# A 3D geological model of 67P Churyumov-Gerasimenko northern hemisphere

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Stratification appears to be widespread and continuous on the North hemisphere of comet 67P/ Churyumov-Gerasimenko which has been observed by the Rosetta probe since August 2014 (Massironi et al. 2015). This allowed us to reconstruct the true 3D subsurface geology of most of the inner structure of the comet nucleus on the basis of the OSIRIS (Optical, Spectroscopic, and Infrared Remote Imaging System) observation and the derived photogrammetric and photo-clinometric shape models. We intend to populate the geo-model with the physical properties assumed for the cometary interior (porosity, density, strength and volatile content) and eventually use it as a base to interpret the radar sounding results obtained by CONSERT (Comet Nucleus Sounding Experiment by Radiowave Transmission observations) (e.g. Ciarletti et al. 2015). This would give us important hints on the distribution and geometry of primordial structures within the comet interior.

Massironi M. et al. 2015, Nature, 526, 402-405.
Ciarletti V. et al. 2015, Astronomy & Astrophysic, no. aa26337-15