

SKA-France

Monthly bulletin

February 2017

SKA-France

News from the SKA-France coordination

Page 1

Activities

Second SKA-France Image Processing meeting

Physics of the Interstellar Medium with the SKA

Page 2

Announcements

Forthcoming meetings

Page 3

News from the SKA-France coordination

Recommendations about SKA

The SKA France Coordination have just received the recommendations from the recent review of the Astrophysics and Astroparticle Physics Large Research Infrastructures led by the *Haut Conseil des Très Grandes Infrastructures de Recherche (HC-TGIR)*, a scientific advisory body reporting to the Ministry of High Education and Research.

In order to evaluate recent progresses of the SKA project in France, the SKA-France coordination was interviewed by the Committee twice during autumn 2016. The scientific, technological and industry developments of the French community have been presented.

The Committee has pointed out:

- * a satisfactory participation of French scientists in the preparation phase of the SKA, in particular in those research fields for which the SKA will be a unique instrument (Epoch of Reionization; Gravitational wave detection through pulsar timing array; Cosmic magnetism);
- * an increasing interest of French Industry in the two competitive sectors of High Performance Computing and Energy Provision.

The Committee recognises the very high expected scientific and technological impact of the SKA in the next decades. Even if it is not recommended that France becomes a full member at this stage of the project organisation, the Committee expresses the interest for a continuation of the French participation to the definition of the SKA instrument.

An incremental approach in participating to the SKA scientific and technological challenges is recommended. The Committee stresses the important role that the SKA pathfinders LOFAR and NenuFAR should play in this process.

This recommendation has been transmitted to the Ministry, which will act in a coordinated way with CNRS and CEA to determine the final position of the France involvement in the SKA project.



Kick-off meeting of the AENEAS project

CNRS is a partner in the H2020 project AENEAS (Advanced European Network of E-infrastructures for Astronomy with the SKA), coordinated by the Dutch institute ASTRON. The project will setup up the regional data centres to be distributed amongst the participating European countries, in collaboration with the SKA Organisation and its international partners.

AENEAS has officially started in January 2017. The kick-off meeting of the project is being held on February 28 and March 1st, 2017 in Den Haag (The Netherlands).

Activities

Second SKA-France Image Processing Meeting

The Second SKA-France Image Processing Meeting took place at the Lagrange Laboratory of Côte d'Azur Observatory (Nice) on February 27th, 2017.



Two moments of the lively discussion at the “Second SKA-France Signal Processing Meeting” (Nice; February 27, 2017)

Seventeen participants from different French research institutes (Observatoire de Paris, Observatoire de la Côte d'Azur, AIM laboratory, ENS Cachan, Paris 10 University, INSA Rennes) brainstormed about their recent developments on state-of-the-art algorithms for calibration and deconvolution of radio astronomy observations. The discussion was followed by one participant from Bull/ATOS, company in charge of coordinating two of the working groups (Co-design and Parallelisation) which were set up during the Second SKA-France High Performance Computing Workshop.

This Second SKA-France Signal Processing Meeting allowed to (1) define the list of algorithms which will be the object of collaboration within the group and which will be presented to industrial partners ready to commit human and material resources; (2) adopt a range of collaborative tools; (3) discuss the organisation of the chapters on signal processing in the French SKA White Book.

Physics of the Interstellar Medium with the SKA Workshop

The Physics of the Interstellar Medium with the SKA Workshop was held at IRAP (Toulouse) on February 27-28, 2017.



Group picture of the participants to the Workshop “Physics of the Interstellar Medium with the SKA”

(Toulouse; February 27, 2017)

The workshop brought together interested researchers, to get them acquainted with the expected capabilities of the SKA, and to establish a first list of scientific topics related to the interstellar medium that are expected to benefit from the SKA and to be of interest to French researchers.

A wide range of topics were covered by French and international speakers, including:

- * General introduction to the SKA
- * Our Galaxy
- * Interstellar magnetic fields
- * Cradle of life
- * Synergies
- * External galaxies

A general panel discussion around the purpose and content of the French SKA White Book took place within three sub-groups (Our Galaxy & external galaxies; Interstellar magnetic fields; Cradle of life). As a result, a list of 12 possible contributions to the French White Book were identified.

Announcements

Low-energy cryogenic solutions for SKA

The SKA-France coordination is currently considering the issue of integrated management of the whole energy chain, from the detector to the output of the data center. SKA-France will soon launch a specific workshop on this issue.

In this context, the company [Callisto](#) has launched, with the support of the SKA-France coordination, an action on the cryogenic low noise amplifiers of this giant network of antennas that will constitute SKA. A meeting (“**Low-energy cryogenic solutions for SKA**”) will be hosted at Callisto headquarters in Villefranche de Lauragais (Toulouse) on **March 7, 2017**. Invited participants include several SKA-France industrial and research partners.

French SKA White Book coordination

Since January 2017, we are collecting expressions of interest to participate in the publication of the **French SKA White Book**, a document intended to present an overview of the scientific, technological and industrial interests of the French community for the SKA. Several contact persons have been identified (for more details see [SKA-France Bulletin #4](#) and [SKA-France web page](#)), who are currently drafting the structure of chapters for each research field.

A general meeting between the coordinators of the different chapters will be held on March 21-22, 2017, in Orsay, in order to finalise the preparatory work for the White Book. The workshop aims to gather all the drafts about the content of chapters, homogenise them and finalise the format (grouping of the different chapters, fixing the maximum number of pages per article, providing LaTeX macros ...).

Detailed editorial instructions will be communicated to the co-authors of the White Book by end of March 2017. By mid-June 2017, all articles will have to be sent to the SKA-France coordinator, in charge of the final edition of the White Book.

For organisation constraints, the number of participants to the French SKA White Book meeting will be limited to approximately 30 persons. **Co-authors who are interested to participate to the workshop are thus encouraged to [contact the SKA-France coordinator](#) at their earliest convenience.**