



The ROSETTA data inside the Planetary Science Archive

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Scientific and engineering data from ESA's planetary missions are made accessible to the world-wide scientific community via the Planetary Science Archive (PSA). The PSA consists of online services incorporating query, preview, download, notification and shopping basket functionality. Besides data from the GIOTTO spacecraft and several ground-based cometary observations, the PSA contains data from the Mars Express, Smart-1 and Huygens spacecraft. Data from ROSETTA and Venus Express are about to be ingested.

The main goal of the archive initiative is to contribute to the maximum scientific exploitation of the data. The PSA provides a broad range of query possibilities. User can search the database by targets, planetary features, observation geometry, dataset characteristics and time information.

Primary emphasis of the archive is on long-term data and knowledge preservation. All data sets are peer reviewed and must undergo an additional PSA internal validation procedure. The PSA continuously discusses with the community and the instrument teams the definition of derived parameters useful for data identification via cross-discipline or cross-instrument searches.

As the PSA supports the concept of users and groups, proprietary data are protected from unauthorized users.

All data are compatible to the Planetary Data System Standard and the PSA staff work in close collaboration with the PDS.

Rosetta was launched on 2 March 2004 to rendezvous with comet 67P/Churyumov-Gerasimenko (C-G) in May 2014. After having placed a lander on the comet's surface, the Rosetta orbiter will continue to orbit C-G and accompany the comet through perihelion. The Rosetta spacecraft systems and payloads were successfully commissioned from March to October 2004. In March 2005 Rosetta performed the first Earth swingby. Rosetta will make use of two more swingbys at the Earth and one Mars swingby in order to reach C-G. Regular Payload Checkouts (2 or 3 per year) are conducted until Rosetta enters into Deep Space Hibernation Mode in July 2011. Rosetta will also perform close flybys at two asteroids, namely 2867 Steins in September 2008 and 21 Lutetia in July 2010.

In addition, Rosetta makes scientific observations of targets of opportunity, e.g. lightcurves of the flyby asteroids to study the rotation, plasma measurements when passing through cometary ion tails or meteoroid streams, radio science investigations around solar conjunction. The first intense science observations campaign was performed when the four remote sensing instruments on board Rosetta continuously monitored the encounter of the Deep Impact probe with comet 9P/Tempel 1 over an extended period from 5 days before the impact on 4 July 2005 to 10 days afterwards.

In spring 2007 the PSA will provide the science and engineering data collected by Rosetta until July 2006. In preparation for the initial Peer Review performed in February 2007 before publication of these data, an Internal Review was held in March 2006. The Internal Review was executed by staff and researchers internal to the organizations responsible for the Rosetta archiving (ESA, PDS, CNES) plus the Rosetta Interdisciplinary Scientists. The Internal Reviewers identified shortcomings in documentation and data structures, and they commented on the usage of unified conventions and formats across different instruments, and the completeness with respect to the first data delivery. A lot of work is still required to define and implement standardized geometry information in the datasets for later mission phases.