.pdf	Hot stars
SC41-DR8-AN.pdf	Red Giants on both fields
SC41-DR9-KZ.pdf	Observation of Young clusters
SC41-DR10-EM.pdf	
SC41-DR11-MD.pdf	An exoplanet program for 3 more years
SC41-DR11b-JS.pdf	RP relation and monotransists
SC41-DR12-MA.pdf	Suggested evolutions of the onboard software and aging
SC41-DR13-PB.png	Evolution of the noise level with time.



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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
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, T. Guillot, D. Rouan, M. Fridlund, F. Baudin E. Janot on skype.

Welcome to Ennio Poretti, new member of the SC.

# 1. Mission status

See SC41-DR1-OV.pdf

The satellite is still working very well, with no difficulties.

The present run is the 21st one, and the total duty cycle is slightly higher than 90%.

Tests with the new station in Vienna are going on.

Alcantara is used as a backup.

Extension: There will be at least 3 steps

- \* The first presentation will be at the meeting of the french Astronomy Working group in early february.
- \*The Annual Review of the exploitation (REVEX) will be held by the end of April, and will probably be associated with the Review of the extension proposal (REDEM).
- \* Then OV will contact the foreign partners and a final agreement should be signed during a Steering Committee in fall.

5 years celebration: OV proposes to organise it in Toulouse by the end of January. There will be presentations of scientific results, through preregistered interviews, and questions and discussions with the audience, lead by an outside moderator. Volonteers for the interviews are: EM, AN, MD, SC, EP, OV, AB.

# 2. Observing programme

# 2.1. Present winter observations : where are we?

- \* SRa04 is almost finished
- \* SRa05: coordinated with MOST, Spitzer and Chandra will start on December 2<sup>nd</sup>.

A « News », prepared by CNES, will be posted on the web site on the 29th to describe this exceptionnal multi satellite and ground based campaign.

\* LRa06 : As this run will last more than 80 days, it is decided to call it Long Run ! The priority of this run is the reobservation of CoRoT-7.

The difficulty of the choice of the position on the CCD (Action SC40-2, MA) is presented by MA (see SC41-DR2-MA.pdf).

PB recalls that the major problem comes from the RTS Hot pixels which are unpredictable. After some discussion, it is proposed that a group composed of CM, RA, MA, PB, OV, EM decide asap:

Action SC41-1: define position of the CCD for LRa06, MA, Asap



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### 2.2. Propositions for next summer and winter periods.

These are the two last periods of the extension CoRot II

CM presents the magnitude color diagrams called « Crocodile Diagram !», the major tool to evaluate the population of a field (see SC40-DR3a-CM.pdf)

The criteria of the exoplanet programme for the choice of the fields are low contamination and many dwarfs.

CM presents the possible sismo targets (see SC41-DR3b-EM.pdf)

#### Next summer

HD 171305 is a Beta cephei star, but quite faint (8) + 2 bright sub giants HD 179079 planet host star (V=8)to look at reflected light, But need at least 150 days. Seems too faint to do detailed seismology. Only large separation will probably be accessible. HD 168443 is also a star hosting planet slightly brighter. HD165401 (6.8) close to the Sun?

AN suggests to reobserve the EB, as proposed by Carla M. (HD 169689/690) a red giant + a B star, observed in LRc04, but with a bad coverage of the ecclipses. The system is very promissing in terms of structure of the components, and calibration of the RG empirical relations.

As we were short of time to conclude, it has been decided to circulate by mail a list of possibilities among the SC and take the decision by the end of the year with the Advisory Board (ABSC).

**Action SC41-2**: Circulate the list of different possibilities for the summer pointing, and make a decision by the end of the year through the ABSC. AB, asap

#### Next winter

EM recalls that the priority of CoRoT II on O stars can be performed only in winter. There is an agreement on the field around HD 47129, a reobservation, of a short run. EM proposes also HD 46966.

# 3. Recent results, papers in preparation, presentations

# 3.1. In seismology

EM presents a very preliminary Power spectrum of HD 42618, with a very nice comb structure, probably this solar like star is the closest one known from the Sun. In LRc07/08 4 giants of a cluster have been observed......



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# 3.2. Additional Programmes

Over 12 months, the answer to a query about publications, returned 17 papers.

A large use of the public archive.

Note an original paper by Bigot and Mourard on the determination of the Radius of HD 49933 using interferometry with AMBER/VLT.

#### 3.3. Ground based activities

E. Poretti presents the Large Program on HARPS and its success.

He remarks that it has been a little difficult to find good candidates till january 2013.

The extension of this programme may be quite difficult to obtain, and that it will be necessary to change the goal.

### 3.4. Publications and Outreach

3.4.1. - Upgrade of the Scientific Results web page

Done, no remark. To be upgraded every two months!

3.4.2. - Proceedings of CoRoT 2

Should be finished by the end of the year. All the work is done at Paris Observatory by a CCD, AB and the Imprimerie.

3.4.3. - General policy of publications: evolution?

