

Minutes of the 38th Scientific Committee

Author: Annie BAGLIN

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# Minutes of the 38th Scientific Committee

Held at Paris, CNES HQ, on December 10th 2010

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

### MODIFICATIONS OF THE DOCUMENT

Ed. Revs. Date producations visa	Ed.	Revs.	Date	Modifications	Visa
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### REFERENCE DOCUMENTS

Reference	Title of the document	
SC38-DR1-OV.pdf	Mission status OV	
SC38-DR2-EM.pdf	Seismology: How does Kepler enter the game, what are our niches?	
SC38-DR3-MD.pdf	Thee exoplanet programme	
SC38-DR4-R.pdfA	Statistics on the candidates, What's about Kepler?	
SC38-DR5-SC.pdf	Status of the treatments	
SC38-DR6-CM.pdf	Population of the summer eye	



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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
C. CATALA	OPM/LESIA
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
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, J. Schneider, W. Weiss, K. Zwintz, C. Catala

### 1. Mission status

Olivier V. presents the status of the mission (see SC38-DR1-OV).

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

A constant attention is paid to the TM download. There are still some losses, mostly at Alcantara.

OV and 3 other engineers from CNES visited the Alcantara station during CB4. They found some anomalies and have seen that the spare equipments are not yet present at the station. Fortunately, the redundancy with the ICONES network is now working well.

The PLTM2 downloaded at Alcantar concerns the simo imagettes. During the operations they are also downloaded by CNES to secure the process.

The first run of the winter period LRa04 lasts 78 days and stops on December 16<sup>th</sup>. The following one LRa05 will last 92 days and is positioned so as to keep the solarlike star HD 42618 in the seismology field.

# 2. Recent results, papers in preparation

### 2.1. The seismology programme

EM give some hints on the papers being published rapidly.

The complexity of the beta cephei instability stip is illustrated by the paper of Papics et al. showing 2 stars of the hotter part of the strip, which are not pulsating. Only rotation is detected, one rotating fast, one slowly through rotation modulation of spots or chemical inhomogeneities.

On solar analogs, 6 papers have been published. There are 5 more in preparation. The paper on HD 52265, a star hosting a planet, with very good observational results already presented at the Lanzarote meeting early 2010, showing at least 31 frequencies, is being submitted Ensemble seismology on Red Gaints of the exofield has started.

The paper by Mosser et al. on the Universal pattern of Red Giants is now accepted, and another one is in preparation on the identification of mixed modes.

It is also proposed to use seismic radii and effective temperature to determine distances of red Giants, and applied to LRc01 and LRa01.

Presently for Red Giants, the work goes on exofield data; in general both for Kepler and CoRoT work on statistical samples and understanding and use of seismic indexes to characterize stars and make population studies; but good targets in seismo field can tackle structure, helium content etc, as was shown with the one 'good target' we had in the seismo field already. This explains the priority of the next observations.



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# 2.2. The exoplanet programme

MD shows the table of CoRoT planets. 2 new ones have been presented at the Turin meeting The detection group is very active!

( see SC38-DR3-MD.pdf)

FU on the centre region are starting at VLT in decembre. 59 candidates are on the list.

### 2.3. The additional programmes

A message by W.W.:

Research on Red Giants still is a booming industry, the CoRoT photometry of delta Scuti stars (in particular HADS) make it clear that so "simple" stars are by far not simple (evidence corroborated by KEPLER), not to mention PMS stars.

Activity and rotation, in particular of planet hosting stars, is also an industry, also EBs with a pulsating component.

With other words, more of the same and still very challenging and interesting.

# 3. How does KEPLER enter the game? What are our "niches"

### 3.1. The seismology programme

EM presents some informations, statistics and ideas detailed in SC38\_DR2\_EM.pdf

#### 3.2. The exoplanet programme

Roi A. presents statistics on the CooT candidates (SC38-DR4-RA.pdf). The present public Kepler results a little different from the CoRoT ones....But it is said that they should not be repreentative of the global results

Simulations by Aldo B. shows that CoRoT can detect 80% of Neptune like planets and 35% of Earth size ones.

help

TG proposes to reexamine the candidates of lower confidence level

But there is evidently a lack of manpower, (not enough post-docs!).

It is being said that we are competing with time

### 4. Data treatments and deliveries

It is presented by Sylviane C. (see SC38-DR5-SC.pdf)



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The SC agrees with the planning proposed.

### 5. Next summer observations

In seismology, the interest of the sismo community for NGC 6633 (4 giants at maximum) is confirmed. The need for a long run is stressed as demonstrated in the document of the Red giant group, and also due to the long runs obtained by KEPLER.

CM presents an overview of the quality of the fields in the 2 eyes of CoRoT. with the number of planets discovered in each pointing (see SC38-DR6-CM). Help Claire pour quelques commentaires...

The project team stresses the need for the complete list of stars, including AP stars, very early (three months) before the beginning of the operations.

The decision on the precise pointing of this summer (LRc07/08) has to be taken rapidly. **Action SC38-1:** CM: Propose the best positions of the exofield, with the cluster in the sismo CCD, ASAP.

For red giants which have very coherent modes (up to 30 days), the existence of a hole in the middle of the period of observations is not straightforward.

Action SC38-2: evaluate the pbs caused by a hole of several days Arlette Noels ASAP

The proposition to reobserve CoRoT-9 has been rapidly presented. It will be rediscussed in alater SC

#### 6. Reobservation of NGC 2264

The proposal presented by F. Favata long time ago to have a combined Spitzer/ CoRoT and eventually Chandra observation next year has been discussed after the meeting by mail. A rapid answer was necessary due to the dead line of the Spirzer proposal After long discussion the decision of the SC has been send to G. Micela ( who replayes Favata as a PI) and J. Stauffer for Spitzer as follows:

Dera Dr Stauffer,

This letter confirms the very strong interest of the CoRoT Scientific Committee for a coordinated CoRoT/Spitzer observation of the young cluster NGC 2264. This proposal is considered as a unique, high value project, which will provide new data related to the star formation process and the disk/host star interaction, with the simultaneity of CoRoT and Spitzer observations. Complementary data from Chandra could also be very interesting.



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#### The official text is:

The Corot Scientific Committee has discussed the proposal of reobserving NGC 2264 with CoRoT. The Scientific Committee considers that this program becomes truly unique to understand young stars and planet formation when joined with Spitzer (and possibly Chandra) observations.

In light of this, the CoRoT Scientific Committee decides to program a 1 month-long observation of NGC 2264 either in 2011 or in 2012 on the condition that it is combined to a joint Spitzer observation. The chosen observation date should be provided to the CoRoT Scientific Committee at least 3 months before the beginning of the observation.

December 28th 2010

Looking towards a successful proposition! Very truly yours

# 7. Meetings and workshops

# 7.1. The 4th CoRoT Brazil workshop

Was very successfull with more than 60 participants, half brasilians

# 7.2. CoRoT II Symposium in Marseille

The web site, including registration, based on the CNRS structure in working in a preliminary version.

Presentation of the proposals of Patrice Amoyel for the Web site and the poster Decision over a large majority for the first proposition.

Presentation of a preliminary programme by Magali, which complains that she did not get a lot of ideas from the SOC (Which is the SC!).

Urgent to find the invited speakers.

Implementation on the web site asap

# 8. General management

#### 8.1. new Co-Is

Roi Alonso was not yet nominted as a CO-I It is done! unanimity

### 8.2. Next SC meeting

Within 2 or 3 months

AB prepares a Doodle for the period February early March