

RPC-LAP OPERATIONS REPORT ESCORT PHASE 3

July 1, 2015 -- Oct 20, 2015

IRFU-ROS-OPR-ESC3

Version 1.0

19 Oct 2016



Anders Eriksson, Erik Johansson
Swedish Institute of Space Physics, Uppsala



Swedish Institute of Space Physics
Uppsala

Contents

1	Introduction	3
2	Operations overview	3
3	Science operations list	4

Document history

Revision	Date	Comment
0.1	2016-10-18	Initial revision (AIE)
1.0	2016-10-19	First release (AIE/EJ)

1 Introduction

This is the report from the operations of RPC-LAP in the 3rd part of the escort phase (ESC3) at the target comet 67P/Churyumov-Gerasimenko.

2 Operations overview

LAP was operational during the full period of this archive. Shorter data gaps exist, due to macro switches (few minutes), calibration and maintenance activities (typically less than an hour), and some minor operational glitches.

The main operational mode of the instrument during this period was using one or both probes in bias voltage mode, measuring current at fixed bias voltage in between bias voltage sweeps occurring every few minutes. LAP can hand over probe 2 (P2) to RPC-MIP for use in its long-Debye length mode. In the period of this report, the baseline was to do so for 2 hours per day, though we still had every second day in LDL up to late July, none at all in the week before perihelion, and longer stretches during the dayside excursion in late September and early October. Four macros were used for LDL operations: macro 807 with probe 1 (P1) at +10 V was replaced by 817 using +30 V in early July as the electron temperature was still high. This also caused highly negative s/c potential making electron measurements sensitive to variations in this potential, so from August a new macro 827 was introduced, using -30 V on P1 to sample ion current rather than electrons, at extra high resolution (20 bits). A twin macro 617 with +30 V on P1 was still used from time to time, particularly during the excursion when low densities were expected.

For operations where LAP could use both probes, macro 624 saw constant use throughout the period, placing P1 at +30 V and P2 at -30 V between sweeps. Around perihelion, when high currents were expected (and detected), the similar macro 900 with low gain to allow a wider measurement range was also in use. A macro 901, with both probes at +30 V saw some use, but more useful data are usually provided by macro 914 with both probes at -30 V, collecting ions. In all these modes, sweeps every 160 s are connected by quasi-continuous sampling of the current to the two probes. In late May and June operations started with two other BM macros being variants of 624. Macro 901 similar to 624 but with both probes at +30 V. Macro 903 is similar to 901, but applies a 20 times lower gain to the signal to extend the measurement range from ± 10 to ± 200 μA in anticipation of possibly very dense and cold plasmas on approach to perihelion (August 13). Electric field mode is used in macro 802, which was used mostly when both probes were illuminated, to give similar measurement conditions.

A special caveat must be issued for the use of data obtained at positive values of the fixed bias voltage. In principle, this current is proportional to plasma density. However, for the densities and electron temperatures encountered, the effect of varying density on the spacecraft potential, driving it more negatively and hence decreasing the current to the probe (whose positive bias is applied wrt to s/c ground), often outweighs the proportionality of current to density. As an effect, the probe current can decrease at a density increase. The effect is worst at low bias voltage (+10 V as in macro 807), but sometimes can be seen also at +30 V. As plasma densities increased with comet activity, it was possible to use at least one probe instead at negative bias voltage, sampling ion current, with some sensitivity, which is what is done in the mainly used macros.

The LAP data acquired are mainly good and scientifically useful, though any user must take great care of the limitations set by the varying pointing, the tenuous plasmas, and the spacecraft-plasma interaction.

3 Science 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 there are instrument blocks running the same macros on both sides of midnight, this is likely to actually be a continuous operation.

The macro concept is described in the EAICD, and the macros definitions 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 when a probe is in electric field mode (bias current), the probe bias current may often be tuned by manual commands because of changes in pointing.

