



Dust Impact Monitor DIM Onboard Philae: Measurements at Comet 67P/C-G

Harald Krüger (1), Thomas Albin (1,1), Istvan Apathy (2), Walter Arnold (3,4), Alberto Flandes (5), Hans-Herbert Fischer (6), Attila Hirn (2), Alexander Loose (1), Attila Peter (2), Klaus J. Seidensticker (7), and Matthias Sperl (8)

(1) MPI für Sonnensystemforschung, Göttingen, Germany (krueger@mps.mpg.de), (2) MTA Centre for Energy Research, Budapest, Hungary, (3) Department of Materials, Saarland University, Saarbrücken, Germany, (4) 1. Phys. Institut, University of Göttingen, Germany, (5) Ciencias Espaciales, Instituto de Geofísica, UNAM, Mexico, (6) DLR, Space Operations, MUSC, Köln, Germany, (7) DLR, Institute for Planetary Research, Berlin, Germany, (8) DLR, Institut für Materialphysik im Weltraum, Köln, Germany

The Rosetta lander Philae landed successfully on the nucleus surface of comet 67P/Churyumov-Gerasimenko on 12 November 2014. Philae is equipped with the Dust Impact Monitor (DIM) which is part of the SESAME experiment package onboard. DIM employs piezoelectric PZT sensors to detect impacts by sub-millimetre and millimetre-sized ice and dust particles that are emitted from the nucleus and transported into the cometary coma.

DIM was operated during Philae's descent to its nominal landing site at 4 different altitudes above the comet surface, and at Philae's final landing site. During descent to the nominal landing site, DIM measured the impact of one rather big particle that probably had a size of a few millimeters. No impacts were detected at the final landing site which may be due to low cometary activity or due to shadowing from obstacles close to Philae, or both.

We will present the results from our measurements at the comet and compare them with laboratory calibration experiments with ice/dust particles performed with a DIM flight spare sensor.