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Dust particles in the inner coma of Comet 67P/Churyumov-Gerasimenko

Martin Hilchenbach (1), Jochen Kissel (1), Yves Langevin (2), Christelle Briois (3), Andreas Koch (4), Rita Schulz (5), Johan Silen (6), Jouni Rynö (6), and the COSIMA Team

(1) Max-Planck-Institut fuer Sonnensystemforschung, Göttingen, Germany (hilchenbach@linmpi.mpg.de), (2) Institut d'Astrophysique Spatiale, CNRS / Université Paris Sud, Bâtiment 121, 91405 Orsay, (3) Laboratoire de Physique et Chimie de l'Environnement et de l'Espace, CNRS / Université d'Orléans, 3 Av. de la Recherche Scientifique, 45071 Orléans, France, (4) von Hoerner und Sulger GmbH, Schlossplatz 8, 68723 Schwetzingen, Germany, (5) ESA – ESTEC, Postbus 299, 2200AG Noordwijk, The Netherlands, (6) Finnish Meteorological Institute, Climate Research, Erik Palmenin aukio 1, P.O.Box 503, FI-00101 Helsinki, Finland

The COmetary Secondary Ion Mass Analyser (COSIMA) is one of the 3 scientific in-situ dust instruments on the ROSETTA spacecraft orbiting comet 67P/Churyumov-Gerasimenko since August 2014. COSIMA is collecting cometary particles in the inner coma by exposing metal targets, images the targets periodically and analyses the statistics and morphology of the captured particles. Some of the identified cometary grains are further investigated by secondary ion mass spectrometry. The high resolution mass spectra contain positive or negative ions of elements, organic molecules and molecular fragments originating from the selected grain surface. We will report on the highlights and lessons learned from the dusty inner coma of comet 67P/Churyumov-Gerasimenko (or C-G).