

Low frequency electric field and density fluctuation measurements on Solar Orbiter

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Solar Orbiter will orbit the Sun down to 0.2AU distance allowing detailed in-situ studies of important but unexplored regions of the solar wind in combination with coordinated remote sensing of the Sun. In-situ measurements require high quality measurements of particle distributions and electric and magnetic fields. We show that such important scientific topics as identification of coronal heating remnants, solar wind turbulence, magnetic reconnection and shock formation within coronal mass ejections all require electric field and plasma density measurements in the frequency range from DC up to about 1000 Hz. We discuss how such measurements can be achieved using double-probe technique. We sketch a few possible antenna design solutions.