	Title:	Reference:
	<b>Minutes of the 49th Scientific Committee</b> Author: Annie BAGLIN	<b>COROT.LESIA.14.001</b> <b>Version: 2</b> Date: 14/02/2014

## Minutes of the 49th Scientific Committee

*Held at Paris Observatory, salle Danjon on January 24<sup>th</sup> 2014*


Prepared by:	Annie Baglin	
Accepted by:	The SC members	

### MODIFICATIONS OF THE DOCUMENT

Ed.	Revs.	Date	Modifications	Visa


### REFERENCE DOCUMENTS

Reference	Title of the document
SC49_DR1_CD.pdf	Mission status
SC49_DR2_MD.pdf	K2: new life for Kepler
SC49_DR3_EM.pdf	Seismology results
SC49_DR4_KZ.pdf	The NGC2264 campaigns
SC49_DR5_WW.pdf	Stellar science
SC49_DR6_FF.pdf	The status of the jitter corrections
SC49_DR7_AF.pdf	Background correction in the faint star field
SC49_DR8_FBMD.pdf	Final corrections
SC49_DR9_SC.pdf	Data treatment and deliveries
SC49_DR10_CD.pdf	Data rights and ownership
SC49_DR11_CDDD.pdf	Archiving at CNES
SC49_DR12_FB.pdf	Archiving at IAS
SC49_DR13_FG.pdf	Corot data in the CDS environment

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**DIFFUSION:**

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R. ALONSO	IAC Spain
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C. MOUTOU	LAM
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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
C. DONNY	CNES, Toulouse
C. IMAD	OPM/LESIA/secretariat

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### **Participants:**

Several members could not attend: E. Poretti, G. Vauclair, K. Zwintz, H. Rauer, E. Janot-Pacheco, A. Hatzes, F. Bouchy, P. Bordé

**Invited :** Alexis Deru (LESIA), Fabio Fialho (USP, Brazil), Adrien Ferrigno (LESIA), Dominique Delmas (CNES), F. Genova (CDS Strasbourg)

## **1. Mission status**

CD presents the activities concerning the satellite (see SC49\_DR1\_CD.pdf).

The final turn off is still expected in June, but may be earlier.

A « CoRoT day » will be held in CNES Toulouse, presenting the recent scientific results, on June 18th.

## **2. Kepler new life ?**

Malcolm F. presents the project of a new observation mode, based on only 2 reaction wheels. It has been demonstrated that pointing in the ecliptic plane, using the solar photon pressure to stabilize the space craft is doable.

It seems then possible to point the same field, only in the ecliptic plane, for several months.

The photometric accuracy would be around 80 ppm vs the original 30ppm for a 12th mag star. The K2 programme is being proposed to NASA (see SC49\_DR2\_MF.pdf).

## **3. Science going on**

In exoplanet detection and characterisation, Magali D. recalls that the last CEST meeting took place in October. Since then the analysis of a few new planetary systems is going on. The goal is to get the papers ready for the summer, namely before the July symposium.

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In the seismology programme, Eric Michel presents the articles published since last SC meeting and gives an overview of the work in preparation for various types of objects observed with CoRoT and not yet published (see SC49\_DR3\_EM.pdf) .

On behalf of Konstanz Z., AB present the results of the observations of the cluster NGC 2264 by the multi-satellite, multi-telescope campaign CSI (see SC49\_DR4\_KZ.pdf).

Werner W. describes different activities in stellar physics in addition to the seismology programmes. (see SC49-DR5\_WW.pdf). But he stresses that the scientists involved in these domains are dispersed in many different laboratories, so that it is difficult to have a complete view of the advancement of this work.

## **4. Data corrections**

### **4.1 On going improvements of the pipe-line**

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S. Chaintreuil presents the different problems still under study:

\* In the bright star mode (seismo) there are still residuals not yet corrected.

For instance, there are temporal peaks observed in all background windows. In some cases they are visible in the star light curve and are not well corrected.

But due to the lack of manpower,.....the study has been delayed

\* More recently, in the bright star mode, residuals of jitter have been detected first by P. Boumier in the primary target HD 43587. As presented at SC48 by A. Deru (see SC48\_DR5\_AD.pdf) it is now observed in different targets and different epochs, and seems correlated to the jitter noise.

Fabio Fialho, who had defined and developed the jitter correction, has spent 2 weeks at LESIA to help understanding the problem (See SC49\_DR6\_FF.pdf).

The situation seems quite complex, and not yet completely understood. More work is needed if we want to correct this effect everywhere.

- In the faint star mode (Exo)

Differences between the mean level of the background estimate for the 32s and the 512s windows has been detected. It induces a jump in the light curve when the sampling is changed.

This is evidently not real. This effect has been understood and possible corrections have been proposed (see SC49\_DR7\_AF.pdf). Decision of implementation will be taken soon.

