“CLUSTER STAFF search coils magnetometer calibration – comparisons with FGM”
By P. Robert et al.

Response to Anonymous Referee #2

The authors deeply thank the referee for his comments and remarks.

Responses are following:

- p.690, l.7: (x y y) should be (x y z)?
  => yes, will be corrected

- p.694, l.21: (x y y) should be (x y z)?
  => yes, will be corrected

- p.696, l.6: What is "tk"?
  => will be corrected in xk (k in subscript)

- p.699, l.15: "do to" -> "due to"?
  => it is “to do”, corrected

- p.700, l.1: "transfer" -> "transfer function"
  => yes, will be corrected

- p.701, l.7: "Fig. 12" -> "in Fig. 12"
  => yes, will be corrected

- p.701, l.8: What is "TM"?
  => TM replaced by “telemetry (TM)”

- p.702, l.11: How do you define the calibrated result has a "best" quality?
  => in fact, it is a difficult question. We propose to add:
  For instance, if low frequencies are not interesting, it is preferable to filter the data above twice the spin frequency, to avoid undesirable spin effect. The length of the calibration window play also a role on the calibration, depending if the covered period is stationary or not. On a general way, a long windows lead to a more accurate calibration, but is time consuming, and enlarges the data gap. But a long windows could also lead to a non perfect cleaning of the large sine signal due to the DC field, especially if it is fast varying. In any case, the best compromise must be sought in relation to the nature of the data (stationary waves or magnetopause crossing can require different calibration parameters). This is why we keep available in the Cluster Archive the the level 1 waveform (uncalibrated). It is the expertise of the experimenter that will lead to better results.

- p.703, l.8: "build-in" -> "built-in"
  => yes, will be corrected

- p.704, l.26: "Normaly" -> "Normally"
  => yes, will be corrected

- p.706, l.9: "give" -> "gives"
  => yes, will be corrected

- p.708, l.5: What is "NBR"?

=> sorry, NBR means Normal Bit Rate, changed to “normal bit rate mode (NBR) sampled at 25 Hz”

- p.711, l.9: "DC files" -> "DC fields"?

=> yes, will be corrected

- p.711, l.15: In Figure 24, the difference between the upper and lower panels are just the horizontal scales (linear vs. log)? Please define what the green line means here.

=> On figure caption, we add: “Blue: STAFF, red: FGM. Top: lin-log scale, bottom: log-log scale. The green line is the STAFF ground measurement sensitivity, measured before launch, and corresponds roughly to the sensitivity observed in flight.”

- p.714, l.12: "depends of" -> "depends on"

=> yes, will be corrected

- p.725, Fig.5: The influence of power lines at 150 Hz is hard to observe in this figure

=> yes, “Influence of power lines at 50 and 150Hz is clear” changed as “Influence of power lines at 50 Hz is clear”