2015-07-01T00:32:31.908	2015-07-01T23:56:15.936	624
2015-07-02T00:02:07.936	2015-07-02T23:59:59.964	807
2015-07-03T00:00:00.016	2015-07-03T00:00:31.964	807
2015-07-03T00:03:43.964	2015-07-03T10:59:11.977	901
2015-07-03T11:08:47.977	2015-07-03T11:23:43.977	817
2015-07-03T11:27:59.978	2015-07-03T11:43:59.978	617
2015-07-03T11:53:35.978	2015-07-03T23:56:47.992	624
2015-07-04T00:02:07.992	2015-07-04T23:58:56.021	817
2015-07-05T00:08:32.021	2015-07-05T23:56:16.049	624
2015-07-06T00:02:08.049	2015-07-06T23:59:28.078	817
2015-07-07T00:00:00.078	2015-07-07T00:00:32.078	817
2015-07-07T00:04:16.078	2015-07-07T23:56:48.106	901
2015-07-08T00:02:08.106	2015-07-08T23:58:56.134	817
2015-07-09T00:03:12.134	2015-07-09T00:29:20.135	204

2015-07-09T01:02:24.136	2015-07-09T23:56:16.163	624
2015-07-10T00:02:08.163	2015-07-10T23:59:28.191	817
2015-07-11T00:00:00.191	2015-07-11T00:00:32.191	817
2015-07-11T00:04:16.191	2015-07-11T23:56:48.220	901
2015-07-12T00:02:08.220	2015-07-12T23:58:56.248	817
2015-07-13T00:08:32.248	2015-07-13T23:56:16.276	624
2015-07-14T00:02:08.276	2015-07-14T23:59:28.305	817
2015-07-15T00:00:00.305	2015-07-15T00:00:32.305	817
2015-07-15T00:03:44.305	2015-07-15T12:00:32.319	900
2015-07-15T12:03:44.319	2015-07-15T23:56:16.333	624
2015-07-16T00:02:08.333	2015-07-16T23:58:56.366	617
2015-07-17T00:08:32.366	2015-07-17T23:56:16.395	624
2015-07-18T00:02:08.395	2015-07-18T23:59:28.424	817
2015-07-19T00:00:00.424	2015-07-19T00:00:32.424	817
2015-07-19T00:03:44.424	2015-07-19T12:00:32.438	901
2015-07-19T12:03:44.438	2015-07-19T23:31:44.452	624
2015-07-20T00:02:08.453	2015-07-20T23:58:56.482	617
2015-07-21T00:08:32.482	2015-07-21T12:00:00.496	900
2015-07-21T12:03:44.496	2015-07-21T23:56:16.511	624
2015-07-22T00:02:08.511	2015-07-22T23:59:28.540	817
2015-07-23T00:00:00.540	2015-07-23T00:00:32.540	817
2015-07-23T00:03:44.540	2015-07-23T12:00:32.554	900
2015-07-23T12:03:44.554	2015-07-23T23:56:16.568	624

2015-07-24T00:02:08.569	2015-07-24T23:58:56.597	617
2015-07-25T00:08:32.598	2015-07-25T12:00:00.612	901
2015-07-25T12:03:44.612	2015-07-25T23:56:16.626	624
2015-07-26T00:02:08.626	2015-07-26T23:59:28.655	817
2015-07-27T00:00:00.655	2015-07-27T00:00:32.655	817
2015-07-27T00:03:44.655	2015-07-27T12:00:32.670	900
2015-07-27T12:03:44.670	2015-07-27T23:56:16.684	624
2015-07-28T00:02:08.684	2015-07-28T23:57:52.713	817
2015-07-29T00:27:12.714	2015-07-29T02:22:56.716	204
2015-07-29T02:32:32.716	2015-07-29T23:59:28.742	900
2015-07-30T00:00:00.742	2015-07-30T01:56:16.744	900
2015-07-30T02:02:08.744	2015-07-30T04:00:00.747	817
2015-07-30T04:03:44.747	2015-07-30T23:59:28.771	900
2015-07-31T00:00:00.771	2015-07-31T03:52:32.776	900
2015-07-31T04:02:08.776	2015-07-31T06:00:00.778	617
2015-07-31T06:03:44.778	2015-07-31T08:59:12.782	624
2015-07-31T09:13:04.782	2015-07-31T09:38:08.783	827
2015-07-31T09:41:52.783	2015-07-31T10:08:00.783	922
2015-07-31T10:11:44.783	2015-07-31T10:36:16.784	916
2015-07-31T10:42:08.784	2015-07-31T11:06:40.784	917
2015-07-31T11:12:00.784	2015-07-31T23:56:48.800	914
2015-08-01T00:00:00.800	2015-08-01T05:56:48.807	914
2015-08-01T06:02:08.807	2015-08-01T07:58:56.810	827

