

Solar-B Command Planning and Interface Issues for ISACS-PLN

Appendix 2 Data Recording

Rev. 0.5: 2005 Apr 13

Revision History

	Date	Authors (Affiliation)	Issue
Rev. 0.0	2005 Feb 08	H. Hara (NAOJ/NINS)	All new; not completed
Rev. 0.4	2005 Apr 5	H. Hara (NAOJ/NINS)	Correction & addition
Rev. 0.5	2005 Apr 13	K. Matsuzaki (ISAS/JAXA)	Initial Release

Applicable Documents

JAXA/SLB/TechNote/MODA/010	Solar-B Command Planning and Interface for ISACS-PLN
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Appendix 2: Interface regarding data rate allocation and expected data rate after planning (TBD)

Data rate allocation to each telescope team is determined by the number of downlink contacts and several rules. When downlink contacts for a date are known, the data size, which can be dumped to each contact, can be calculated from the each downlink duration. The following rules will be applied. The final plan is going to be discussed in Solar-B Science Working Group or Solar-B MO&DA Working Group.

- 1) 20% (TBD) science data area in the data recorder is prepared for contingency.
- 2) The rest of data area (80%) is shared by SOT, XRT, and EIS.
- 3) The nominal allocation is 56% for SOT, 12% for XRT, and 12% for EIS. This allocation can be changed through a discussion in a weekly/monthly meeting.
- 4) The dump data size for each contact pass is shown to each instrument team (Chief Planners→Chief Observers). This information is made from the information of downlink stations shown in Appendix 2-A.
- 5) Each instrument team prepares the observation table to meet the following rules:
Rule: Science (image) data obtained in a day has to be dumped within the same day.
- 6) Higher data rate is expected when an orbit contains both Uchinoura and Svalbard stations. There is a simple idea to estimate the data rate for an instrument operation. It is that one day period can be divided into five periods as Table 1 shown below.

Table 1: Data rate for an instrument operation

Period 1	00:00:00	- HH:MM:SS_1	Svalbard only	Data rate-1
Period 2	HH:MM:SS_1	- HH:MM:SS_2	Svalbard + Uchinoura	Data rate-2
Period 3	HH:MM:SS_2	- HH:MM:SS_3	Svalbard only	Data rate-3
Period 4	HH:MM:SS_3	- HH:MM:SS_4	Svalbard + Uchinoura	Data rate-4
Period 5	HH:MM:SS_4	- 23:59:59	Svalbard only	Data rate-5

The data rate for each duration can be determined by each instrument team as far as the **Rule** is kept.

- 7) After the data rate is calculated from observation tables and after confirming that the **Rule** is kept, an ASCII format file containing a table like Table 1 is made as a result of an instrument planning. The file shall be sent from the Chief Observers to Chief Planners.
- 8) Chief planners shall check whether the total data rate, which is estimated from three instrument data rates, does not exceed the available data rate of the spacecraft.