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Title : **GOCE L1b Data Quality Control Report
January 2012**

Author : **GOCE Quality Control Team**

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1. INTRODUCTION

1.1 Purpose and Scope

This document contains the Quality report for GOCE L1b data for January 2012.

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

2. JANUARY 2012 OVERVIEW

01-Jan-12	Anomaly in gradients components at UTC 20:08:23 with impacts on trace
15-Jan-12	Beam Out event at UTC 22:21:59
17-Jan to 18-Jan-12	Calibration
20-Jan-12	Beam Out event at UTC 00:49:10
22-Jan-12	Beam Out event at UTC 03:48:37

3. JANUARY 2012 DATA QUALITY ANALYSIS

3.1 Gradients anomaly on 01st January

An anomalous oscillation occurred on 01st January at UTC 20:08:23 with impacts on trace as reported below:

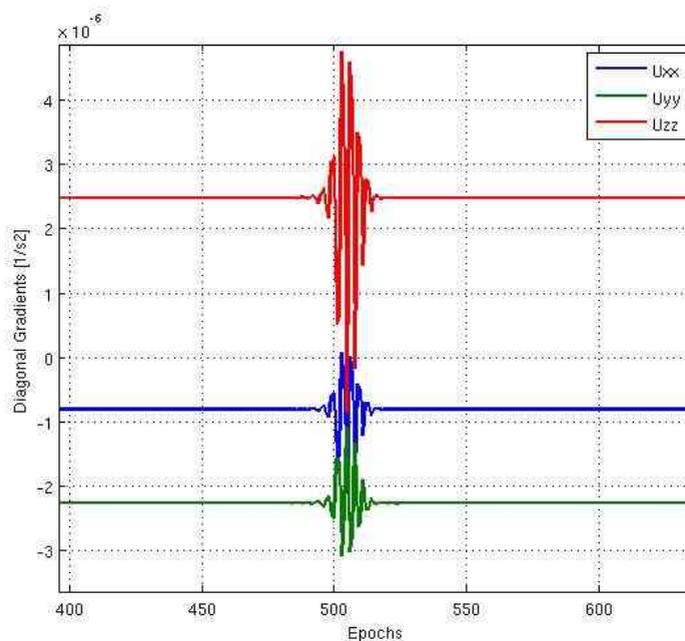


Figure 1 Gradients anomaly

The anomaly has a clear impact on trace PSD as reported below:

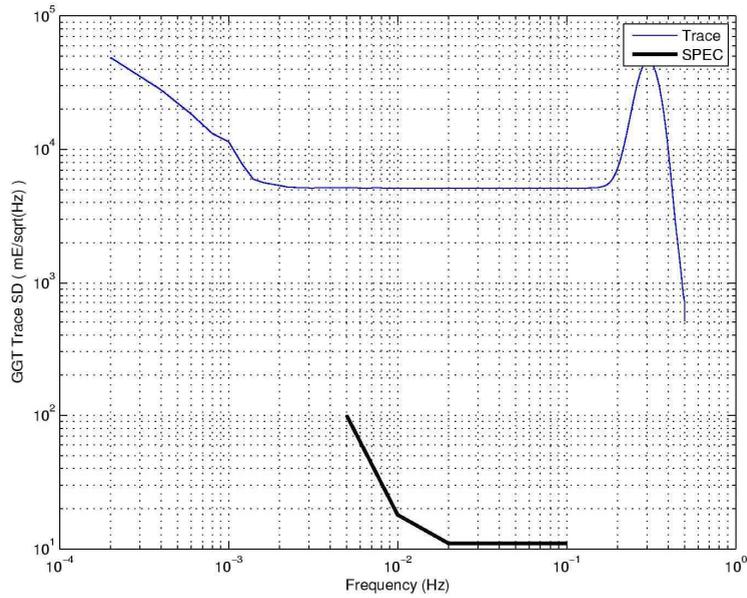


Figure 2 Trace PSD

The CM PSD components have been impacted by the anomaly at high frequencies, as reported below:

