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Rosetta Lander – Philae: Operations on 67P and attempts for Long Term Science

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Philae is a comet Lander, part of Rosetta which is a Cornerstone Mission of the ESA Horizon 2000 programme. Philae successfully landed on comet 67P/Churyumov-Gerasimenko on November 12th, 2014 and performed a First Scientific Sequence, based on the energy stored in it's on board batteries. All ten instruments of the Philae payload have been operated at least once. Due to the fact that the final landing site (after several bounces) was poorly illuminated, Philae went into hibernation on November 15th, and the teams hoped for a wake-up at closer heliocentric distances.

Signals from the Lander were indeed received on June 13th when 67P was at a distance of about 1.4 AU from the Sun. Housekeeping values showed that Philae had already been active earlier, but no RF contact with the mothership could be established. Seven more times, signals from Philae were received, the last ones on July 9th, 2015. Unfortunately, no reliable or predictable links could be achieved.

The paper will give an overview of the activities with Philae after its hibernation, interpretation of the received housekeeping data and the various strategies to attempt more contacts and long term science measurements.

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