

**LOFAR, the Low Frequency Array :**  
**Low-frequency Radioastronomy at a few arcsec resolution**  
*Astrophysics, Cosmology and Astroparticles*  
**Towards a French participation ...**

Organising Committee :

- Nabila Aghanim (IAS, Orsay) [Nabila.Aghanim@ias.u-psud.fr](mailto:Nabila.Aghanim@ias.u-psud.fr)
- Nicolas Dubouloz (USN, Obs. Paris, Nançay) [Nicolas.Dubouloz@obs-nancay.fr](mailto:Nicolas.Dubouloz@obs-nancay.fr)
- Etienne Parizot (IPN, Orsay) [parizot@ipno.in2p3.fr](mailto:parizot@ipno.in2p3.fr)
- Philippe Zarka (LESIA, Obs. Paris, Meudon) [philippe.zarka@obspm.fr](mailto:philippe.zarka@obspm.fr)

*The organization is coordinated with ASTRON (Dwingeloo, Netherlands).*

The project :

LOFAR is a large array of low-frequency antennae ( $\leq 30 \rightarrow 240$  MHz), that will allow an improvement by 1 to 2 orders of magnitude in sensitivity and angular resolution compared to existing instruments. Permitting wide-field, multi-frequency and multi-beams imaging with high sensitivity and angular, spectral and temporal resolutions, and including full polarization measurements, LOFAR will be the first general-purpose low-frequency telescope, as well as the first spectro-imager at frequencies  $\leq 100$  MHz. The key scientific objectives include a deep sky survey, the study of reionization of the Universe, of transient sources such as pulsars, jets, flaring stars, of planets and exoplanets, the detection of very-high energy cosmic rays and the physics of the interplanetary medium. LOFAR is a Dutch project led by the institute ASTRON in Dwingeloo. Presently under construction, the instrument will be operational in 2007-2008 with maximal interferometric bases of  $\sim 100$  km (angular resolution between 2.5" at 240 MHz and 20" at 30 MHz). The project is now open to european contributions, in particular through a physical extension of the array (adding distant stations will improve the angular resolution by one order of magnitude), and an increased potential for scientific data analysis. Germany and Sweden have already joined the project.

Goals of the workshop:

- Present the LOFAR project and its state of development to the French community
- Evaluate the interest of the French community for the use of LOFAR in astrophysics at large (reionisation, astroparticles, physics of galaxies, stellar, solar and heliospheric physics, planets, exoplanets...)
- Identify the main scientific goals for which a French participation is wished, in particular – but not exclusively – those requiring arcsecond angular resolution
- Organize the national participation in the project and define its practical aspects: additional remote stations, Science Center, participation in the operation of the network, links with European and international programs (e.g. Auger for cosmic-ray showers, Planck for cosmology...)
- Identify the sources of funding for this participation
- Organise the collaboration in France and with the LOFAR consortium.

Program :

The workshop will include presentation(s) of the LOFAR project and of its scientific goals by the dutch project leaders, as well as contributed talks. The latter can be in the form of synthetic presentations on key scientific aspects, stressing the interest of French teams, or more dedicated presentations which may concern any specific aspect of the French participation in LOFAR (specific scientific goals, technical aspects, data processing, etc.).

**You are invited to submit any type of contribution.**

Registration and Call for contributions:

For informations, links, registration and submission of contributions, go to:

<http://www.lesia.obspm.fr/plasma/LOFAR2006/atelier.html>

or send an e-mail to [michele.dreyfus@obspm.fr](mailto:michele.dreyfus@obspm.fr) giving your address, e-mail, intent to attend and if you wish to contribute a title and a short abstract of your contribution.

***Thank you for registering before March 20 at noon. There are no registration fees.***