

## 1. Overview

<b>Report Production Date:</b>	09-May-2013
<b>Data Used:</b>	L1 and L2 Fast Delivery Marine Mode (FDM), and CAL Data

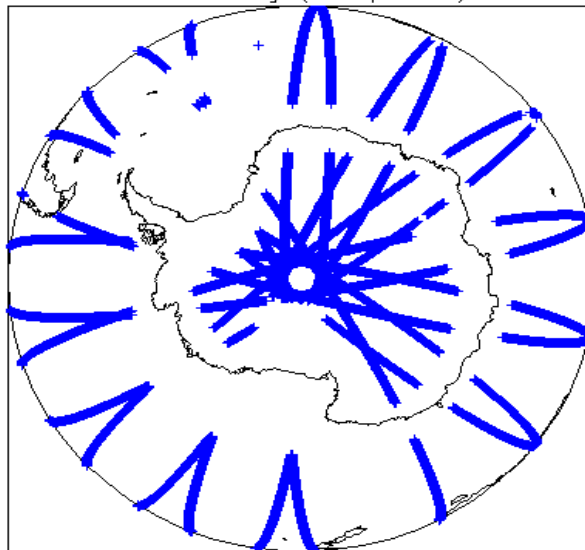
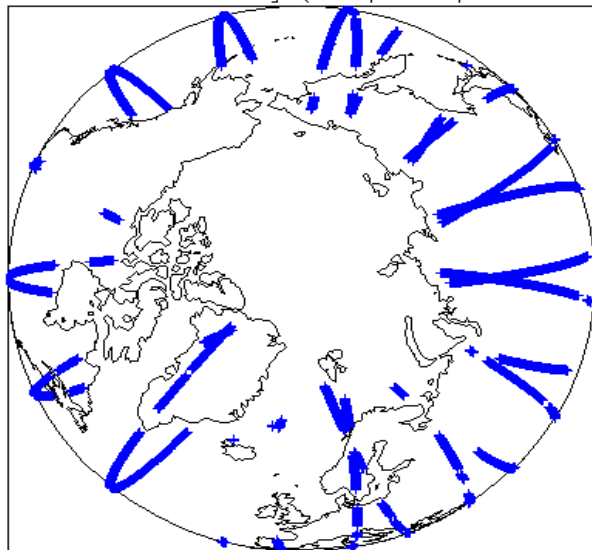
Check	Status
Server check: science-pds.cryosat.esa.int	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal
Product Software Check	Nominal
Product Format Check	Nominal
Product Header Analysis	Nominal
Auxiliary Data File Usage	Nominal
Correction Error Flags	Nominal
Measurement Confidence Flags	See Sections 5.5, 6.5, 6.6 and 6.8

Mission / Instrument News	
18-Apr-2013	None
19-Apr-2013	None
20-Apr-2013	Nothing planned

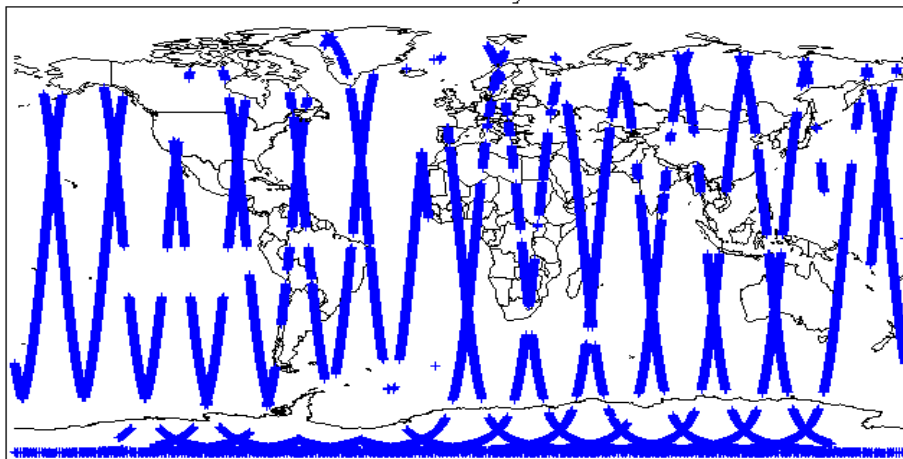
## 2. Global Coverage

Global Coverage (north pole view)

Global Coverage (south pole view)



Global Coverage



## 3. Instrument Configuration

The SIRAL instrument configuration for the day of acquisition is provided below.

