Interplanetary dust observations with the Solar Orbiter RPW instrument: a first year of data.

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Impacts of dust grains on spacecraft are known to produce typical impulsive signals in the voltage waveform recorded at the terminals of electric antennas. Such signals are, as could be expected, routinely detected by the radio and plasma waves (RPW) instrument aboard Solar Orbiter, therefore providing in-situ measurements of the interplanetary dust density along the spacecraft trajectory.

We present a statistical analysis of the first year and half of dust impact data recorded by Solar Orbiter RPW between 1 AU and 0.5 AU. We discuss the results in terms of constraints that can be put on beta-meteoroids and interstellar dust fluxes, and compare them to results obtained by STEREO at 1 AU and more recently by Parker Solar Probe at 0.5 AU.