

Cometary dust particles properties studied with Rosetta: summary of the last Rosetta Dust Workshop

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Dust particles ejected from the nucleus of comet 67P/C-G have been studied by several instruments on-board Rosetta: GIADA, MIDAS, COSIMA, OSIRIS, VIRTIS, ROSINA and MIRO. We try to bring knowledge gained from all these instruments together to get information on cometary dust particles properties: optical properties, microscopic and macroscopic textures, size distribution, fate of dust particles in the coma, etc...

In this talk, we will focus on two aspects of the dust particles properties. First, we will discuss the optical properties of the dust particles, mainly as measured by the OSIRIS instrument through the dust phase function and as measured by COSIMA using the internal camera of the instrument. We will compare the results obtained from the two instruments and discuss what the optical properties measured tell us about the structure and/or composition of the dust particles. The second topic will be focused on the smallest particles (i.e. in the micron-size range) measured by the GIADA microbalances and by the MIDAS instrument. The GIADA instrument could measure the evolution of the small dust particles flux and the MIDAS instrument can provide a size distribution for the particles under 30 μm which could not be provided before by the other dust instruments. Some constraints on the properties of micron-sized particles are also provided from observations and modelling of the OSIRIS and VIRTIS data.