2015-08-01T08:08:32.810	2015-08-01T23:59:28.829	900
2015-08-02T00:00:00.829	2015-08-02T07:56:16.838	900
2015-08-02T08:02:08.838	2015-08-02T10:00:00.841	617
2015-08-02T10:03:44.841	2015-08-02T23:59:28.858	624
2015-08-03T00:00:00.858	2015-08-03T09:56:16.870	624
2015-08-03T10:02:08.870	2015-08-03T12:00:00.872	827
2015-08-03T12:03:44.872	2015-08-03T23:59:28.887	900
2015-08-04T00:00:00.887	2015-08-04T11:56:16.901	900
2015-08-04T12:02:08.901	2015-08-04T14:00:00.904	617
2015-08-04T14:03:44.904	2015-08-04T23:59:28.916	624
2015-08-05T00:00:00.006	2015-08-05T13:56:16.932	624
2015-08-05T14:02:08.933	2015-08-05T16:00:00.935	617
2015-08-05T16:34:40.936	2015-08-05T23:59:28.945	900
2015-08-06T00:00:00.017	2015-08-06T15:56:48.964	900
2015-08-06T16:02:08.964	2015-08-06T18:00:00.966	827
2015-08-06T18:03:44.966	2015-08-06T23:59:28.973	914
2015-08-07T00:00:00.012	2015-08-07T17:56:16.991	914
2015-08-07T18:02:08.991	2015-08-07T20:00:00.993	617
2015-08-07T20:03:44.993	2015-08-07T23:59:28.998	900
2015-08-08T00:00:00.001	2015-08-08T19:56:17.022	900
2015-08-08T20:02:09.022	2015-08-08T22:00:01.024	827
2015-08-08T22:03:45.024	2015-08-08T23:59:29.027	914
2015-08-09T00:00:00.013	2015-08-09T21:56:17.053	914

2015-08-09T22:02:09.053	2015-08-09T23:58:57.055	617
2015-08-10T00:08:33.055	2015-08-10T23:56:17.084	900
2015-08-11T00:02:09.084	2015-08-11T02:00:01.086	827
2015-08-11T02:03:45.086	2015-08-11T23:22:41.111	914
2015-08-11T23:28:01.112	2015-08-11T23:59:29.112	905
2015-08-12T00:00:01.112	2015-08-12T23:59:29.141	905
2015-08-13T00:00:01.141	2015-08-13T23:59:29.169	905
2015-08-14T00:00:01.169	2015-08-14T03:32:49.174	905
2015-08-14T04:02:09.174	2015-08-14T04:26:41.175	917
2015-08-14T04:32:01.175	2015-08-14T04:56:33.175	916
2015-08-14T05:07:45.175	2015-08-14T23:59:29.198	914
2015-08-15T00:00:00.011	2015-08-15T23:56:17.226	914
2015-08-16T00:02:09.226	2015-08-16T23:56:17.255	900
2015-08-17T00:02:09.255	2015-08-17T23:59:29.283	914
2015-08-18T00:00:00.010	2015-08-18T19:29:37.307	914
2015-08-18T19:34:57.307	2015-08-18T23:58:25.312	802
2015-08-19T00:02:09.312	2015-08-19T01:58:57.314	617
2015-08-19T02:08:33.315	2015-08-19T23:59:29.341	900
2015-08-20T00:00:00.015	2015-08-20T01:56:17.343	900
2015-08-20T02:02:09.343	2015-08-20T04:00:01.345	827
2015-08-20T04:03:45.345	2015-08-20T23:59:29.369	624
2015-08-21T00:00:00.009	2015-08-21T03:56:17.374	624
2015-08-21T04:06:25.374	2015-08-21T06:00:01.376	617

