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Ionosphere monitoring with polish LOFAR station PL610

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LOFAR the Low-Frequency Array is very powerful tool not only for the radio astronomy but also for space weather monitoring. Single station consists of two groups of antennas LBA (Low Band Antenna) and HBA (High Band Antenna) working in different frequency ranges from 10-90 MHz and 110-250 MHz. LOFAR has a multi-arm log-spiral geometry that provides a well filled U,V plane and individual sharp beams that can be digitally steered independently. All this features are very useful for ionospheric studies and allow for local and global analysis of ionospheric plasma characteristic over whole teloscope and single station.

Here we present new approach of using LOFAR radio observations from polish station PL610 in Borówiec as a complementary tool for ionospheric diagnostic and space weather monitoring.