

Decision and Opportunities at the EFW meeting May 18- 19 2006

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Decision

EFW operations on Spacecraft 1 and 3.

Background

Two of the total of sixteen EFW probes are not operational. Probe 1 on SC 1 failed 2001.12.28 and probe 1 on SC 3 failed 2002.07.29. From September 2003 to January 2006, the EFW instruments on SC 1 and 3 have been programmed to obtain a 2D E-field using three probes. From January 2006, in normal mode (25 samples/s) on SC 1 and 3, we have used one probe pair (probes 3 and 4) to obtain the E-field, and have used probe 2 to get the SC potential at the same sampling rate. The spacecraft potential may be used to study, e.g., density gradients and density cavities.

Decision

From June 2006, EFW on SC 1 and 3 will again be programmed to obtain a 2D E-field using three probes.

For details, see the EFW operations page
<http://www.cluster.irfu.se/efw/ops/>

Opportunities

EFW internal burst

Background

The EFW instrument can be run in a burst mode, obtaining signals from 4 individual probes at sampling rates of a few thousand samples/s. This can be used to obtain a 2D E-field, for interferometry to estimate k-vectors, etc. At the same time, the STAFF search coils can be used to obtain the 3D B-field at the same sampling rate. The internal burst covers time periods of the order of 10 s, and is available a few times each orbit.

Opportunity

Requests for EFW burst operations are welcome! The request may deal with details of what signals should be obtained, in which regions the burst trigger should be enabled, and exactly how the burst should be triggered (usually by large E-field amplitudes). A brief scientific case should be included.

EFW Langmuir mode

Background

The EFW probes can be run in Langmuir mode. This has been done for some periods for probes 2 on SC 1 and 3. This mode has not been investigated in detail.

Opportunity

Requests for EFW langmuir mode operations are welcome! A brief scientific case should be included.

EFW with two individual probes

Background

Usually only the potential difference between probes 1 and 2 and between probes 3 and 4 can be transmitted to ground. Sometimes in burst mode (450 samples/s), at the expense of other telemetry within WEC, one difference and two individual probe signals can be transmitted.

Opportunity

Requests for EFW special operations with two individual probes are welcome! A brief scientific case should be included.

Details for all opportunities

For details concerning all opportunities, see the EFW operations page
<http://www.cluster.irfu.se/efw/ops/>