2015-08-21T06:03:45.376	2015-08-21T23:59:29.398	914
2015-08-22T00:00:00.003	2015-08-22T05:56:17.405	914
2015-08-22T06:02:09.405	2015-08-22T08:00:01.407	827
2015-08-22T08:03:45.407	2015-08-22T23:59:29.426	900
2015-08-23T00:00:00.014	2015-08-23T07:56:17.436	900
2015-08-23T08:02:09.436	2015-08-23T10:00:01.438	617
2015-08-23T10:03:45.438	2015-08-23T23:59:29.455	624
2015-08-24T00:00:00.008	2015-08-24T09:56:17.467	624
2015-08-24T10:02:09.467	2015-08-24T12:00:01.469	827
2015-08-24T12:34:41.470	2015-08-24T23:59:29.483	914
2015-08-25T00:00:00.002	2015-08-25T11:56:49.498	914
2015-08-25T12:02:09.498	2015-08-25T14:00:01.500	617
2015-08-25T14:03:45.500	2015-08-25T14:16:33.500	900
2015-08-25T14:19:45.500	2015-08-25T18:58:41.506	802
2015-08-25T19:01:53.506	2015-08-25T23:59:29.512	900
2015-08-26T00:00:00.014	2015-08-26T13:56:17.528	900
2015-08-26T14:02:09.529	2015-08-26T16:00:01.531	827
2015-08-26T16:03:45.531	2015-08-26T23:59:29.540	624
2015-08-27T00:00:00.008	2015-08-27T15:56:17.559	624
2015-08-27T16:02:09.560	2015-08-27T18:00:01.562	617
2015-08-27T18:03:45.562	2015-08-27T23:59:29.569	914
2015-08-28T00:00:00.001	2015-08-28T17:56:17.590	914
2015-08-28T18:02:09.590	2015-08-28T20:00:01.593	827

2015-08-28T20:03:45.593	2015-08-28T23:59:29.598	900
2015-08-29T00:00:00.013	2015-08-29T19:56:17.621	900
2015-08-29T20:02:09.621	2015-08-29T22:00:01.624	617
2015-08-29T22:03:45.624	2015-08-29T23:53:37.626	917
2015-08-30T00:04:49.626	2015-08-30T21:56:17.652	624
2015-08-30T22:02:09.652	2015-08-30T23:59:29.655	827
2015-08-31T00:00:00.001	2015-08-31T00:00:01.655	827
2015-08-31T00:03:45.655	2015-08-31T23:56:17.683	914
2015-09-01T00:02:09.683	2015-09-01T02:00:01.686	617
2015-09-01T02:03:45.686	2015-09-01T23:59:29.712	900
2015-09-02T00:00:00.006	2015-09-02T01:56:17.714	900
2015-09-02T02:02:09.714	2015-09-02T04:00:01.717	827
2015-09-02T04:03:45.717	2015-09-02T23:59:29.748	624
2015-09-03T00:00:00.007	2015-09-03T03:56:17.753	624
2015-09-03T04:02:09.753	2015-09-03T06:00:01.755	617
2015-09-03T06:34:41.756	2015-09-03T23:59:29.777	914
2015-09-04T00:00:00.002	2015-09-04T05:56:49.784	914
2015-09-04T06:02:09.784	2015-09-04T08:00:01.787	827
2015-09-04T08:03:45.787	2015-09-04T14:00:33.794	900
2015-09-04T14:04:49.794	2015-09-04T17:00:49.798	802
2015-09-04T17:04:01.798	2015-09-04T23:59:29.806	900
2015-09-05T00:00:00.014	2015-09-05T07:56:49.816	900
2015-09-05T08:02:09.816	2015-09-05T10:00:01.818	617

