

# **LOFAR2.0 - a premier low-frequency radio telescope for the 2020s and beyond**

*Tuesday, 16 May 2023 14:30 (15 minutes)*

The LOw Frequency ARray (LOFAR) is in many respects the world's largest and most sensitive low-frequency radio telescope. LOFAR stretches across Europe, from Ireland to Latvia, with a dense core and 38 stations distributed throughout the Netherlands, as well as 14 additional stations located in 8 partner countries. The pan-European array is called the International LOFAR Telescope (ILT). LOFAR2.0 is a coordinated set of staged upgrades that are being implemented from 2019-2024 and will keep LOFAR cutting-edge. These upgrades will allow all low-/high-band antennas to be used simultaneously, will increase the field-of-view, and allow for new parallel observing modes on the LOFAR central beam-former and correlator. LOFAR will continue to be unique and world-leading, with an angular resolution  $> 10$  higher than that of the planned Square Kilometre Array low-frequency component (SKA-Low), and also accessing the largely unexplored spectral window below 50 MHz. I will present the status of the LOFAR2.0 programme, and highlight some of the scientific goals for the upgraded array.

**Primary author:** HESSELS, Jason (ASTRON)

**Presenter:** HESSELS, Jason (ASTRON)

**Session Classification:** Plenary Session

**Track Classification:** Instrumentation