

**18th CAA Cross-Cal
Workshop
23-25 October 2013
Abingdon**

STAFF Report
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Plan

1. Status of software development
2. Status of Experiment Calibration / Cross Calibration
3. Status of dataset delivery
4. Delivery plan
5. Open issues

1. Status of software development

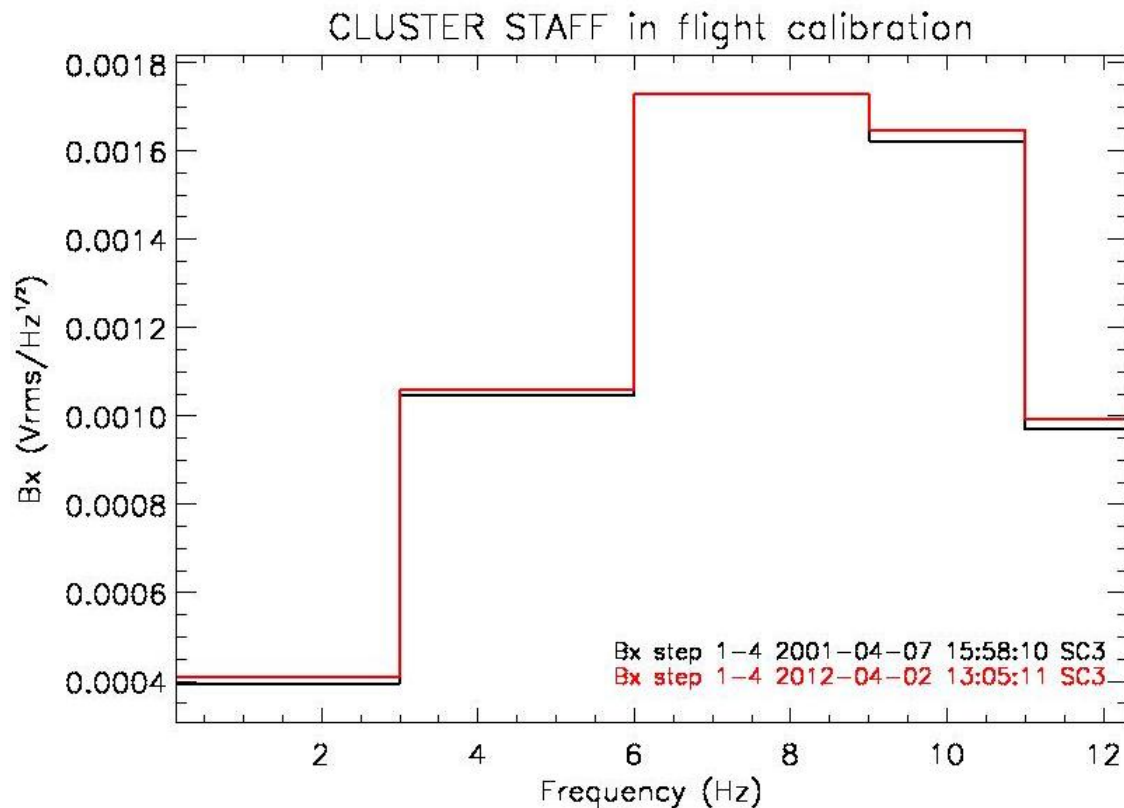
❑ **STAFF-SC** : For CWF in ISR2, processing chain up to CEF production is in test.

❑ **STAFF-SA** : Level 2 PSD and SM production pipeline was upgraded to add a status and to use the new transfer function. When the validation process will be completed, these new data will be delivered to CAA.

2. Status of Experiment Calibration/Cross Calibration:

- ❑ The article “**CLUSTER STAFF search coil magnetometer calibration- Comparisons with FGM**” was accepted by GI.
- ❑ Some results obtained for this paper, and not previously shown are given in the next slides.
- ❑ Since last cross/cal meeting, and as presented at the review in Madrid, for STAFF team the timing issue between EFW and STAFF wave form data is solved since the last tests performed by K. Yearby on WEC test bed.
- ❑ New STAFF-SA L2 PSD data, with the new transfer function, are currently compared to old data. Preliminary results show that some data that were rejected in the past are now correctly computed.

2. Status of Experiment Calibration/Cross Calibration (continued)



In flight calibration in 2001 and in 2012, A white noise sent to the antennas seen at the output of STAFF 10 Hz filter. It reflects the search coil transfer function. The experiment behavior is stable over 12 years of mission.

