Some in-situ experiments with cometary dust particles next to comet 67P/Churyumov-Gerasimenko

Martin Hilchenbach¹

¹ MPS Göttingen

hilchenbach@mps.mpg.de

In the 2 years of the Rosetta mission next to the nucleus and in the inner coma of comet 67P/CHURYUMOV-GERASIMENKO we collected dust particles by impact on metal targets. Following their collection, we carried out some dedicated experiments such as single particle crushing, exposing collected dust particles to an external electrical field and bombardment of single dust particles with a high energy ion beam. We will report on these experiments resulting in a better understanding of the morphology, material strength and electrical properties of the cometary building blocks and discuss the results in view of the present comet formation models.