



Geomorphological mapping of the Comet 67P/Churyumov-Gerasimenko

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OSIRIS, the Scientific Imaging System for Rosetta mission, has been acquiring images of the nucleus of the comet 67P/Churyumov-Gerasimenko since Aug 2014 with a resolution that allows a detailed analysis of its surface. The data reveal a complex surface morphology that is probably the expression of different processes affecting the cometary nucleus. In order to characterize these different morphologies and better understand their distribution we have performed a geomorphological/geological mapping of 67P's surface. For this purpose we used NAC images acquired on August 5-8 with a spatial resolution ranging from 1.5 and 2.4 m/pixel. Several different geological units have been identified on the basis of their different surface textures. Some of these units appear specific to a particular region of the comet whereas others seem to be more common and scattered all over the nucleus surface. Moreover, different types of lineaments have been distinguished. Some of them have never been observed before on a comet and provide important clues on the internal structure of the nucleus.

These geomorphological maps will allow us to assess the stratigraphic relationship between the different units and will therefore shed more light on the surface evolution of 67P/Churyumov-Gerasimenko.