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Title : **GOCE L1b Data Quality Control Report
July 2013**

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1. INTRODUCTION

1.1 Purpose and Scope

This document contains the Quality report for GOCE L1b data for July 2013.

The latest version of this document is available on the GOCE Data Quality portal at:

<http://earth.esa.int/GOCE/> → “Level 1b QC” → “Monthly”

The GOCE Data Quality portal is the principal source for any quality-related information on GOCE products.

<http://earth.esa.int/GOCE/> → “Level 1b QC”.

1.2 Glossary

The following acronyms and abbreviations have been used in this report.

ABBREVIATION	MEANING
EGG	Electrostatic Gravity Gradiometer
DFACS	Drag Free and Attitude control system
SST-I	Satellite-to-satellite tracking instrument
CTR	Control Voltages
STR	Star Tracker
Trace SD	Trace Spectral Density
ICM	Inverse Calibration Matrix
GAR	Gradiometer Angular Rates
FPM	Fine Pointing Mode
MBW	Measurement Bandwidth

2. JULY 2013 OVERVIEW

13-18 Jul 2013	Series outliers with orbital regularity, in the Common Mode Acceleration and gradients in the in-flight direction. Two big events at 13/08 23:42:40 and 14/08 17:22:30.
29-Jul-13	Beam out event at UTC 20:08:57
31-Jul to 01-Aug 13	Instrument Calibration

3. JULY 2013 DATA QUALITY ANALYSIS

3.1 Beam Out events

The following Beam Out events occurred during July 2013 reference frame:

EVENT	UTC TIME
29-Jul-13	Beam out event at UTC 20:08:57

Table 1 Beam out events

The effects of a Beam Out event are clearly visible in the common mode acceleration, component 14_x, as a sharp peak in the acceleration values. The effect is the same as reported in previous monthly reports.

3.2 Gradients outliers on 13th – 18th of July

A series of outliers have been found in gradient Uxx and common mode acceleration in the flight direction. Two big events with impacts on performance occurred at UTC 13/07 23:42:40 and 14/07 17:22:30. Below the gradients time series which show the two big events:

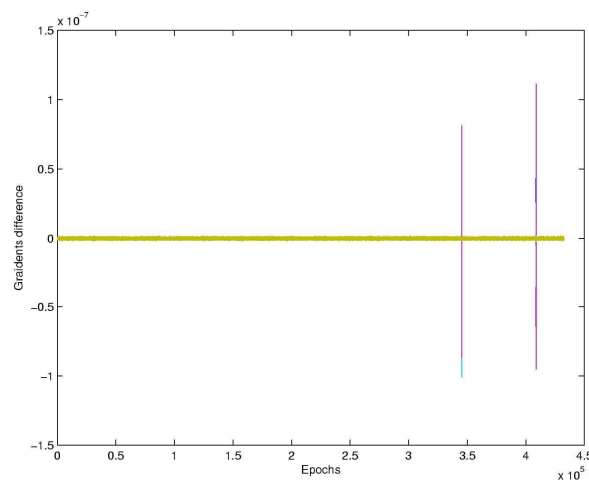


Figure 1 Gradients time series

The PSDs of the common mode accelerations as well as the one of the trace are reported, showing the effects of the two big outliers:

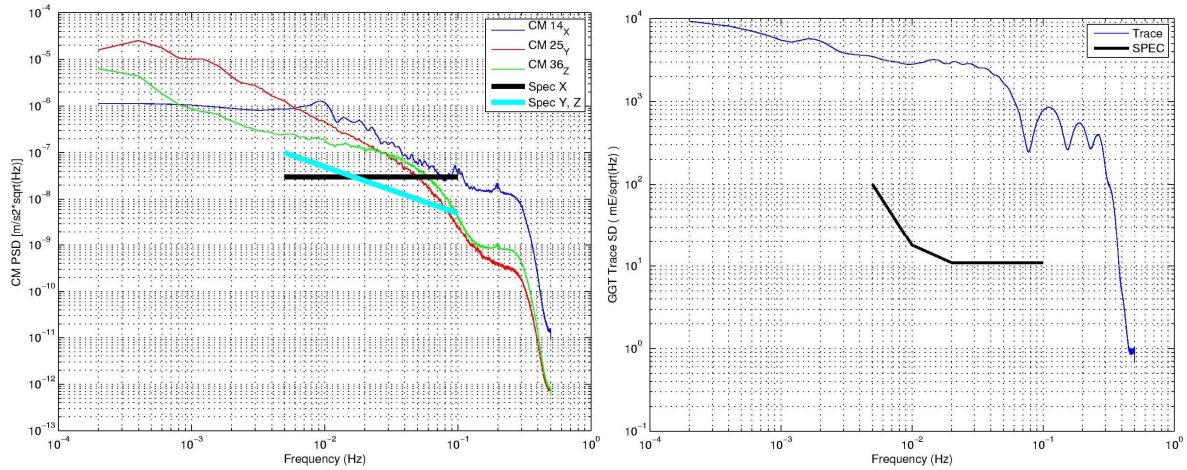


Figure 2 CM PSD (left) and trace PSD (right)

3.3 Instrument calibration

Special Spacecraft Operations for Instrument Calibration were performed on 31st July 2013, from

- 20130731T143819

to

- 20130801T142404

Nominal EGG data are not available between the two times above.