1. Overview

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Report Production Date:	17-Jun-2015
Data Used:	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	**See Section 5.3 and 6.3**
Correction Error Flags	**See Sections 5.4 and 6.4**
Measurement Confidence Flags	**See Sections 5.5, 6.5, 6.6, 6.7 and 6.8**

Mission / Instrument News	
15-Jun-2015	None
16-Jun-2015	None
17-Jun-2015	Nothing planned

2. Global Coverage

Global Coverage (north pole view)

Global Coverage (south pole view)
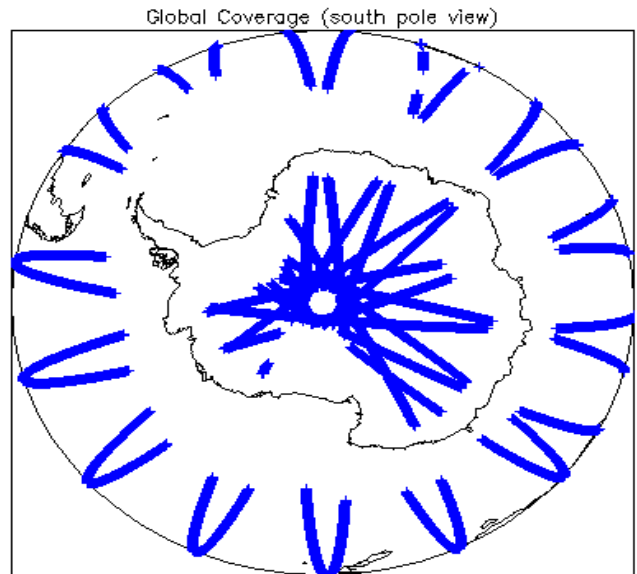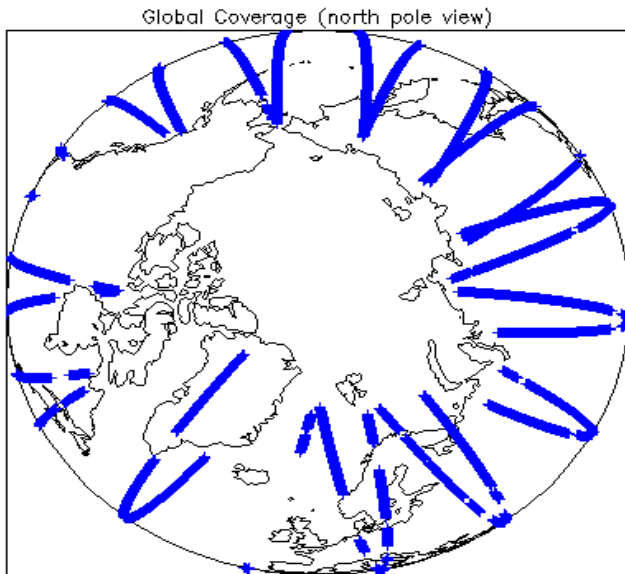
Global Coverage
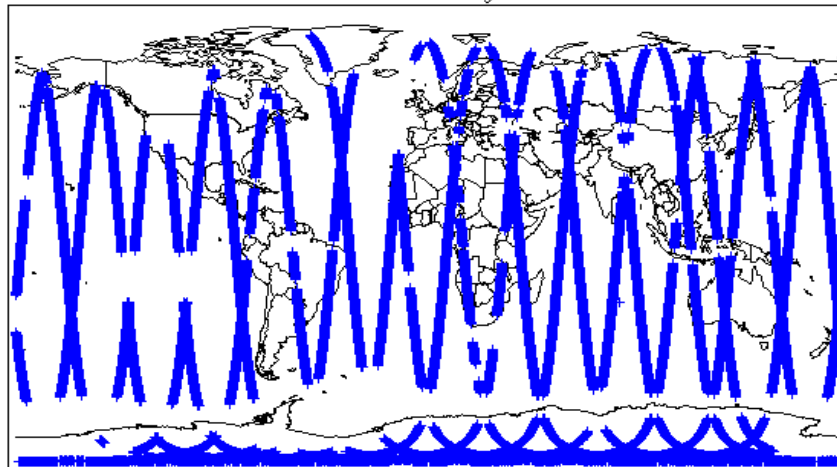
3. Instrument Configuration

