

The Rosetta/Philae mission to comet 67P/Churyumov-Gerasimenko

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Comet 67P on 28 April 2015. The image was taken by the Rosetta Navigation Camera from 151 km distance. ESA/Rosetta/NavCam.

On 6 August 2014 the European spacecraft Rosetta encountered its target comet 67P/Churyumov-Gerasimenko (hereafter 67P) and became the first artificial satellite of a cometary nucleus. Rosetta carried the lander spacecraft Philae on board, which on 12 November 2014 landed on the surface of 67P, at a heliocentric distance of 2.99 AU. Philae is equipped with 10 scientific instruments to perform in-situ measurements at the comet surface and to

complement remote measurements performed by the Rosetta orbiter. Due to failures of its anchoring mechanism and active descent system, Philae rebounded at its first landing site and continued its journey across the surface of 67P until it came to rest at its final landing site, named Abydos. All scientific instruments on board Philae were operated during a total of 63 hours at the comet. The electric energy generated by Philae's solar arrays, however, was not sufficient for a continuing operation so that the spacecraft went into hibernation on 15 November 2014. Only seven months later, when 67P had approached the Sun to 2 AU, contact with Philae could be established again. I will give an overview of the Rosetta/Philae mission and the first scientific results.