#### 4.2. New corrections

Frederic B. reports on the meeting held in December gathering many of the teams involved in the data analysis (see SC49\_DR8\_FB.pdf).

The priorities proposed by FB have been extensively discussed.

\* The « transit oriented » method developed by Sasha Grziwa which is very efficient for transit detection, looks too specific as it modifies significantly the scientific information.

F.B. proposes to include then in a separate place of the IAS archive. Decision to be taken at the next SC.

**Action SC49-1** : Decision to include the Transit oriented processed data in the IAS archive, next SC

\*Concerning corrections of jumps and gaps, there is a general agreement . It is recalled by Rafa G. that the filling of gaps needs a continuous signal elsewhere, so the correction of jumps must come first.


Algorithms exist. They have to be tested. A test plan is proposed by Frederic B..

The teams involved will be IAS, LESIA and CEST.

Additional manpower will be necessary.

A final decision to include them in the pipe-line will be taken by the end of February. A document will be send to all SC members who will have to give their advice.

**Action SC49-2** : Decision to include the new corrections in the pipe-line, SC members, mid march

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\*Concerning Systematics, there is still some testing to be done. The expertise is at LAM, and particularly in the hands of Pascal Guterman (who is now in another lab). A solution has been found in order to have him working for a few weeks on these corrections. The first study shows that version (3.2) has removed part of the systematics.

**Action SC 49-3:** Decision on the implementation in the pipe line by the SC, in a few months.

## 5. Data Production and distribution

SC present the status of the data production, stressing that the team in charge of this production will be strongly involved in the implementation of the new corrections (see SC49\_DR9\_SC.pdf).

It has been remarked by several users that the last version (3.2) is of much better quality. For instance it allows more detections of solar like oscillations in red giants, as the low frequency noise is reduced, and systematics, like for instance long term decreases, are lower, e.g. better corrected.

## 6. Long term Archiving and legacy

### 6.1. Data rights and ownership

CD presents the ideas developed between CNES and the project (see SC49\_DR10\_CD.pdf).

Concerning the data rights, the discussion focuses on the privacy or not of the data...but at which level ? N0, N1, and finally N2.

Concerning N2, the last SC proposed to keep a one year privacy for the reprocessed data to protect the work of the Co-Is funded by the agencies.

Francoise Genova recalls that all over the world now, there is a strong push to make data public as soon as possible (allowing legitimate proprietary periods). This seems to be also the Kepler policy, and here we discuss reprocessed data.

Most of the SC members are in favour of a public access, but some more discussions are needed, in particular at CNES, concerning the N0 and N1 level.

A final decision should be taken at the next SC

**Action SC49-4:** Decision on data rights at all levels: SC members, next SC

### 6.2. Archiving at CNES

Dominique Delmas and Christophe D. present the status of the archiving of N0, N1 and auxilliary data at CNES, in the framework of the SERAD project (see SC49\_DR1\_CDDD.pdf).


### 6.3. Archive at IAS

Frederic presents the new page of the archive, which seems to agree everybody. There are still some improvements being made.

### 6.4. Archiving at CDS

Francoise Genova explains the access of the CoRoT data in the Vizier environment.

She recalls that in the discussions before the last Review, CDS asked the project for input, in particular for a check that all the catalogues relevant for the project are included in Vizier, **and**

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properly identified. She asks the SC members to send their remarks. Annie B. proposes to collect them asap.

**Action SC49-5** : Send the remarks of the SC members to F. Genova, AB, asap

## 7. Various Outreach activities

Several actions are in progress

\* The Wikipedia page is now in a very good shape thanks to Arlette and Daniel. The last improvements will be done by Annie and Arlette, by the end of February. Remarks are still welcome.

It is stressed that regular updates will be needed...after each SC!

\* The public entry of CoRoT pub will be modified soon by Tristan G.

\* The CoRoT general web page at SMSC/CNES

Werner W. proposes to modify the description of the previously called "Additional page". With a few more additions, this version will be implemented.

## 8. Actions

### 8.1. Open Actions from the preceeding SCs

SC28-4	Document on corrections	SC, MO. AB	Dec 2008	
SC47-2	Modification of the Wikipedia pages: front page mission,	AB+OV	asap	
SC47-4	Modify the public page of CoRoTpub,	Tristan Guillot	asap	
SC 48-3	Remarks on the CDS CoRoT archive	All SC membe	asap	
SC 48-4	Gather the remarks of the users on the CDS arch	AB	Next SC	

### 8.2. Actions from this SC

SC49-1	Decision to include the Transit oriented processes data in the IAS archive	SC members	Next SC	
SC49-2	Decision to include the new corrections in the pipeline,	SC members	mid March	
SC49-3	Decision on the implementation of systematic corrections in the pipe line	SC members	A few months	
SC 49-4	Decision on data rights at all levels	SC members	Next SC	
SC 49-5	Send the remarks of the SC members to F. Genova,	AB	asap	