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Interstellar dust analysed by the Cassini and Stardust space missions

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The Stardust mission collected seven particles from a stream of interstellar dust passing our solar system. They are diverse in elemental composition and crystal structure, however, the relatively large grains may not be truly representative. *In situ* analyses of the Cosmic Dust Analyser on-board the Cassini spacecraft yielded the first mass spectra of 36 grains from the Local Interstellar Cloud. Major rock-forming elements magnesium, silicon, iron, and calcium are present in approximately cosmic abundances and indicate homogenization by repeated processing in the interstellar medium, unlike circumstellar dust extracted from meteorites.

Mario Trieloff is Professor at the Institute of Earth Sciences of Heidelberg University. His main research interests are isotopic dating techniques, applied to meteorites and impact craters, and studies pertaining to the origin of planetesimals in the early solar system and of the Earth. He was member of the scientific team analysing the interstellar dust collectors of the Stardust mission and member of the Cassini Dust Analyser team.

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