<b>SIRAL instrument(s) in use:</b>	SIRAL - A
<b>Star Tracker(s) in use:</b>	Star Tracker 2

## 4. Level 1B Calibration Data Quality Check

### 4.1 L1 CAL Product Format Check

Each product, retrieved and unpacked from the science server, is checked to ensure it consists of both an XML header file (.HDR) and a binary product file (.DBL).

Number of products with errors: 0

### 4.2 L1 CAL Product Header Analysis

For all products, a series of pre-defined checks are carried out on the MPH and SPH in order to identify any inconsistencies and/or errors raised by the processing chain.

Number of products with errors: 0

### 4.3 L1 CAL Auxiliary Data File Usage Check

Each product is checked for missing Data Set Descriptors wrt a pre-determined baseline and also to check the validity of Auxiliary Data Files is correct.

Number of products with errors: 0

### 4.4 L1 CAL Measurement Confidence Flags

CryoSat Cal1 and Cal2 data includes a measurement confidence flag word (field 11) for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors: 0

## 5. Level 1B FDM Data Quality Check

### 5.1 L1B FDM Product Format Check

Each product, retrieved and unpacked from the science server, is checked to ensure it consists of both an XML header file (.HDR) and a binary product file (.DBL).

Number of products with errors: 0

### 5.2 L1B FDM Product Header Analysis

For all products, a series of pre-defined checks are carried out on the MPH and SPH in order to identify any inconsistencies and/or errors raised by the ground-segment processing chain.

Number of products with errors: 0

### 5.3 L1B FDM Auxiliary Data File Usage Check

Each product is checked for missing Data Set Descriptors wrt a pre-determined baseline and also to check the validity of Auxiliary Data Files is correct.

Number of products with errors: 0

### 5.4 L1B Correction Error Flags

Each product is checked to detect auxiliary corrections flagged by the ground-station processing chain as missing or containing errors.

Number of products with errors: 0

### 5.5 L1B FDM Measurement Confidence Flags

CryoSat L1B data includes a measurement confidence flag word (field 14) for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors: 10

Product	Test Failed	Description
CS_OFFL_SIR_FDM_1B_20130419T182714_20130419T182723_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130419T184027_20130419T184115_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130419T184813_20130419T184816_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130419T184820_20130419T184825_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130419T184827_20130419T185950_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130419T190520_20130419T191638_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130419T192005_20130419T192110_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130419T192253_20130419T192737_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130419T192802_20130419T192851_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130419T214036_20130419T214112_B001	Attitude correction missing	The attitude has not been corrected

## 6. Level 2 FDM Data Quality Check

### 6.1 L2 FDM Product Format Check

Each product, retrieved and unpacked from the science server, is checked to ensure it consists of both an XML header file (.HDR) and a binary product file (.DBL)

Number of products with errors: 0

### 6.2 L2 FDM Product Header Analysis

For all products, a series of pre-defined checks are carried out on the MPH and SPH in order to identify any inconsistencies and/or errors raised by the processing chain.

Currently there is a high number of processing error flags set within the Level 2 FDM products (Product\_Err and L2\_Proc\_Flag). These flags are set within L2 Header files (MPH field #19 and SPH field #29) and also within the L2 Product files (MPH field #35 and SPH field #33). They are set by the FDM processor when an error is detected during the L2 processing and also when the percentage of Data Set Records free of processing errors is below the minimum acceptable threshold set within the processor (currently set to 5%).

This issue is under investigation.

Number of products with errors: 0

### 6.3 L2 FDM Auxiliary Data File Usage Check

Each product is checked for missing Data Set Descriptors wrt a pre-determined baseline and also to check the validity of Auxiliary Data Files is correct.

