Philae lander fails to respond to last-ditch efforts to wake it

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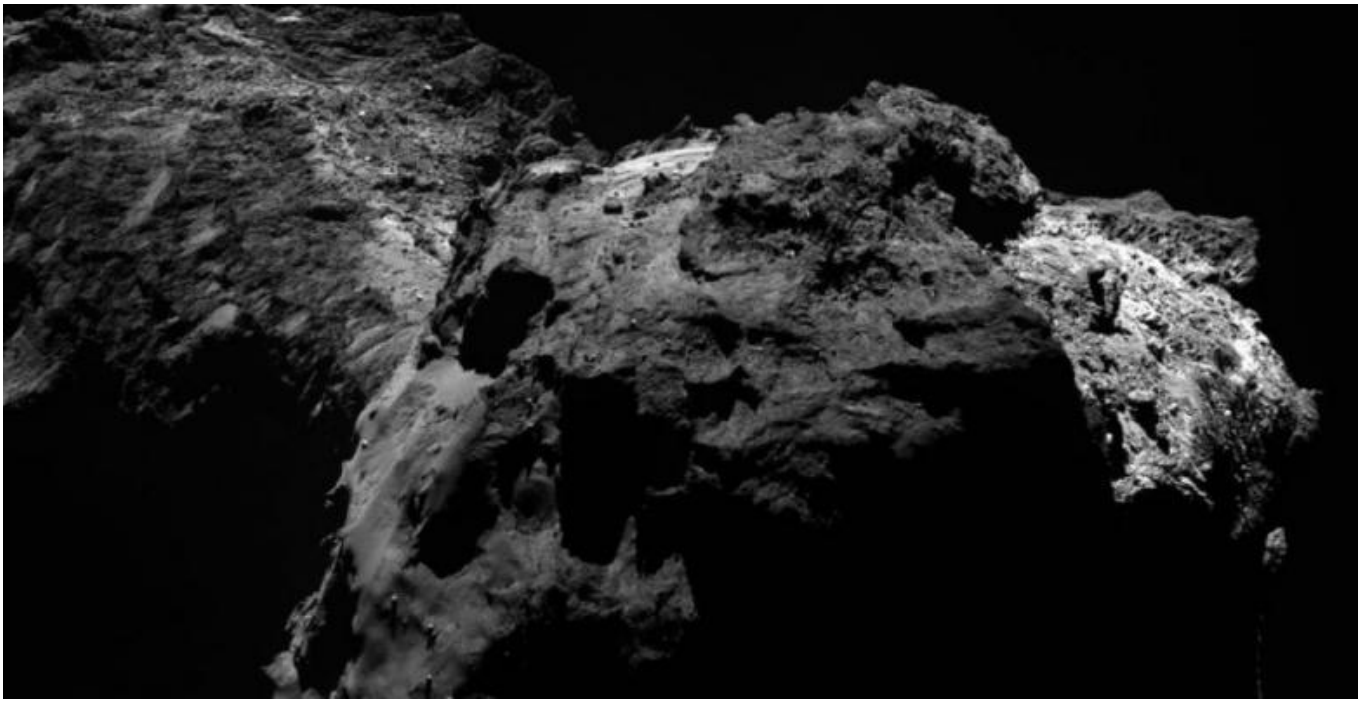

Comet 67P is moving away from the sun, and in just a few weeks will become too cold and dim for the lander to survive. It has not been heard from since July 2015. Last night, mission managers at the German Aerospace Center in Cologne sent a signal to Philae commanding it to spin its internal flywheel, a risky and unpredictable manoeuvre that could dislodge it from its shady landing spot in the hope of getting more sunlight on its solar panels. It didn't work.

"We did not hear anything," says lander manager Stephan Ulamec. In the best-case scenario, Philae may have received the command and moved, but be unable to respond due to a damaged transmitter. It is more likely that the signal was not received.

In mourning

The team will try a few more commands, but it looks like Philae has officially gone. "We have to face reality, and chances get less and less every day as we are getting farther and farther away from the sun," says Ulamec. "At some point we have to accept we will not get signals from Philae anymore."

Philae's orbiting companion Rosetta has scanned the landing zone with its camera. Ulamec's team will scour the images for any sign of a dust cloud thrown up by the lander moving, but Rosetta is far away from the comet and Philae is too small to be seen directly.

Besides mourning the loss of the most famous space probe of recent times, the team is also disappointed that Philae may have more data about 67P stored in its memory that will now be lost. "It's certainly a bit sad that we could not retrieve more data after the wake-up in June," says Ulamec. "We have to live with the data that we got in November 2014."

There remains one small hope. As Rosetta comes to the end of its mission in September this year, mission managers are planning to bring it down into a very low orbit of the comet, eventually touching down on the surface itself. Rosetta should be able to capture close-ups of Philae’s final resting spot, giving us one last look at the probe. “You should clearly see the lander, and this will help us interpret the data we received in November,” says Ulamec.