

Modeling interstellar dust dynamics in the solar system: applications to Stardust, Ulysses and Cassini

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Abstract

Interstellar dust has been detected in the solar system since 1993 [5] using dust detectors [11] onboard spacecraft like Ulysses [5, 6, 4, 8], Cassini [1], Galileo [4, 2] and Helios [3]. Before and after these discoveries, efforts were made for modeling the flow of the interstellar dust through the solar system, in order to understand its variability [7, 10] and to relate it to the spacecraft measurements [9]. These modeling efforts are continued [12] for getting a thorough understanding of the interstellar dust flow patterns.

In this work we focus on the application of such modeling to the Stardust, Ulysses and Cassini missions in specific and on its implications for our current knowledge about interstellar dust.

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