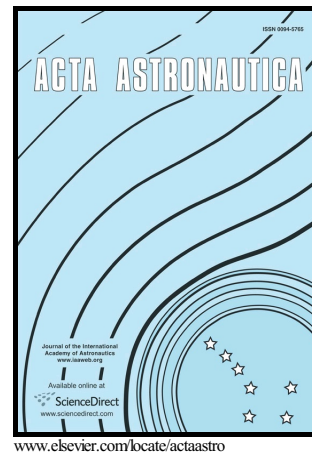


# Author's Accepted Manuscript

Rosetta science operations in support of the Philae mission

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Rosetta science operations in support of the Philae mission

Mike Ashman<sup>(1)</sup>, Maud Barthélémy<sup>(1)</sup>, Laurence O'Rourke<sup>(2)</sup>, Miguel Almeida<sup>(1)</sup>, Nicolas Altobelli<sup>(2)</sup>, Marc Costa Sitjà<sup>(1)</sup>, Juan José García Beteta<sup>(3)</sup>, Bernhard Geiger<sup>(4)</sup>, Björn Grieger<sup>(4)</sup>, David Heather<sup>(2)</sup>, Raymond Hoofs<sup>(2)</sup>, Michael Küppers<sup>(2)</sup>, Patrick Martin<sup>(2)</sup>, Richard Moissl<sup>(2)</sup>, Claudio Muñoz Crego<sup>(3)</sup>, Miguel Pérez-Ayúcar<sup>(4)</sup>, Eduardo Sanchez Suarez<sup>(1)</sup>, Matt Taylor<sup>(5)</sup>, Claire Vallat<sup>(1)</sup>

mashman@sciops.esa.int

<sup>(1)</sup> *Telespazio VEGA UK S.L./European Space Astronomy Centre/European Space Agency, PO. Box 78, 28691 Villanueva de la Cañada, Spain*

<sup>(2)</sup> *European Space Astronomy Centre/European Space Agency, PO. Box 78, 28691 Villanueva de la Cañada, Spain*

<sup>(3)</sup> *GMV S.A./European Space Astronomy Centre/European Space Agency, PO. Box 78, 28691 Villanueva de la Cañada, Spain*

<sup>(4)</sup> *Aurora Technology B.V./European Space Astronomy Centre/European Space Agency, PO. Box 78, 28691 Villanueva de la Cañada, Spain*

<sup>(5)</sup> *European Space Research and Technology Centre/European Space Agency, Keplerlaan 1, 2201 AZ Noordwijk ZN, The Netherlands*

**Abstract:**

The international Rosetta mission was launched on 2<sup>nd</sup> March 2004 and after its ten year journey, arrived at its target destination of comet 67P/Churyumov-Gerasimenko, during 2014. Following the January 2014 exit from a two and half year hibernation period, Rosetta approached and arrived at the comet in August 2014. In November 2014, the Philae lander was deployed from Rosetta onto the comet's surface after which the orbiter continued its approximately one and a half year comet escort phase.

The Rosetta Science Ground Segment's primary roles within the project are to support the Project Scientist and the Science Working Team, in order to ensure the coordination, development, validation and delivery of the desired science operations plans and their associated operational products throughout the mission., whilst also providing support to the Principle Investigator teams (including the Philae lander team) in order to ensure the provision of adequate data to the Planetary Science Archive.

The lead up to, and execution of, the November 2014 Philae landing, and the subsequent Philae activities through 2015, have presented numerous unique challenges to the project teams. This paper discusses these challenges, and more specifically, their impact on the overall mission science planning activities. It details how the Rosetta Science Ground Segment has addressed these issues in collaboration with the other project teams in order to accommodate Philae operations within the continually evolving Rosetta science planning process.

**Keywords:**

Rosetta, Philae, comet, science, operation, planning

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