

RPC-LAP OPERATIONS REPORT EARTH SWING-BY 3 MISSION PHASE

September 14 - December 13, 2009

IRFU-ROS-OPR-EAR3

Version 1.0

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Contents

1	INTRODUCTION.....	3
2	OPERATIONS OVERVIEW	3
3	OPERATIONS LIST	3

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 Earth swing-by 3 (EAR3) phase of the Rosetta mission, covering the period September 14 - December 13, 2009. This included the following operational slots for LAP:

- September 20 and October 1, 2009: Payload checkout 10 (PC10)
- November 9 - 17, 2009: Earth swing-by 3 itself (ESB3)

2 Operations overview

LAP operations in PC10 were split on two days. In September 20, 2009, there was an upload of new macros for improved implementation of the MIP LDL mode, followed by support a MIP transmission level test. Regular checkout operations (offset determination and sweeps for photoemission monitoring) were performed in October 1.

LAP was on for the full ESB3, November 9-17, 2009. Closest approach occurred at 07:45 UT in November 13. LAP operations were mainly intended to gain experience for coming operations, including co-planning with other RPC instruments, and to obtain data in a relatively well known environment. The concluding operations in November 17 were tuned for MAG analysis of LAP interference.

All operations worked as planned.

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
PC10			
2009-09-20T19:58:01.702	2009-09-20T20:02:17.702	602	
2009-09-20T20:17:13.702	2009-09-20T20:34:18.247	803	
2009-09-20T20:37:29.702	2009-09-20T20:54:01.702	804	
2009-09-20T20:57:13.702	2009-09-20T21:54:18.248	703	
2009-09-20T21:57:29.703	2009-09-20T22:32:10.248	803	
2009-10-01T20:12:57.791	2009-10-01T20:36:57.792	104	
2009-10-01T20:42:17.792	2009-10-01T20:57:13.792	105	
2009-10-01T21:02:33.792	2009-10-01T21:59:37.792	204	
2009-10-01T22:02:17.792	2009-10-01T22:17:13.792	104	
2009-10-01T22:22:33.792	2009-10-01T22:34:49.792	105	
ESB3			
2009-11-09T20:03:06.068	2009-11-09T20:58:34.068	600	
2009-11-09T21:02:18.069	2009-11-09T21:17:14.069	104	
2009-11-09T21:22:34.069	2009-11-09T21:37:30.069	105	
2009-11-09T21:42:18.069	2009-11-09T23:59:54.614	503	
2009-11-10T00:00:00.151	2009-11-10T23:59:54.621	503	
2009-11-11T00:00:00.158	2009-11-11T20:13:46.627	503	
2009-11-11T20:17:30.082	2009-11-11T22:42:34.083	600	
2009-11-11T22:47:22.083	2009-11-11T23:59:54.628	503	
2009-11-12T00:00:00.165	2009-11-12T12:44:10.632	503	
2009-11-12T12:47:22.087	2009-11-12T23:59:54.091	704	
2009-11-13T00:00:00.008	2009-11-13T05:20:58.092	704	
2009-11-13T05:24:42.092	2009-11-13T05:38:34.092	604	
2009-11-13T05:48:10.092	2009-11-13T07:09:46.093	804	
2009-11-13T07:13:30.093	2009-11-13T08:13:14.119	604	
2009-11-13T08:17:30.093	2009-11-13T08:45:14.093	804	
2009-11-13T08:48:26.093	2009-11-13T12:44:10.094	504	
2009-11-13T12:53:14.094	2009-11-13T14:23:22.640	503	
2009-11-13T14:27:38.095	2009-11-13T15:32:10.095	600	
2009-11-13T15:37:30.095	2009-11-13T23:59:54.643	503	
2009-11-14T00:00:00.179	2009-11-14T23:59:54.650	503	
2009-11-15T00:00:00.186	2009-11-15T23:59:54.657	503	
2009-11-16T00:00:00.193	2009-11-16T12:27:38.660	503	
2009-11-16T12:32:26.115	2009-11-16T12:42:34.115	104	
2009-11-16T19:02:50.117	2009-11-16T19:58:18.118	600	
2009-11-16T20:02:34.118	2009-11-16T22:58:34.663	503	
2009-11-16T23:02:18.118	2009-11-16T23:57:46.119	600	
2009-11-17T02:03:06.119	2009-11-17T02:58:34.120	600	
2009-11-17T03:02:18.120	2009-11-17T05:58:18.665	503	
2009-11-17T06:02:34.120	2009-11-17T09:58:18.122	600	
2009-11-17T10:02:34.122	2009-11-17T12:58:34.668	503	
2009-11-17T13:02:18.123	2009-11-17T13:57:46.123	600	