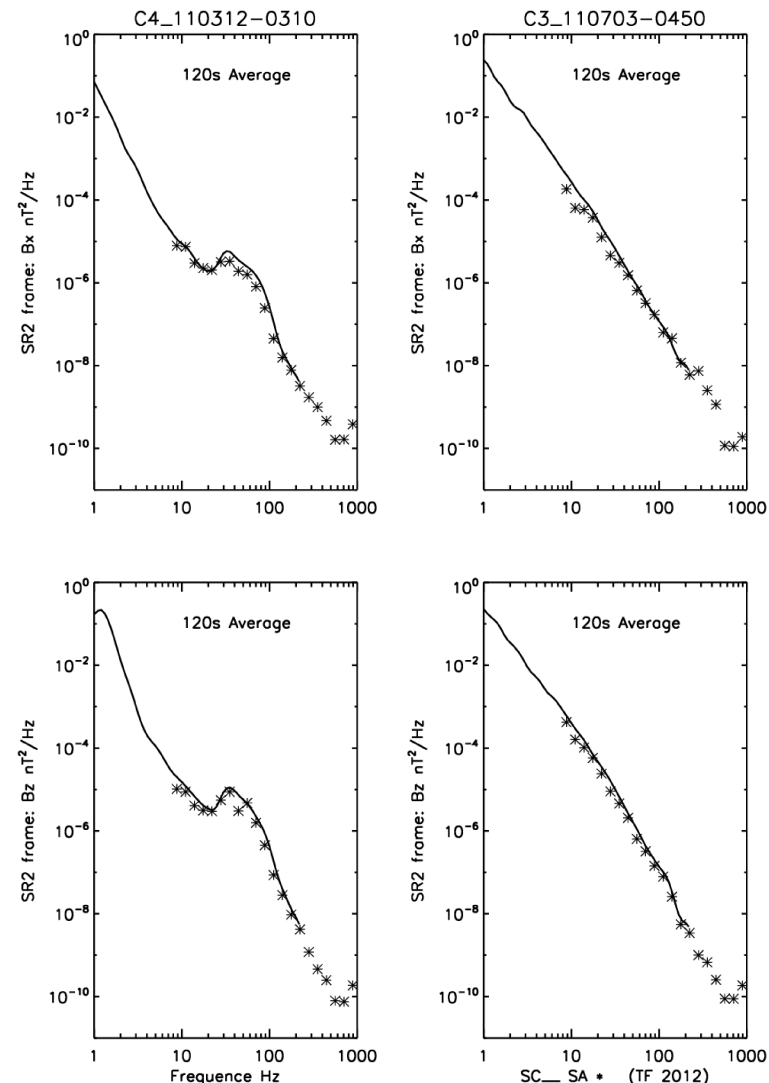
(Figure 7 of Robert et al.)

2. Status of Experiment Calibration/Cross Calibration (continued): SC and SA comparisons

Examples of a comparison between a wavelet spectrum of the waveform data and a STAFF-SA spectrum. A special operation mode has been used to maximize the overlap between the 2 experiments, between 8 and 180 Hz (SC in HBR and SA in NBR mode). Here are the Bz and Bx components for 2 different events (left and right sides respectively).

=> The calibration is satisfactory, insuring both spectra continuity and good overlap (here for an average over 120s).

(Figure 15 of Robert et al.)

