

Abstract

Dust particles represent an important fraction of the matter composing the interplanetary medium. The large number and broad diversity of dust particles lead to in situ dust measurements that are based on the detection of the charges generated by dust impacts, recorded by the STEREO/WAVES instrument near 1 A.U. We study the electric signals produced by these impacts, using the waveform sampler data produced by the TDS subsystem of the radio instrument connected to three monopole antennas. We present statistics of typical shapes and features of signals generated by almost simultaneous impacts of macroscopic dust particles detected by the TDS. Comparison of the data to the theoretical model of how pulses are generated by charge collection follows. These results will have implications on dust detection from Parker Solar Probe and Solar Orbiter missions.





IV Conclusions and perspectives

- \succ With lots of measurements we have access to in situ mass distribution through Q.
- \triangleright Epsilon parameter may give information on the cloud temperature (impact velocity).
- Soon, applying dust detection routines on Parker Solar Probe and Solar Orbiter TDS data(J. Soucek EGU 2020 presentation).
- Soon, applying fitting routines on Parker Solar Probe and Solar Orbiter TDS data

In situ dust measurements in the solar wind from S/WAVES TDS instrument on STEREO mission Kristina Rackovic Babic ^{1,2}, Karine Issautier ¹ and Arnaud Zaslavsky ¹

1) LESIA, Observatoire de Paris, PSL, CNRS, Sorbonne Université, Université Paris Diderot, France 2) Department of astronomy, Faculty of Mathematics, University of Belgrade, Serbia email: kristina.rackovic@obspm.fr

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De De De De De De De De De De	 eveloped routines: for triple hit dust detection for classification of different triple hit waveforms for sorting the most common forms (panels A, B, C, D) and statistics. ove mentioned routines are applied TDS database from STEREO A in 08: % of events are represented by aphics forms A and B. Events bresented by graphic forms C and D comitted from the further analysis.
69 70 nd the n	 Fittings (of forms A & B) lead to a satisfying accuracy in 30% of cases. Fitted parameters: t₀ – event beginning, preshoot amplitude, main shoot amplitude, rise time, <lu> decay time. </lu>
	parameters.