RPC-LAP
OPERATIONS REPORT
RENDEZVOUS MANOEUVRE 1
MISSION PHASE

September 4, 2010 - June 7, 2011

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Document history

Revision	Date	Comment
1.0	2019-08-31	Initial release

1   Introduction

This is the report from the operations of RPC-LAP in the Rendezvous manoeuvre 1 (RVM1) phase of the Rosetta mission, covering the period September 4, 2010 - June 7, 2011. There was only one single day of operations for LAP during this mission phase:

- December 6, 2010: Payload checkout 13 (PC13)

PC13 was the last operation of LAP and all RPC before the Rosetta deep space hibernation. Reactivation of LAP occurred in March 24, 2014.

2   Operations overview

Payload checkout (PC) operations occured regularly during the pre-comet phases of the mission. In this mission phase, LAP was activated in December 6, 2010, for the las such checkout, PC13. In addition to the minimum LAP PC operations (offset determination and probe bias voltage sweeps for photoemission determination), the macros uploaded during PC12 were tested, re-uploaded and tested again. This was to follow up on the anomaly encountered in PC12, where science data were received only from the first of three new macros (0x505, 0x506 and 0x807). In PC13, all the three macros ran flawlessly both before and after the upload. This verified that the issue in PC12 were not with the macros or the upload as such but was the second instance of a problem first identified in the first Earth swing-by, where no science data from LAP reached ground until an instrument reboot. This suggested the need for regular instrument reboots at the comet to minimize the impact of this rarely occurring problem.

3   Operations list

Below is a list of all LAP operations blocks during this mission phase. A LAP operations block is defined as a continuous run of an instrument macro though as the archive is organized by calendar days, blocks are defined to break at midnight even if the instrument operation is continuous over this artificial border. If you find operations blocks running the same macros on both sides of midnight, this is likely to actually be a continuous operation. The list is based on the science data stream are included, so pure maintenance operations or periods with LAP idle between macro runs are not shown.

The macro concept is described in the EAICD, and the macro definitions are tabulated in the macro table, both available in the documents directory of the LAP archives in the ESA Planetary Science Archive (PSA). A LAP macro defines all aspects of the instrument operations, though particularly when a probe is in electric field mode, the probe bias (current in the case of electric field mode, otherwise bias voltage) may often be tuned by manual commands.

Block start	Block end	Macro	Notes
PC13			
2010-12-06T12:28:04.479	2010-12-06T12:43:33.578	505	
2010-12-06T12:47:16.480	2010-12-06T13:02:45.578	506	
2010-12-06T13:07:32.480	2010-12-06T13:24:04.480	807	
2010-12-06T13:47:32.480	2010-12-06T14:03:01.578	505	
2010-12-06T14:07:16.480	2010-12-06T14:22:45.579	506	
2010-12-06T14:27:32.480	2010-12-06T14:43:32.480	807	
2010-12-06T15:28:04.480	2010-12-06T15:52:04.480	104	
2010-12-06T15:57:24.480	2010-12-06T16:12:20.480	105	
2010-12-06T16:17:40.480	2010-12-06T17:14:44.481	204	
2010-12-06T17:17:24.481	2010-12-06T17:32:20.481	104	
2010-12-06T17:37:40.481	2010-12-06T17:49:56.481	105	