



Monitoring the solar activity by LOFAR

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LOFAR (Low Frequency Array) is a novel radio instrument for observing cosmic radio sources at low frequencies (i.e. 30-240 MHz). It was originally designed by ASTRON in the Netherlands. It consists of core stations near Exloo (Netherlands) and remote stations distributed over Central Europe. The radio signals of the individual stations are correlated to a radio map by a Blue Gene computer in Groningen requiring data connections with a data transfer rate of 10Gbit per second.

This instrument allows to observe the radio radiation of the Sun with a high spatial and temporal resolution. The nonthermal radio radiation in the frequency range 30-240 MHz is emitted from the high corona, where coronal mass ejections (CMEs) are launched. It is well-known that CMEs and their related shock waves are very important agents of influencing our technical civilisation - usually called Space Weather. Because of this reason, we intent to use LOFAR for solar observations with a routine monitoring of the solar activity as an input service for the Space Weather forecast. That will be managed in terms of the Key Science Project *Solar Physics and Space Weather with LOFAR*.