



Instrumentation aspects of a dust observatory (DUNE)

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The research field of Dust Astronomy was established in order to investigate the properties of interplanetary and interstellar dust. It was shown that we need to learn more about the mass distribution and elemental composition of particles. Appropriate techniques were developed in order to address the key questions of Dust Astronomy and space missions were proposed which carry a set of dust instrumentation (Galactic DUNE, Cosmic DUNE, ConeXpress). The payload for a dust observatory is a dust telescope, which is capable to determine the speed, mass, primary charge, trajectory and elemental composition with high accuracy of individual particles simultaneously. A dust observatory should carry a complementary set of dust detectors based on different measurement schemes. A model payload is described with an emphasis on the new developed dust telescope.