



## **The Rosetta Science Archive: Status and Plans for Enhancing the Archive Content**

David Heather (1), Maud Barthelemy (1), Miriam Aberasturi (1), Diego Fraga (1), Larry O'Rourke (1), and Matt Taylor (2)

(1) ESA / ESAC, SCI-OPR, Villanueva de la Canada, Spain (dheather@rssd.esa.int), (2) ESA / ESTEC., 2200 AG Noordwijk, Netherlands

On 30 September 2016, Rosetta completed its incredible mission by landing on comet 67P/Churyumov-Gerasimenko. Although this marked an end to the spacecraft's active operations, intensive work is ongoing with the instrument teams updating their science data in response to recent scientific reviews and delivering them to ESA's Planetary Science Archive (PSA). In addition, ESA is working with the instrument teams to produce new and enhanced data products and to improve documentation, aiming to provide the best long-term archive possible for the Rosetta mission.

The majority of teams have now delivered all data from the entire mission, and are working on updating their comet phase data based on a recent scientific review. The aim is to complete these updates and to deliver samples from the enhanced archiving activities by the end of this summer in preparation for a final review in autumn. This will assess the complete Rosetta data holdings and the initial outputs from the enhanced archiving activities.

With the resources from the operational mission now at an end, ESA has established a number of activities with the Rosetta instrument teams to allow them to continue working on enhancing their archive content. The updates are focused on key aspects of an instrument's calibration or the production of higher level data / information, and are therefore specific to each instrument's needs. Several of these activities have already been running in 2017, while others are in the process of being kicked off. The full 'archive enhancement' process will run until September 2019, when the post operations activities for Rosetta will end.

Within these activities, most instrument teams will work on providing a Science User Guide for their data, as well as updating calibrations to deliver higher level and/or derived products. For example, the VIRTIS team will update both their spectral and geometrical calibrations, and aim to deliver mapping products to the final archive. Similarly, OSIRIS are improving their calibrations and delivering data additionally in FITS and JPG formats. They will also deliver geo-referenced files in future. The Rosetta Plasma Consortium instruments will complete cross-calibrations and a number of activities individual to each instrument. The MIDAS team are also working on cross-calibrations to produce a dust particle catalog from the comet coma. GIADA are producing dust environment maps, with products in 3D plus time. An activity is also ongoing to produce data set(s) containing supporting ground-based observations from amateur astronomers.

In addition to these activities, the Rosetta ESA archiving team will produce calibrated data sets for the NAVCAM instrument, and will include the latest shape models from the comet in the final Rosetta archive. Work is also underway to provide a centralized solution to the problem of geometry on the comet.

This presentation will outline the current status of the Rosetta archive, as well as highlighting some of the 'enhanced archiving' activities underway.