

1. Overview

Report Production Date:	29-Aug-2013
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

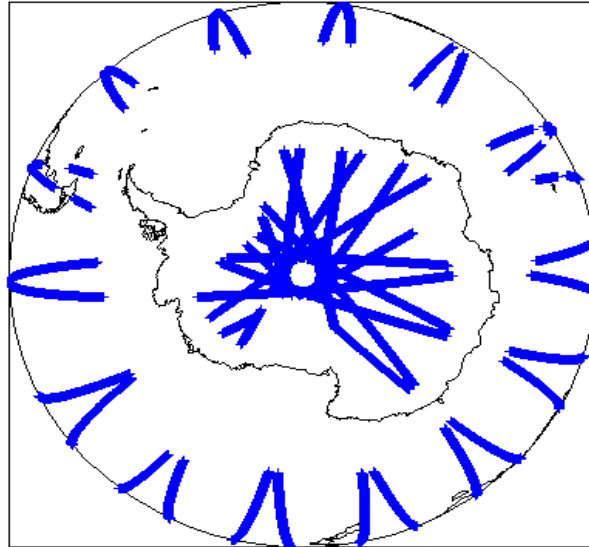
27-Aug-2013	None
28-Aug-2013	None
29-Aug-2013	Nothing planned

2. Global Coverage

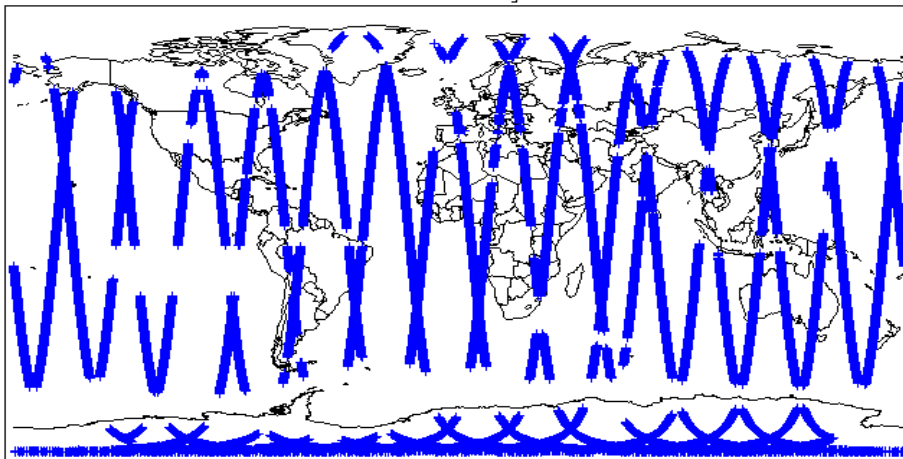
Global Coverage (north pole view)



Global Coverage (south pole view)



Global Coverage



3. Instrument Configuration

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

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 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: 32

Product	AUX File	Comment
All FDM_1B products from 20130828T120014 to 20130828T181523 (32 products)	CS_OPER_AUXIWETTRP_20130828T180000; CS_OPER_AUXIWETTRP_20130828T120000; CS_OPER_AUXIV_WIND_20130828T180000	Forecast Auxiliary Files not made available prior to FDM processing.

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: 32

Product	Test Failed	Description
All FDM_1B products from 20130828T120014 to 20130828T181523 (32 products)	Dry tropospheric correction error, Wet tropospheric correction error, Inverse barometric correction error.	Due to missing Forecast Auxiliary Files, there was an error with the Dry tropospheric, Wet tropospheric and Inverse barometric corrections.

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: 7

Product	Test Failed	Description
CS_OFFL_SIR_FDM_1B_20130828T063441_20130828T064216_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo.
CS_OFFL_SIR_FDM_1B_20130828T083342_20130828T085053_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo.
CS_OFFL_SIR_FDM_1B_20130828T113832_20130828T113841_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130828T131445_20130828T131455_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130828T145119_20130828T145253_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130828T174215_20130828T181523_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130828T200722_20130828T201547_B001	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.