2015-09-05T10:03:45.818	2015-09-05T23:59:29.835	624
2015-09-06T00:00:00.008	2015-09-06T09:56:17.847	624
2015-09-06T10:02:09.847	2015-09-06T12:00:01.850	827
2015-09-06T12:03:45.850	2015-09-06T23:59:29.864	914
2015-09-07T00:00:00.003	2015-09-07T11:56:17.879	914
2015-09-07T12:02:09.879	2015-09-07T14:00:01.881	617
2015-09-07T14:03:45.881	2015-09-07T23:59:29.894	900
2015-09-08T00:00:00.015	2015-09-08T13:56:17.910	900
2015-09-08T14:02:09.911	2015-09-08T15:58:57.908	827
2015-09-08T16:08:33.908	2015-09-08T23:59:29.917	624
2015-09-09T00:00:00.004	2015-09-09T15:56:17.936	624
2015-09-09T16:02:09.936	2015-09-09T18:00:01.939	617
2015-09-09T18:03:45.939	2015-09-09T23:59:29.946	914
2015-09-10T00:00:00.015	2015-09-10T17:56:17.967	914
2015-09-10T18:02:09.967	2015-09-10T20:00:01.970	827
2015-09-10T20:03:45.970	2015-09-10T23:59:29.974	900
2015-09-11T00:00:00.009	2015-09-11T19:56:17.998	900
2015-09-11T20:02:09.998	2015-09-11T22:00:02.000	617
2015-09-11T22:03:46.000	2015-09-11T23:59:30.003	624
2015-09-12T00:00:00.003	2015-09-12T21:56:18.029	624
2015-09-12T22:02:10.029	2015-09-12T23:59:30.031	827
2015-09-13T00:00:00.014	2015-09-13T00:00:02.031	827
2015-09-13T00:03:46.031	2015-09-13T23:56:18.060	914

2015-09-14T00:02:10.060	2015-09-14T02:00:02.062	617
2015-09-14T02:34:42.063	2015-09-14T23:59:30.088	900
2015-09-15T00:00:00.001	2015-09-15T01:56:50.090	900
2015-09-15T02:02:10.090	2015-09-15T04:03:46.093	827
2015-09-15T04:08:02.093	2015-09-15T23:59:30.116	624
2015-09-16T00:00:00.013	2015-09-16T03:56:50.121	624
2015-09-16T04:02:10.121	2015-09-16T06:00:02.124	827
2015-09-16T06:03:46.124	2015-09-16T23:59:30.145	914
2015-09-17T00:00:00.007	2015-09-17T05:56:18.152	914
2015-09-17T06:02:10.152	2015-09-17T08:00:02.154	827
2015-09-17T08:03:46.154	2015-09-17T23:59:30.173	900
2015-09-18T00:00:00.000	2015-09-18T07:56:18.183	900
2015-09-18T08:02:10.183	2015-09-18T10:00:02.185	827
2015-09-18T10:03:46.185	2015-09-18T14:26:42.190	914
2015-09-18T14:32:02.191	2015-09-18T20:28:50.198	802
2015-09-18T20:32:02.198	2015-09-18T23:32:18.201	914
2015-09-21T13:53:30.275	2015-09-21T23:59:54.287	914
2015-09-22T00:00:00.014	2015-09-22T23:59:54.316	914
2015-09-23T00:00:00.008	2015-09-23T17:32:42.336	914
2015-09-23T18:02:02.337	2015-09-23T19:59:54.339	827
2015-09-23T20:04:10.339	2015-09-23T23:59:54.344	914
2015-09-24T00:00:00.001	2015-09-24T05:56:42.351	914
2015-09-24T06:02:02.351	2015-09-24T07:58:50.353	802