The discussion is introduced by AB. There are two major points

- the list of authors

This problem is specific of the CEST policy, where it was decided that all the members of the CEST sign all the discovery papers. This seems to lead to difficult situations when authors have not even read the final version of the paper.

Action SC41-3: Magali: reopen this discussion among the CEST members, and to present a proposition at the next SC

- the builders and their rank

The majority is in favor of keeping the rule defined by the document

« Scientific policy and data rights » COROT.DESPA.01.014 version: 6.4 Date: 19/05/09 where a builder occupies the 3rd rank. It is said that in very specific cases, if every body agrees, this rule can be overcome, as all rules do!

It is proposed to update the list of builders

Action SC41-4: propose an upgrade list of builders AB, ext SC

### 4. Data treatments and deliveries

# 4.1. Flow chart of the data treatments and deliveries (action SC 40-4)

SC presents the document, already send to all the members a few days before (see SC41-DR5a-SC.pdf)

No remarks, and congratulations of the SC for this effort.



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The document will be included in the CoRoT documentation, and be available on the ground segment home page, as well as the archive home page.

Action SC41-5: upload the document on these webpage: SC asap.

# 4.2. The exo imagette pipeline

S. Barros now post-doc at LAM, has been invited to present his work and its project on the pipe-line (see SC41-DR6-SB.pdf)

# 4.3. Status of the treatments and deliveries

SC presents the status of the production chain and the necessary time delays, though shorter than the specifications! (see SC41-DR5b-SC.pdf)

# 5. CoRoT III

# 5.1. Introduction

AB recalls that she has send a letter to Thierry Duquesne, director of Strategie, programme etc...at CNES. O. LM confirms that this letter has been received.

So that we are allowed to enter the process of selecion of the extension proposal.

Most of the SC members, think that the distinction between Core and AP Programmes does not seem relevant at this stage of the mission

Good Science should go first, irrespective of their naming!

We have now to decide precisely the scientific programme, and get organised to do so!

# 5.2. Proposed Scientific programmes

A Call for Ideas has been send to the Co\_Is on September 25th, asking for an answer by November 1st. Answers came essentially from Working groups.

They are presented by members of the SC, which have a close connection with the scientific case.

\* In stellar physics, AN presents the programme on hot stars on behalf of Coralie N. and herself (see SC 41-DR7-AN.pdf).

She then present the Red Giant proposal on behalf of the RG working group (see SC41-DR8-AN.pdf). She also stresses the interest for a reobservation of the EB HR 6502 as proposed by Carla M.

A Young stars proposal has been circulated by Konstanz and is presented briefly. It is stressed that it is a real niche for CoRoT (see SC41-DR9-KZ.pdf)

EM presents some ideas for reobservation and complements of the solar like programme (see SC41-DR10-EM.pdf)

\* In exoplanet search, MD presents a status of the discoveries and the systems for which CoRoT is best suited. (see SC41-DR11-MD.pdf).

Jean Schneider identifies the interesting systems (see SC41-D11b-JS.pdf) .



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To prepare the proposal it is decided to built a list of the propositions, to be send to the SC to complement the arguments, to assess the feasibility, and to give priorities.

**Action SC41-6**: AB (withthe he lp of at least EM and MD) prepare the list of propositions contribution. Answer by December 20th.

# **5.3.** \* Technical issues

The answers to the questions raised in the agenda are presented by MA (see SC41-DR12-MA.pdf)

How to use the TM if the seismo imagettes are deleted

Can the number of windows be increased on the seimology CCD

These 2 questions imply a modification of the onboard software and MA as well as OV thinks that it is not reasonnable. It is dangerous and would take time and manpower to implement, test and upland it. So these ideas are rejected.

Aging of the instrument

The sensitivity and he number of hot pixels are evolving slowly with time, with no strong degradation of the data.

PB presents the evaluation of the noise level as a function of time, showing eventually a very small increase with time, and concludes that the data are not really affected by the aging. (see SC41-DR13-PB.png).

# 6. General management

List of CO-Is: It is said that for this new period, we could soften the rules of nomination of the Co-Is, and take more into account the contributions to the scientific discoveries. We will propose a new list of CO-Is at the next SC, trying to keep the number constant!

*Next SC Meeting*: It is proposed to have it close to the 5years celebration, to avoid travelling, and also in Toulouse

# 7. Actions

# **Open actions**

SC37-1	Document the imagette photometry accuracy	Tranfered to S Barros	asap	
SC28-4	Document on corrections	SC, MA. AB	Dec 2008	



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# Actions from this SC

SC41-1	Define the position of the CCD for LRa06	MA	assap
SC41- 2	Prepare the Summer pointing	AB	20th dec
SC41-3	Discussion at CEST on the publication policy	MD	Next CEST
SC41-4	Upgate the list of builders	AB	Next SC
SC41-5	Upload the flow chart on the grounb segment web page		
SC41-6	Prepapre the list of propositions for the extension and circulate it in the SC	AB	20th of dec.