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The RPW Low Frequency Receiver (LFR) on Solar Orbiter: in-situ LF electric and magnetic field measurements of the solar wind expansion

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Solar Orbiter (SO) is an ESA/NASA mission for exploring the Sun-Heliosphere connection which has been launched in February 2020. The Low Frequency Receiver (LFR) is one of the main subsystems of the Radio and Plasma Wave (RPW) experiment on SO. It is designed for characterizing the low frequency (~0.1Hz–10kHz) electromagnetic fields & waves which develop, propagate, interact, and dissipate in the solar wind plasma. In correlation with particle observations it will help to understand the heating and acceleration processes at work during its expansion. We will present the first LFR data gathered during the Near Earth Commissioning Phase, and will compare them with MMS data recorded in similar solar wind condition.

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