2015-09-24T08:02:02.354	2015-09-24T19:56:42.368	900
2015-09-24T20:02:02.368	2015-09-24T21:58:50.370	827
2015-09-24T22:08:26.370	2015-09-24T23:58:50.372	802
2015-09-25T00:02:02.372	2015-09-25T07:56:42.382	624
2015-09-25T08:02:02.382	2015-09-25T09:58:50.384	802
2015-09-25T10:02:02.384	2015-09-25T13:59:54.389	827
2015-09-25T14:04:10.389	2015-09-25T23:56:42.401	914
2015-09-26T00:02:02.401	2015-09-26T01:58:50.403	802
2015-09-26T02:02:02.403	2015-09-26T05:58:50.408	827
2015-09-26T06:08:26.408	2015-09-26T15:56:42.420	624
2015-09-26T16:02:02.420	2015-09-26T17:58:50.422	802
2015-09-26T18:02:02.422	2015-09-26T21:59:54.427	827
2015-09-26T22:04:10.427	2015-09-26T23:59:54.429	914
2015-09-27T00:00:00.000	2015-09-27T05:56:42.436	914
2015-09-27T06:02:02.436	2015-09-27T13:58:50.446	827
2015-09-27T14:08:26.446	2015-09-27T19:56:42.453	624
2015-09-27T20:02:02.453	2015-09-27T21:58:50.455	802
2015-09-27T22:02:02.455	2015-09-27T23:59:54.458	827
2015-09-28T00:00:00.011	2015-09-28T05:59:54.465	827
2015-09-28T06:04:10.465	2015-09-28T15:56:42.477	914
2015-09-28T16:02:02.477	2015-09-28T21:59:54.484	617
2015-09-28T22:04:10.484	2015-09-28T23:58:50.486	802
2015-09-29T00:02:02.486	2015-09-29T05:56:42.493	624

2015-09-29T06:02:02.493	2015-09-29T12:30:18.501	827
2015-09-29T12:34:02.501	2015-09-29T13:53:30.503	802
2015-09-29T14:02:34.503	2015-09-29T21:56:42.512	914
2015-09-29T22:02:02.512	2015-09-29T23:59:54.515	617
2015-09-30T00:04:10.515	2015-09-30T02:00:26.517	802
2015-09-30T02:04:10.517	2015-09-30T11:56:42.529	624
2015-09-30T12:02:02.529	2015-09-30T13:58:50.531	617
2015-09-30T14:08:26.531	2015-09-30T15:58:50.534	802
2015-09-30T16:02:02.534	2015-09-30T17:56:42.528	914
2015-09-30T18:02:02.528	2015-09-30T23:57:14.535	624
2015-10-01T00:00:00.002	2015-10-01T01:56:42.538	624
2015-10-01T02:02:02.538	2015-10-01T03:59:54.540	827
2015-10-01T04:04:10.540	2015-10-01T13:56:42.552	624
2015-10-01T14:02:02.552	2015-10-01T15:58:50.554	802
2015-10-01T16:02:02.554	2015-10-01T17:59:54.556	617
2015-10-01T18:04:10.556	2015-10-01T23:59:54.563	914
2015-10-02T00:00:00.013	2015-10-02T05:56:42.570	914
2015-10-02T06:02:02.570	2015-10-02T07:58:50.573	827
2015-10-02T08:08:26.573	2015-10-02T11:58:50.577	802
2015-10-02T12:02:02.577	2015-10-02T23:59:54.591	624
2015-10-03T00:00:00.007	2015-10-03T03:56:42.596	624
2015-10-03T04:02:02.596	2015-10-03T15:59:54.610	617
2015-10-03T16:04:10.610	2015-10-03T17:58:50.612	802

2015-10-03T18:02:02.612	2015-10-03T19:53:30.615	901
2015-10-03T20:04:42.615	2015-10-03T23:59:54.619	624
2015-10-04T00:00:00.017	2015-10-04T11:56:42.633	624
2015-10-04T12:02:02.633	2015-10-04T13:56:42.636	901
2015-10-04T14:02:02.636	2015-10-04T15:56:42.638	914
2015-10-04T16:02:02.638	2015-10-04T21:59:54.645	827
2015-10-04T22:04:10.645	2015-10-04T23:55:38.647	802
2015-10-05T00:04:42.647	2015-10-05T03:56:42.652	901
2015-10-05T04:02:02.652	2015-10-05T05:56:42.654	914
2015-10-05T22:02:02.673	2015-10-05T23:59:54.675	827
2015-10-06T00:00:00.004	2015-10-06T03:59:54.680	827
2015-10-06T04:04:10.680	2015-10-06T07:56:42.685	624
2015-10-06T08:02:02.685	2015-10-06T09:58:50.687	802
2015-10-06T10:02:02.687	2015-10-06T19:56:42.699	624
2015-10-06T20:02:02.699	2015-10-06T21:58:50.701	827
2015-10-06T22:08:26.701	2015-10-06T23:59:54.703	914
2015-10-07T00:00:00.015	2015-10-07T17:56:42.724	914
2015-10-07T18:02:02.724	2015-10-07T19:56:42.727	901
2015-10-07T20:02:02.727	2015-10-07T21:58:50.729	802
2015-10-07T22:02:02.729	2015-10-07T23:59:54.731	827
2015-10-08T00:04:10.731	2015-10-08T23:36:58.759	624
2015-10-09T00:02:02.759	2015-10-09T01:58:50.762	827
2015-10-09T02:08:26.762	2015-10-09T23:59:54.787	914

