

Inauguration of NenuFAR, a radiotelescope unlike any other in the world



Date de mise en ligne : Tuesday 8 October 2019

Observatoire de Paris - PSL Centre de recherche en astronomie et
astrophysique

On thursday, October 3rd 2019, the Observatoire de Paris, Orleans University and the CNRS inaugurated at the Nançay radio-astronomical station NenuFAR, a radiotelescope which works at the lowest frequencies which can be observed from the ground.

The XXIst century heralds across the world the birth of a new generation of radio-telescopes to study the Universe at heretofore unexploited. The latest of these is french: it is called NenuFAR, which stands for « New Extension in Nançay Upgrading LOFAR ».

Situated at Nançay, in the Sologne region, its scientific observations began on July 1st 2019 (link to news juillet 2019). NenuFAR observe which had to date never been studied so well: from 10 MHz to 85 MHz, i.e. in the wavelength range 30 to 3,5 m.

The fruit of a scientific collaboration between the Observatoire de Paris - PSL, the Orleans University and the CNRS, built with the support of the Région Centre-Val de Loire, the Région Île-de-France and the ANR, NenuFAR was officially inaugurated on October 3rd 2019.

Inauguration de NenuFAR en images

© Christian Penin

© Christian Penin

© Christian Penin

© Christian Penin

© Christian Penin

© Christian Penin

© Christian Penin

© Christian Penin

© Christian Penin

© Christian Penin

© Christian Penin

Inauguration of NenuFAR, a radiotelescope unlike any other in the world

Supervised by the Ministry for Higher Education, Research and Innovation, the ceremony took place in the presence of numerous representatives of the scientific and institutional partners of the project.

To mark the occasion, Jocelyn Bell, who discovered the first pulsar came from the United Kingdom as a special guest. Over 250 persons were present for this event.

The celebration included a number of exceptional moments, as for example the contribution of young schoolchildren from three Orleans high schools who had been taught what NenuFAR was about, within the framework of the Edifice project whose purpose is to encourage youngsters to enter science, something which had been somewhat neglected in recent years.

When it is finished, NenuFAR will consist of 1938 antennas deployed across the radio-astronomical observatory: most of them will be grouped in a 400m diameter, while 114 antennas will be farther away, as far as 3km from the core.

Set up in groups of 19 antennas within the 102 mini-networks, these antennas, interconnected and connected to a set of detectors via 180km of coaxial cables, act as a single telescope. These detectors handle over 600 gigabits of data per second, resulting in very sensitive beams and images.

The setup is only 80% complete, and requires farther finance. Nevertheless, the data which NenuFAR has begun to deliver corresponds perfectly to the scientific desiderata.