

# Characteristics of a Dust Telescope

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Appropriate techniques were developed in order to address the key questions of Dust Astronomy. 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. The accuracies to measure the micrometeoroid characteristics are 1 degree for the dust trajectory, 1% for particle speed, a factor of 2 for particle mass, 10% for particle charge and a mass resolution above 150 for the composition of the grains. The employment of a large sensitive area of  $0.1 \text{ m}^2$  allow the detection of particles in low density dust environments. This paper reports about the capabilities of the combination of a dust Trajectory Sensor and a Large Area Mass Analyzer and gives laboratory results of the Mass Analyzer.