2015-10-10T00:00:00.012	2015-10-10T01:56:42.790	914
2015-10-10T02:02:02.790	2015-10-10T03:59:54.792	827
2015-10-10T04:04:10.792	2015-10-10T23:59:54.815	624
2015-10-11T00:00:00.006	2015-10-11T03:56:42.820	624
2015-10-11T04:02:02.820	2015-10-11T05:59:54.822	827
2015-10-11T06:04:10.822	2015-10-11T23:59:54.843	914
2015-10-12T00:00:00.016	2015-10-12T05:56:42.850	914
2015-10-12T06:02:02.850	2015-10-12T07:59:54.853	827
2015-10-12T08:04:10.853	2015-10-12T18:56:58.865	624
2015-10-12T19:01:46.866	2015-10-12T23:59:54.871	802
2015-10-13T00:00:00.010	2015-10-13T07:58:50.881	802
2015-10-13T08:02:02.881	2015-10-13T09:59:54.883	827
2015-10-13T10:04:10.883	2015-10-13T23:59:54.899	624
2015-10-14T00:00:00.003	2015-10-14T09:56:42.911	624
2015-10-14T10:02:02.911	2015-10-14T11:59:54.913	617
2015-10-14T12:04:10.913	2015-10-14T13:56:42.916	901
2015-10-14T14:02:02.916	2015-10-14T15:58:50.918	802
2015-10-14T16:02:02.918	2015-10-14T23:59:54.927	914
2015-10-15T00:00:00.014	2015-10-15T11:56:42.941	914
2015-10-15T12:02:02.941	2015-10-15T13:59:54.944	827
2015-10-15T14:04:10.944	2015-10-15T15:58:50.946	802
2015-10-15T16:02:02.946	2015-10-15T23:59:54.955	624
2015-10-16T00:00:00.007	2015-10-16T13:56:42.972	624

2015-10-16T14:02:02.972	2015-10-16T15:59:54.974	827
2015-10-16T16:04:10.974	2015-10-16T17:58:50.976	802
2015-10-16T18:02:02.976	2015-10-16T23:59:54.983	914
2015-10-17T00:00:00.001	2015-10-17T01:56:42.986	914
2015-10-17T02:02:02.986	2015-10-17T03:56:42.988	901
2015-10-17T04:02:02.988	2015-10-17T15:56:43.002	624
2015-10-17T16:02:03.002	2015-10-17T17:59:55.004	617
2015-10-17T18:04:11.004	2015-10-17T19:55:39.007	802
2015-10-17T20:04:43.007	2015-10-17T23:59:55.011	914
2015-10-18T00:00:00.011	2015-10-18T17:56:43.032	914
2015-10-18T18:02:03.032	2015-10-18T19:59:55.035	827
2015-10-18T20:04:11.035	2015-10-18T21:58:51.037	802
2015-10-18T22:02:03.037	2015-10-18T23:59:55.039	624
2015-10-19T00:00:00.005	2015-10-19T19:56:43.063	624
2015-10-19T20:02:03.063	2015-10-19T21:59:55.065	827
2015-10-19T22:04:11.065	2015-10-19T23:58:51.067	802
2015-10-20T00:02:03.067	2015-10-20T21:56:43.093	914
2015-10-20T22:02:03.093	2015-10-20T23:59:55.095	617
2015-10-05T22:02:02.673	2015-10-05T23:59:54.675	827
2015-10-06T00:00:00.004	2015-10-06T03:59:54.680	827
2015-10-06T04:04:10.680	2015-10-06T07:56:42.685	624
2015-10-06T08:02:02.685	2015-10-06T09:58:50.687	802
2015-10-06T10:02:02.687	2015-10-06T19:56:42.699	624

