The NenuFAR fast radio burst program: status and (preliminary) results

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Abstract

The Nançay Extension Upgrading LOFAR (NenuFAR) telescope is a newly commissioned SKA pathfinder targeting very low frequencies. Thanks to its nearly 2000 dual polarized and phased antennas, it covers an area of about, $60\,000\,\mathrm{m^2}$, allowing for very sensitive observations in the $10-85\,\mathrm{MHz}$ range. Therefore, it is very well suited for the hunt of Fast Radio Bursts (FRB) in the very low frequency domain, where noise, dispersion, and scattering effects can become quite challenging to handle in order to achieve the detection of these extra-galactic events.

Since the start of the commissioning of the instrument, a FRB program is conducted in order to detect, or at least, constrain the existence of FRB at the very low frequencies. The detection strategy relies on the monitoring of already known and repeating sources. Currently, the program has accumulated more than 3000 h over 11 promising repeaters. In this talk, the complete analysis strategy and the subsequent (preliminary) results will be presented.