

IAF SPACE EXPLORATION SYMPOSIUM (A3)
Small Bodies Missions and Technologies (Part 1) (4A)

Author: Dr. Martin Hilchenbach
Max-Planck-Institut für Solar System Research, Germany, hilchenbach@mps.mpg.de

COLLECTING TINY PARTICLES OFF SMALL BODIES AND WHAT WE CAN LEARN FROM
THEIR IN-SITU ANALYSIS**Abstract**

Dust particles collected in-situ exhibit a lot of information about the parent body and its history in the solar system. The elemental and molecular composition as well as the physical parameters such as mechanical strength, porosity, reflection of radiation or electrical permittivity are clues to understand the evolution of matter in the solar system. We discuss present aspects of in-situ dust analysing instrumentation and research in space, based on the past experience with missions like ROSETTA to explore the dusty coma of a comet nucleus, in view of the future challenges.