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

SIRAL instrument(s) in use:	**SIRAL - A**
Star Tracker(s) in use:	**Star Tracker 1**

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 Auxilary 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: 59

Product	AUX File	Comment
All FDM_1B products up to 20150616T104456 (59 products)	CS_OPER_AUXIIONGIM_20150616T000000_20150616T235959_0001	Missing Forecast Auxiliary File: CS_OPER_AUXIIONGIM

5.4 L1B 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: 59

Product	Test Failed	Description
All FDM_1B products up to 20150616T104456 (59 products)	GIM Ionospheric Correction	Due to a missing Forecast Auxiliary File, there was an error with the Ionospheric correction.

5.5 L1B FDM Measurement Confidence Flags

CryoSat L1B data includes a measurement confidence flag word (field 18) for each measurement record. The bit value of this flag indicates any problems when set.

Attitude Correction Missing: In Baseline-C all FDM products are missing Attitude Correction as star tracker data are not available in time for processing. This is a known issue and will be fixed in future releases.

Number of products with errors: 9

Product	Test Failed	Description
CS_OFFL_SIR_FDM_1B_20150616T035929_20150616T040237_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20150616T050845_20150616T053704_C001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo
CS_OFFL_SIR_FDM_1B_20150616T053857_20150616T053949_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20150616T071806_20150616T071859_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20150616T104132_20150616T104456_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20150616T123237_20150616T124632_C001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo
CS_OFFL_SIR_FDM_1B_20150616T175242_20150616T175821_C001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo
CS_OFFL_SIR_FDM_1B_20150616T200112_20150616T203715_C001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo
CS_OFFL_SIR_FDM_1B_20150616T220243_20150616T221714_C001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo

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.

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: 59

Product	AUX File	Comment
All FDM_2 products up to 20150616T104456 (59 products)	CS_OPER_AUXIIONGIM_20150616T000000_20150616T235959_0001	Missing Forecast Auxiliary File: CS_OPER_AUXIIONGIM

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: 59

Product	Test Failed	Description
All FDM_2 products up to 20150616T104456 (59 products)	GIM Ionospheric Correction	Due to a missing Forecast Auxiliary File, there was an error with the Ionospheric correction.

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.

Attitude Correction Missing: In Baseline-C all FDM products are missing Attitude Correction as star tracker data are not available in time for processing. This is a known issue and will be fixed in future releases.

Number of products with errors: 9

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20150616T035929_20150616T040237_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20150616T050845_20150616T053704_C001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo
CS_OFFL_SIR_FDM_2__20150616T053857_20150616T053949_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20150616T071806_20150616T071859_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20150616T104132_20150616T104456_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20150616T123237_20150616T124632_C001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo
CS_OFFL_SIR_FDM_2__20150616T175242_20150616T175821_C001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo
CS_OFFL_SIR_FDM_2__20150616T200112_20150616T203715_C001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo
CS_OFFL_SIR_FDM_2__20150616T220243_20150616T221714_C001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo

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__20150616T012009_20150616T013540_C001	OCOG Retracked 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__20150616T044301_20150616T045324_C001	OCOG Retracked 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__20150616T075027_20150616T081146_C001	OCOG Retracked 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: 1

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20150616T091521_20150616T095037_C001	OCOG Backscatter Status Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #47, #48, #49 and #50 should be ignored for these records.

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: 4

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20150616T012009_20150616T013540_C001	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__20150616T044301_20150616T045324_C001	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__20150616T075027_20150616T081146_C001	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__20150616T132442_20150616T135701_C001	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	129	0	0	0	0
SIR_FDM_2	129	0	0	0	0

7.1 QCC Errors

Number of QCC reports with errors: 0

7.2 Missing QCC Reports

Number of products with missing QCC reports: All