

Compressive strength of 67P surface material derived from Philae surface contacts

Since Rosetta's lander Philae touched down on the surface of comet on November 12, 2014, many different tools have been used to reconstruct Philae's flight path and attitude between separation, the two touchdowns, the collision and the final landing at Abydos. One of the major sources for timing and lander attitude were two point magnetic field measurements by ROMAP and RPC-MAG aboard Philae and Rosetta. Combined with OSIRIS images, this information made it possible to understand the bouncing trajectory of Philae. This gave us the unexpected opportunity to estimate the mechanical surface properties of comet 67P/Churyumov-Gerasimenko at the contact sites. We will present the current knowledge about what happened during the various contacts and derive compressive strength limits for the surface material.