

# SKA-France

Monthly bulletin

April 2017

## SKA-France

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## News from the SKA-France coordination

### SKA-France in the SKAO News

The SKA Organisation keeps following with interest all the SKA-France activities. A summary of the **SKA-France initiatives from January to March 2017** is included in the April edition of the [SKA eNewsletter](#), in the section “[News from Observer Countries](#)”. The [PDF version](#) of the SKA eNews is also available on line.

### Participation to Science Assessment Teams

After the 23<sup>rd</sup> SKA Board Meeting and as part of the cost control project for SKA1 (see inset on the right), SKAO formed three [Science Assessment Teams](#) to evaluate:

- \* Impact on EoR/CD of changes to SKA1-LOW maximum baseline length
- \* Required timing accuracy to enable successful precision pulsar timing science
- \* Impact of SKA-LOW antenna frequency coverage

The third team, made up by 9 researchers, sees an **important French participation**, with two French members, C. Ferrari (OCA, nominated by SKAO Chair of this Science Assessment Team) and P. Zarka (OBSPM).

Discussions have also started including SKA-France on technical options likely to alleviate the consequences of the cost control process currently taking place.

### French SKA White Book

The final plan of the French SKA White Book is now on-line at the [SKA-France web page](#), together with instructions for authors. **The deadline for uploading the contributions on the White Book wiki page has been fixed to May 15, 2017.**

The White Book organisation has confirmed the expected big impact of the SKA project for France, with more than **150 contributors from research institutes and industry partners**. The fields which will be covered prove the wide scientific interest of the SKA, of course as an astronomical observatory (for early universe studies and cosmology, extra-galactic and galactic astrophysics, planetary and solar system astronomy, transient sources and fundamental physics), but also as a fantastic technological and industrial challenge.



### SKA construction

The last months have seen an extensive activity of SKAO directed at constraining the construction and operating costs of the SKA1 deployment. For this, SKAO has worked closely with the Design Consortia and the [SKA Board](#). Discussions are now ongoing with the scientific community to optimise the cost of SKA1 construction without affecting its ability to deliver every one of its high priority science objectives (more information in the rest of the bulletin).

Meanwhile, April 28 has been the official starting date of building work on the [expansion of the SKA Headquarters](#) in Jodrell Bank Observatory (see picture above, SKAO courtesy).

## SKA-France HPC and signal processing developments

We reported in previous bulletins the successful organisation of scientific workshops with the French signal processing community, and of industry workshops with the main RTO and the biggest software and hardware companies in France potentially interested to the SKA.

As a first concrete result, SKA-France has now identified about **15 researchers sharing radio data reduction algorithms, working presently in collaboration with ATOS-Bull for code optimisation and architecture testing**. In a more advanced phase, the collaboration is expected to be extended to further hardware and software tests with NVIDIA, Kalray and DDNStorage.

Regular meetings and teleconferences are organised by the SKA-France Project Assistant, M. Caillat (OBSPM). A platform for data and algorithm sharing is provided by the Informatics Division of Paris Observatory.

The initial tests are focusing on the optimisation of state-of-the-art algorithms developed by C. Tasse (OBSPM), whose imaging tool (DDFacet) is currently being implemented in the LOFAR and MeerKAT Surveys pipeline. The development of the algorithm has seen an intense collaboration of C. Tasse with the South African group of O. Smirnov (Rhodes University and SKA SA) and has been the object of an enthusiastic publication in the last [SKA-South African News](#).

## Activities

### SKA-France Integrated Energy Management Workshop



*Participants to the SKA-France Integrated Energy Management Workshop*

SKA-France organised a workshop on **integrated management of the whole energy chain for the SKA**, from the detector to the output of the data centres. [Invited participants](#), both from industry and research institutes, convened on April 12, 2017 at CNRS/INSU.

The meeting started with a welcome speech of G. Perrin (CNRS/INSU, Deputy director, Head of Astronomy & Astrophysics Division). After an update about the SKA project by M. Perault (CNRS/INSU, Observer for France at the SKA Board) and the SKA-France recent activities and progresses by C. Ferrari (SKA-France coordinator), G. Marquette (CNRS/INSU, SKA French Industry Liaison) introduced the main aims of the meeting. These included:

- \* the discussion of clever integrated energy management solutions for SKA cost and energy saving;
- \* the initial presentation of a big collaborative project between industry and academy participants within the SKA-France coordination.

The meeting also included the presentation of new possible industry partners and an update from companies already in contact with SKA-France. **More information can be found at the [SKA-France web page](#).**

## SKA-Athena Synergy Workshop



*Images of the SKA-Athena Synergy Workshop (courtesy: Athena Community Support Portal)*

The SKA-Athena Synergy Workshop was held on April 24 and 25, 2017, at the SKAO Headquarters in Jodrell Bank Observatory (UK). The SKA-Athena Synergy Team (SAST), made up by R. Cassano (INAF, chair), C. Ferrari (OCA), R. Fender (Oxford) and A. Merloni (MPE), selected 26 speakers to discuss about the main common research fields of the two telescopes. These included large-scale structures, active galactic nuclei, compact objects and transient phenomena. In addition to the SKA-France coordinator (member of the SAST), France was represented by Natalie Webb (IRAP) and Gabriel Pratt (AIM), expert in compact object and galaxy cluster studies respectively.

The meeting, which was introduced by a general overview of SKA by R. Braun (SKA Science Director) and of Athena by K. Nandra (Leader of the Athena Science Study Team), resulted in very lively discussions about the synergies among these two main future astronomical facilities. These topics will be summarised in a white paper expected to be published in fall 2017.

## Announcements

### SKA talk at the Euclid Galaxy Cluster Group Meeting

A meeting of the French Galaxy Cluster Group lead by S. Maurogordato (OCA) and J. Bartlett (APC) will be held on May 3<sup>rd</sup> and 4<sup>th</sup>, 2017 in Paris (APC Laboratory). The SKA-France coordinator has been invited to present a talk about “The SKA-Euclid Synergies for galaxy cluster studies”.

### SKA Town Hall Meeting

SKAO has organised a “Town Hall” Meeting to brief the scientific community about the current activity directed at constraining the construction and operating costs of the SKA1 deployment. Representative members of the SKA Science Working Groups have been invited to participate and animate the discussion. The meeting will take place on May 18 and 19, 2017, in Knutsford (UK). **Deadline for registration: May 5, 2017.**

### Engineering Meeting

The 2017 SKA Engineering Meeting will be held from June 12 to June 16, 2017, in Rotterdam (NL). The work of the SKA Technical Consortia towards their Critical Design Reviews (CDR) in the very near future will be presented. **Deadline for registration: May 12, 2017.**

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for the SKA-France coordination