Number of products with errors: 0

### 6.4 L2 FDM Correction Error Flags

Each product is checked to detect auxiliary corrections flagged by the ground-station processing chain as missing or containing errors.

Number of products with errors: 0

## 6.5 L2 FDM Measurement Confidence Flags

CryoSat L2 data includes a quality flag word (field 8) for each 20-Hz measurement record. The bit value of this flag is an assessment of the measurement quality by the processing chain.

Number of products with errors: 10

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2_20130419T182714_20130419T182723_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2_20130419T184027_20130419T184115_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2_20130419T184813_20130419T184816_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2_20130419T184820_20130419T184825_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2_20130419T184827_20130419T185950_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2_20130419T190520_20130419T191638_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2_20130419T192005_20130419T192110_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2_20130419T192253_20130419T192737_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2_20130419T192802_20130419T192851_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2_20130419T214036_20130419T214112_B001	Attitude correction missing	The attitude has not been corrected

## 6.6 L2 FDM Range Measurement Flags

Each product is checked to detect range measurements flagged by the processing chain as missing or containing errors.

Number of products with errors: 3

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2_20130419T021351_20130419T022610_B001	OCOGRetracked Range Flag	The master fail flag is set by the OCOG call, for one or more records, indicating the values stored in fields #18, #19, #20 and #21 should be ignored for these records.
CS_OFFL_SIR_FDM_2_20130419T121231_20130419T123524_B001	OCOGRetracked Range Flag	The master fail flag is set by the OCOG call, for one or more records, indicating the values stored in fields #18, #19, #20 and #21 should be ignored for these records.
CS_OFFL_SIR_FDM_2_20130419T193021_20130419T193556_B001	OCOGRetracked Range Flag	The master fail flag is set by the OCOG call, for one or more records, indicating the values stored in fields #18, #19, #20 and #21 should be ignored for these records.

## 6.7 L2 FDM SWH and Backscatter Measurement Flags

Each product is checked to detect parameters related to SWH and sigma0 that are flagged by the processing chain as missing or containing errors.

Number of products with errors: 0

## 6.8 L2 FDM Geophysical Measurement Flags

Each product is checked to detect geophysical measurements flagged by the processing chain as missing or containing errors.

Number of products with errors: 7

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2_20130419T021351_20130419T022610_B001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records.
CS_OFFL_SIR_FDM_2_20130419T121231_20130419T123524_B001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records.
CS_OFFL_SIR_FDM_2_20130419T143258_20130419T144826_B001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records.
CS_OFFL_SIR_FDM_2_20130419T145028_20130419T145954_B001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records.
CS_OFFL_SIR_FDM_2_20130419T154530_20130419T154955_B001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records.
CS_OFFL_SIR_FDM_2_20130419T193021_20130419T193556_B001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records.
CS_OFFL_SIR_FDM_2_20130419T193758_20130419T195952_B001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records.

## 7. QCC Check

The QCC is a CryoSat facility that performs a primary survey of data products immediately after production by the PDS and LTA processing facilities. A list of the tests which raised errors or warnings is provided below.

Product type	Nb. Products	Nb. QCC Reports	Nb. Valid	Nb. Warnings	Nb. Errors
SIR_FDM_1B	153	153	116	36	1
SIR_FDM_2	149	148	0	148	0

### 7.1 QCC Errors

Number of QCC reports with errors: 1

Test Description Key:

Abbreviation	Test name	Details
RRTAISSOB	RangeRecordTAIStartStopOrBlank	The time value should be between the record TAI start/stop times of the SPH

QCC Errors: See the following table:

Product Type	Product Start Time	Error
SIR_FDM_1B	CS_OPER_AUX_REP_QC_20130419T111110_SIR_FDM_1B20130419T090202.EEF	RRTAISSOB

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## 7.2 Missing QCC Reports

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Number of products with missing QCC reports: 2

Product name
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CS_OFFL_SIR_FDM_1B_20130418T235401_20130419T000635_B001
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CS_OFFL_SIR_FDM_2__20130418T235401_20130419T000635_B001
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