2015-10-06T20:02:02.699	2015-10-06T21:58:50.701	827
2015-10-06T22:08:26.701	2015-10-06T23:59:54.703	914
2015-10-07T00:00:00.015	2015-10-07T17:56:42.724	914
2015-10-07T18:02:02.724	2015-10-07T19:56:42.727	901
2015-10-07T20:02:02.727	2015-10-07T21:58:50.729	802
2015-10-07T22:02:02.729	2015-10-07T23:59:54.731	827
2015-10-08T00:04:10.731	2015-10-08T23:36:58.759	624
2015-10-09T00:02:02.759	2015-10-09T01:58:50.762	827
2015-10-09T02:08:26.762	2015-10-09T23:59:54.787	914
2015-10-10T00:00:00.012	2015-10-10T01:56:42.790	914
2015-10-10T02:02:02.790	2015-10-10T03:59:54.792	827
2015-10-10T04:04:10.792	2015-10-10T23:59:54.815	624
2015-10-11T00:00:00.006	2015-10-11T03:56:42.820	624
2015-10-11T04:02:02.820	2015-10-11T05:59:54.822	827
2015-10-11T06:04:10.822	2015-10-11T23:59:54.843	914
2015-10-12T00:00:00.016	2015-10-12T05:56:42.850	914
2015-10-12T06:02:02.850	2015-10-12T07:59:54.853	827
2015-10-12T08:04:10.853	2015-10-12T18:56:58.865	624
2015-10-12T19:01:46.866	2015-10-12T23:59:54.871	802
2015-10-13T00:00:00.010	2015-10-13T07:58:50.881	802
2015-10-13T08:02:02.881	2015-10-13T09:59:54.883	827
2015-10-13T10:04:10.883	2015-10-13T23:59:54.899	624
2015-10-14T00:00:00.003	2015-10-14T09:56:42.911	624

2015-10-14T10:02:02.911	2015-10-14T11:59:54.913	617
2015-10-14T12:04:10.913	2015-10-14T13:56:42.916	901
2015-10-14T14:02:02.916	2015-10-14T15:58:50.918	802
2015-10-14T16:02:02.918	2015-10-14T23:59:54.927	914
2015-10-15T00:00:00.014	2015-10-15T11:56:42.941	914
2015-10-15T12:02:02.941	2015-10-15T13:59:54.944	827
2015-10-15T14:04:10.944	2015-10-15T15:58:50.946	802
2015-10-15T16:02:02.946	2015-10-15T23:59:54.955	624
2015-10-16T00:00:00.007	2015-10-16T13:56:42.972	624
2015-10-16T14:02:02.972	2015-10-16T15:59:54.974	827
2015-10-16T16:04:10.974	2015-10-16T17:58:50.976	802
2015-10-16T18:02:02.976	2015-10-16T23:59:54.983	914
2015-10-17T00:00:00.001	2015-10-17T01:56:42.986	914
2015-10-17T02:02:02.986	2015-10-17T03:56:42.988	901
2015-10-17T04:02:02.988	2015-10-17T15:56:43.002	624
2015-10-17T16:02:03.002	2015-10-17T17:59:55.004	617
2015-10-17T18:04:11.004	2015-10-17T19:55:39.007	802
2015-10-17T20:04:43.007	2015-10-17T23:59:55.011	914
2015-10-18T00:00:00.011	2015-10-18T17:56:43.032	914
2015-10-18T18:02:03.032	2015-10-18T19:59:55.035	827
2015-10-18T20:04:11.035	2015-10-18T21:58:51.037	802
2015-10-18T22:02:03.037	2015-10-18T23:59:55.039	624
2015-10-19T00:00:00.005	2015-10-19T19:56:43.063	624

2015-10-19T20:02:03.063	2015-10-19T21:59:55.065	827
2015-10-19T22:04:11.065	2015-10-19T23:58:51.067	802
2015-10-20T00:02:03.067	2015-10-20T21:56:43.093	914
2015-10-20T22:02:03.093	2015-10-20T23:59:55.095	617