



## **NenuFAR, a low frequency ground phased-array interferometer**

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NenuFAR (New Extension in Nançay Upgrading LOFAR) is a ground phased-array interferometer (low-frequency SKA pathfinder) located at Nançay Radioastronomy Observatory. It operates at 10-85 MHz frequency range. NenuFAR consists of 96 core phased-arrays (mini arrays) distributed within a 400 m diameter core, whereas 6 additional are distributed at distances up to ~3 km providing a very well sampled uv-coverage. Each mini array (MA) consists of 19 dual-pol dipoles allowing the operation of 4 distinct modes : as a standalone beamformer, a standalone imager, a waveform snapshots recorder, and a giant low-frequency station of the LOFAR array. Hence, the range of science cases with NenuFAR vary from follow-up of gravitational waves (GW) counterparts, solar systems (e.g. planets and exo-planets), cosmology (e.g. dark age), extra-galactic (e.g. Active Galactic Nucleus and their feedback in the medium) but also the violent universe through both slow and fast radio transients (e.g. fast radio bursts). NenuFAR serves as technology and science demonstrator for the SKA-low and here we present an overview of the new, large low-frequency radio telescope and discuss early science results.