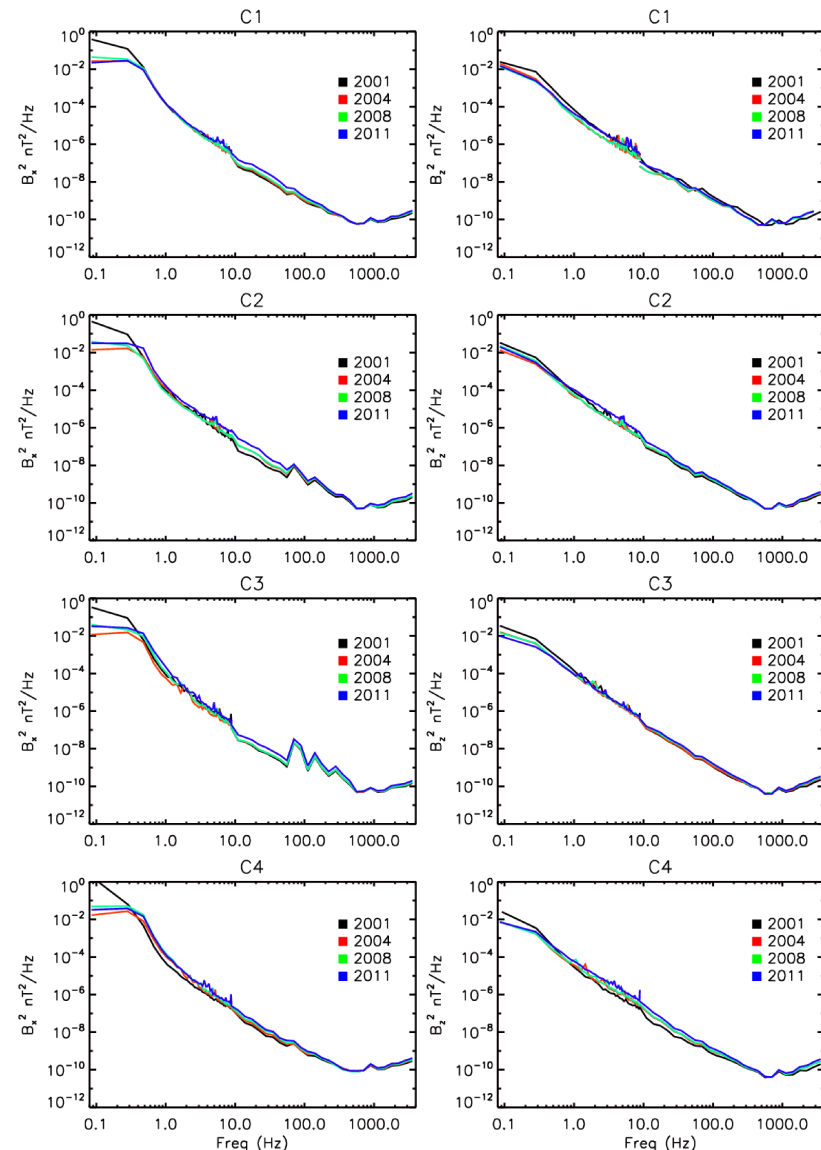


2. Status of Experiment Calibration/Cross Calibration (continued): SC and SA sensitivity with time

STAFF sensitivity, for four different years, in the lobes (2001, 2004, 2008 and 2011) for the four spacecraft (from top to bottom) and for the Bx (left) and Bz (right) components. STAFFSC waveform data are plotted up to 9 Hz and Spectrum Analyzer data above 9 Hz.

=> The sensitivity is stable over 12 years of mission.

(Figure 9 of Robert et al)



3. Status of dataset delivery:

Product	01	02	03	04	05	06	07	08	09	10	11	12	13
DWF	D	D	D	D	D	D	D	D	D	D	D	D	
CWF_GSE *	D	D	D	D	D	D	D	D	D	D	D	P	
CS	D2	D2	D2	D2	D2	D3	D3	D3	D3	D5	D5	D5	
SC_SPECTRO	D	D	D	D	D	D	D	D	D	D	D	D	
AGC	D	D	D	D	D	D	D	D	D	D	D	D	
PSD	D	D	D	D	D	D	D	D	D	D	D	D	
SM	D	D	D	D	D	D	D	D	D	D	D	D	
PPP	D	D	D	D	D	D	D	D	D	D	D	P	
HK	D	D	D	D	D	D	D	D	D	D	D	D	
CAVEATS DATASETS													
NOTSRP	D	D	D	D	D	D	D	D	D	D	D	D	
PSDNEG	D	D	D	D	D	D	D	D	D	D	D	D	
UNDEFINED_MFA	D	D	D	D	D	D	D	D	D	D	D	P	
CALIBRATION	D	D	D	D	D	D	D	D	D	D	D	D	

- Plus special processing for GI.
- CS version D5 : with new calibration table. 2001-2009 processed. To be delivered within the forthcoming weeks.

4. Delivery plan:

Year of delivery Product	2014	2015
SC DWF Version 4	2013	2014
SC Complex spectra V5	1st half 2014	End 2014 1st half 2015
SC Images	2014	2015
SC CWF GSE	2013	2014
SC CWF ISR2	2001-2013	2014
SA AGC/ PSD / SM/ Version 6		
SA AGC/ PSD / SM/ BE products = New version	2001-2013 1st half 2014	End 2014 1st half 2015
SA Polarisation/Propagatio n	2013	2014
House Keeping plots	2014	2015

5. Open issues

- ▶ No more open actions since last CWF/GSE data delivery
- ▶ Heavy maintenance of the computer room this winter may slow the data production.
- ▶ Hire a new CAA engineer in 2014.