1. Overview

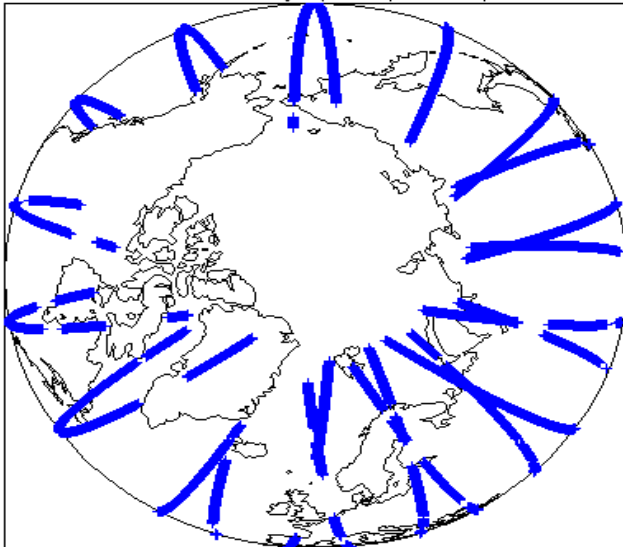|	
Report Production Date:	18-Sep-2014
Data Used:	L1 and L2 Fast Delivery Marine Mode (FDM), and CAL Data

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	**Nominal**
Correction Error Flags	**Nominal**
Measurement Confidence Flags	**See Sections 5.5, 6.5, 6.6 and 6.8**

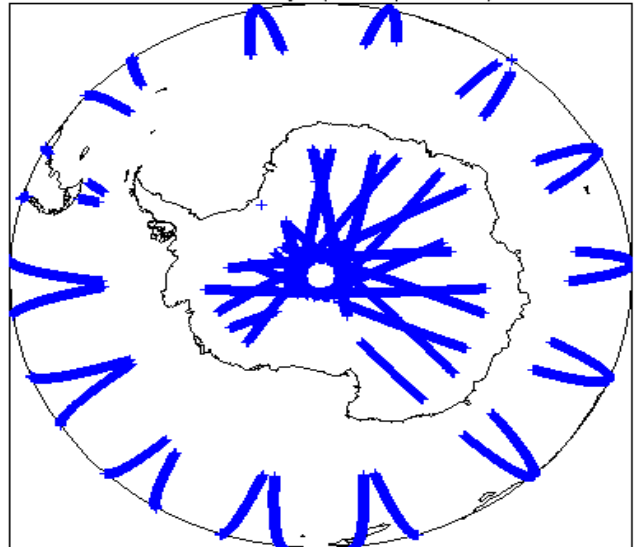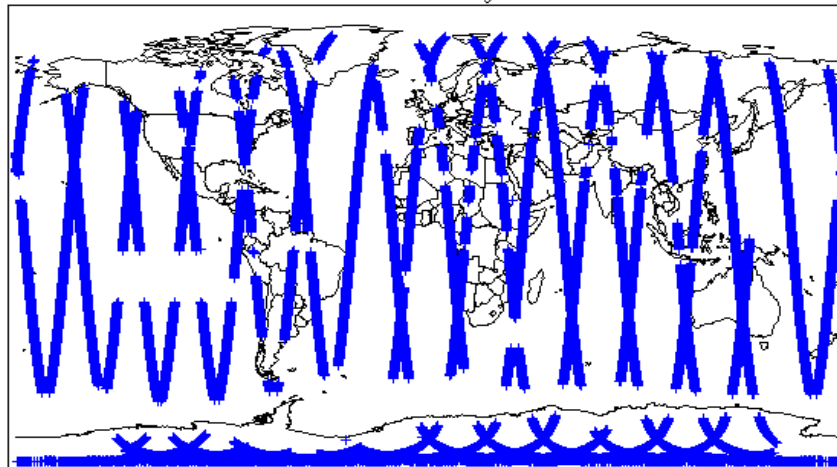| Mission / Instrument News	
16-Sep-2014	None
17-Sep-2014	None
18-Sep-2014	Nothing planned

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: 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: 23

Product	Test Failed	Description
CS_OFFL_SIR_FDM_1B_20140917T014240_20140917T015305_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo
CS_OFFL_SIR_FDM_1B_20140917T043255_20140917T043650_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo
CS_OFFL_SIR_FDM_1B_20140917T080704_20140917T080918_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20140917T080951_20140917T081102_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20140917T081225_20140917T081627_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20140917T081644_20140917T081802_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20140917T081856_20140917T082133_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20140917T082316_20140917T082458_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20140917T082642_20140917T082746_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20140917T082748_20140917T082929_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20140917T083011_20140917T084341_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20140917T084915_20140917T085429_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20140917T090152_20140917T092245_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20140917T092530_20140917T093657_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20140917T094617_20140917T094901_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20140917T094901_20140917T095018_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20140917T095619_20140917T095801_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20140917T132757_20140917T133143_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo
CS_OFFL_SIR_FDM_1B_20140917T142221_20140917T142813_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo
CS_OFFL_SIR_FDM_1B_20140917T145202_20140917T145751_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo
CS_OFFL_SIR_FDM_1B_20140917T161326_20140917T161417_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20140917T174718_20140917T175014_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20140917T192640_20140917T192750_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20140917T224406_20140917T224922_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: 24

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20140917T014240_20140917T015305_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo
CS_OFFL_SIR_FDM_2__20140917T043255_20140917T043650_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo
CS_OFFL_SIR_FDM_2__20140917T080704_20140917T080918_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20140917T080951_20140917T081102_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20140917T081225_20140917T081627_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20140917T081644_20140917T081802_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20140917T081856_20140917T082133_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20140917T082316_20140917T082458_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20140917T082642_20140917T082746_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20140917T082748_20140917T082929_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20140917T083011_20140917T084341_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20140917T084915_20140917T085429_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20140917T090152_20140917T092245_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20140917T092530_20140917T093657_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20140917T094617_20140917T094901_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20140917T094901_20140917T095018_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20140917T095619_20140917T095801_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20140917T132757_20140917T133143_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo
CS_OFFL_SIR_FDM_2__20140917T142221_20140917T142813_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo
CS_OFFL_SIR_FDM_2__20140917T145202_20140917T145751_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo
CS_OFFL_SIR_FDM_2__20140917T161326_20140917T161417_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20140917T174718_20140917T175014_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20140917T192640_20140917T192750_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20140917T224406_20140917T224922_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: 4

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20140917T001246_20140917T002935_B001	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__20140917T080951_20140917T081102_B001	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__20140917T192750_20140917T193030_B001	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__20140917T224406_20140917T224922_B001	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: 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: 9

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20140917T001246_20140917T002935_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__20140917T045009_20140917T045234_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__20140917T063853_20140917T064715_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__20140917T080951_20140917T081102_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__20140917T104100_20140917T111655_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__20140917T122012_20140917T124829_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__20140917T203907_20140917T205421_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__20140917T221711_20140917T224128_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__20140917T224406_20140917T224922_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	139	0	0	0	0
SIR_FDM_2	138	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