



## **Investigation of ionospheric conditions using LOFAR interferometric data**

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Radio astronomical observations, especially at low frequencies utilized by LOFAR (110-250 MHz for HBA), are strongly affected by changes in the ionospheric conditions in the line of sight to the source. It can be seen as the radio source position offset in the sky or as variations in the measured signal intensity.

In this work we focus on ionospheric direction dependent changes that can be found based on interferometric imaging data obtained with the LOFAR radio telescope. For this purpose we analyse data from one of the key scientific project of LOFAR, which is to determine the 21 cm redshifted emission line of neutral hydrogen originating from the Epoch of Reionization. To retrieve this faint signal, efforts have already been made in order to properly assess and remove ionospheric effect. Many hours of observations routinely calibrated as required by the project, give an excellent dataset to study both morphology of ionosphere and its dynamic.