

(2024-01-19) RPW ANT3 anomaly

Goals

- Present status of the first anomaly data analysis
- Define actions for the next

Date

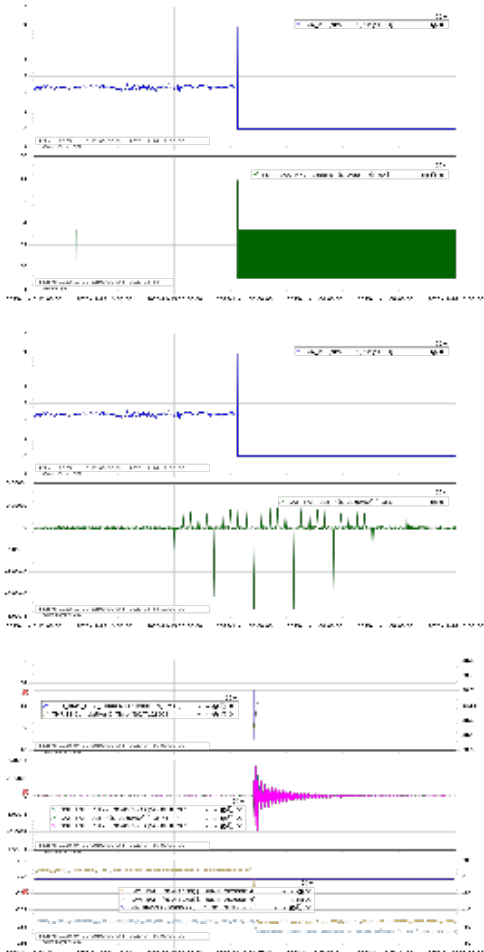
19 janv. 2024 at 2:45PM

Attendees

- [Xavier Bonnin](#) (LESIA)
- [thomas chust](#) (LPP)
- Moustapha Dekkali (LESIA)
- Anik De Groof (ESA)
- Anders Eriksson (IRFU)
- [Bruno Katra](#) (LPP)
- Niklas Edberg (IRFU)
- Emmanuel Guilhem (CNES)
- [Erik Johansson](#) (IRFU)
- [Yuri Khotyaintsev](#) (IRFU)
- [Matthieu Kretzschmar](#) (LPC2E)
- [Eric Lorfevre](#) (CNES)
- [Milan Maksimovic](#) (LESIA)
- [rodrigue piberne](#) (LPP)
- Walter Puccio (IRFU)
- Pedro Osuna (ESA)
- Desi Raulin (CNES)
- [Jan Soucek](#) (IAP)
- [Antonio Vecchio](#) (LESIA, Radboud Univ.)
- Chris Watson (ESA)

Discussion items

Item	Notes
Overview of the anomaly (Milan)	• ISWG_RPW_Status_Ant3_Anomaly_16012024.pdf
RPW team data analysis report	• Bias • LFR • TDS • THR (Analysis was still in progress, but presentation was made by Antonio Vecchio during ROB telecon on Feb. 12, see here)

SOC first analysis (Chris Watson)	The three plots showed by Chris: 1. Anomaly with respect to SC body rate in Y axis, just to illustrate position within a mosaic pattern and during, or close to, a slew 2. Anomaly with respect to RPW parameter NIW00119 (current provided by a -5V rail in the bias unit?). Small downward change in the measured current following the anomaly, step probably smaller than the TM quantisation step so not very accurate. 3. Illustration of similar (but short-lived) downward blips occurring during a WOL. Might be related, might be unrelated.  The first plot shows a blue line representing SC body rate in Y axis, with a sharp downward step. The second plot shows a green line representing RPW parameter NIW00119, with a small downward change. The third plot shows a purple line representing WOL, with short-lived downward blips.
Conclusions & next steps	• LESIA (ROC) to take account of anomaly in the RPW operation planning (RPW sub-system will send to Xavier configurations to be applied on-board to mitigate impact of the antenna 3 failure on science and limit possible identified risk) • ARB will be planned with SOC/MOC (see action below) • RPW will prepare an anomaly report (see action below) • RPW sub-system to pursue the data analysis • Progress to be discussed at the next ROB telecon on Feb. 12 at 4PM

Action items

Who?	What?	When?	Status	Comment
Instrument risk mitigation and short-term operations				
RPW sub-system Lead Cols	Send to Xavier Bonnin the commands to mitigate the impact on-board (when know).	ASAP (at least before next ROB meeting on Feb 12)		For the moment only Bias team has identified a risk and will send commands.
Xavier Bonnin	Add into RPW Operations User manual to not plan Bias sweeps durant S/C attitude activities (slews)	ASAP		Must be applied starting from the next IOR delivery (STP295)
Xavier Bonnin	Schedule a PA HF ON/OFF power cycle	TBD		• Better if it is done after ARB meeting with MOC • SOC must be informed when delivered IOR

Instrument anomaly investigation				
Jan Soucek	Report to Xavier Bonnin any relevant information concerning TDS that can help to understand what on-board happened on November 13, 2023	ASAP		
Xavier Bonnin	Write the anomaly report for RPW	Before ARB		
Xavier Bonnin	See with Moustapha (and Antonio) which data are needed and how read them to analyse PA HF measurements	ASAP		
Milan Maksimovic	Plan a discussion with FIELDS team concerning dust impact (carbon fibers) in PSP	Can be planned during Joined RPW-FIELDS meeting at Orléans (last week of Feb. 2024)		
Instrument science impact				
Xavier Bonnin		Notify RPW data users about anomaly impact on science data quality	Before Feb. 13, 2024	• In CDF, use CAVEAT attribute and Quality flag during periods when antenna 3 is in used after anomaly (Nov. 13, 2023 at 23:30z) • Give information on the RPW Web portal at LESIA • If it cannot be done on time, we shall suspend temporary the delivery of RPW science data CDF files (L2) to SOAR
LESIA-CNES actions				

Attached items