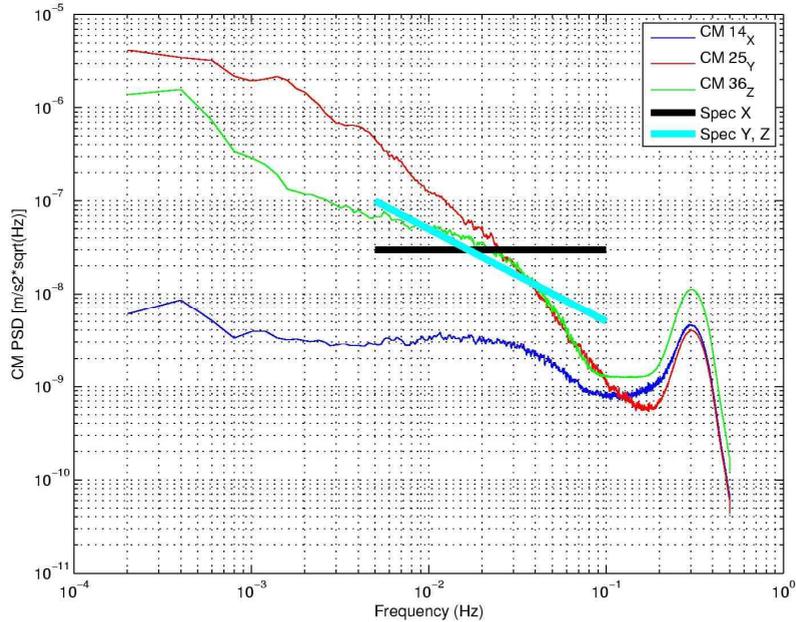


Figure 3 CM PSDs

3.2 Instrument calibration

Special Spacecraft Operations for Instrument Calibration were performed on 17th January 2012, from

- 20120117T055355
- to
- 20120118T055355

EGG_NOM_1b data are unavailable during this period, i.e. between products:

- GO_CONS_EGG_NOM_1b_20120117T042411_20120117T055355
- and
- GO_CONS_EGG_NOM_1b_20120118T055355_20120118T071917

3.3 Beam Out events

The following Beam Out events occurred during January 2012 reference frame:

EVENT	UTC TIME
15-Jan-12	Beam Out event at UTC 22:21:59
20-Jan-12	Beam Out event at UTC 00:49:10
22-Jan-12	Beam Out event at UTC 03:48:37

Table 1 Beam out events

Below, the effects of the Beam Out in the common mode acceleration, component 14_x, for the 15th January event, is displayed (the effect is the same for all the events).

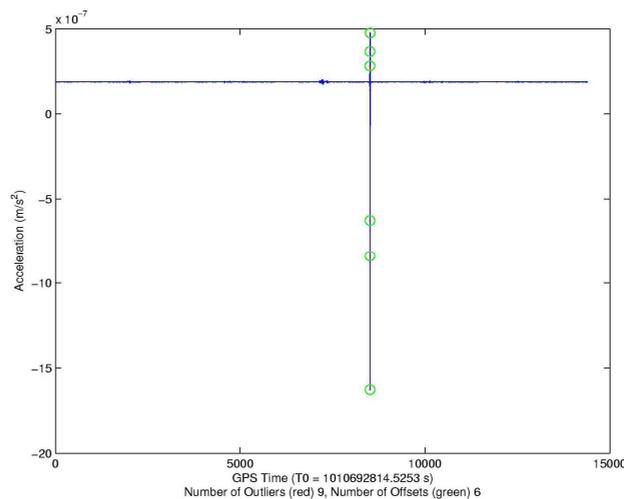


Figure 4 Beam Out event on 15th of January

The Beam Out event enters in the gradients time series notably in the Uxx component without any relevant impacts on performance.