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: 32

Product	AUX File	Comment
All FDM_2 products from 20130828T120014 to 20130828T181523 (32 products)	CS_OPER_AUXIWETTRP_20130828T180000; CS_OPER_AUXIWETTRP_20130828T120000; CS_OPER_AUXIV_WIND_20130828T180000	Forecast Auxiliary Files not made available prior to FDM processing.

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: 32

Product	Test Failed	Description
All FDM_2 products from 20130828T120014 to 20130828T181523 (32 products)	Dry tropospheric correction error, Wet tropospheric correction error, Inverse barometric correction error.	Due to missing Forecast Auxiliary Files, there was an error with the Dry tropospheric, Wet tropospheric and Inverse barometric corrections.

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: 7

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20130828T063441_20130828T064216_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo.
CS_OFFL_SIR_FDM_2__20130828T083342_20130828T085053_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo.
CS_OFFL_SIR_FDM_2__20130828T113832_20130828T113841_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130828T131445_20130828T131455_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130828T145119_20130828T145253_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130828T174215_20130828T181523_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130828T200722_20130828T201547_B001	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: 1

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20130828T193719_20130828T195437_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: 1

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20130828T080214_20130828T081141_B001	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: 37

Product	Test Failed	Description
All SIR_FDM_2 products between 20130828T120014 and 20130828T181523 (32 products)	U-Wind component error, V-Wind component error	Due to a missing Forecast Auxiliary File, there was an error with the U-Wind and V-wind components of the ECMWF model wind vector.
CS_OFFL_SIR_FDM_2__20130828T002708_20130828T004614_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__20130828T024832_20130828T032031_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__20130828T193719_20130828T195437_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__20130828T201647_20130828T202625_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__20130828T225353_20130828T231108_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	137	137	97	40	0
SIR_FDM_2	137	97	0	97	0

7.1 QCC Errors

Number of QCC reports with errors: 0

7.2 Missing QCC Reports

Number of products with missing QCC reports: 40

Product name
CS_OFFL_SIR_FDM_2_20130828T181523_20130828T181606_B001
CS_OFFL_SIR_FDM_2_20130828T181800_20130828T181926_B001
CS_OFFL_SIR_FDM_2_20130828T182803_20130828T183521_B001
CS_OFFL_SIR_FDM_2_20130828T183909_20130828T184224_B001
CS_OFFL_SIR_FDM_2_20130828T184705_20130828T184846_B001
CS_OFFL_SIR_FDM_2_20130828T184849_20130828T184908_B001
CS_OFFL_SIR_FDM_2_20130828T184911_20130828T190402_B001
CS_OFFL_SIR_FDM_2_20130828T190629_20130828T191150_B001
CS_OFFL_SIR_FDM_2_20130828T191156_20130828T191202_B001
CS_OFFL_SIR_FDM_2_20130828T191208_20130828T191434_B001
CS_OFFL_SIR_FDM_2_20130828T192303_20130828T193524_B001
CS_OFFL_SIR_FDM_2_20130828T193719_20130828T195437_B001
CS_OFFL_SIR_FDM_2_20130828T200722_20130828T201547_B001
CS_OFFL_SIR_FDM_2_20130828T201647_20130828T202625_B001
CS_OFFL_SIR_FDM_2_20130828T202827_20130828T204302_B001
CS_OFFL_SIR_FDM_2_20130828T204554_20130828T205050_B001
CS_OFFL_SIR_FDM_2_20130828T205053_20130828T205101_B001
CS_OFFL_SIR_FDM_2_20130828T205107_20130828T205118_B001
CS_OFFL_SIR_FDM_2_20130828T205125_20130828T205301_B001
CS_OFFL_SIR_FDM_2_20130828T210008_20130828T210148_B001
CS_OFFL_SIR_FDM_2_20130828T210456_20130828T210843_B001
CS_OFFL_SIR_FDM_2_20130828T210848_20130828T210854_B001
CS_OFFL_SIR_FDM_2_20130828T211155_20130828T211439_B001
CS_OFFL_SIR_FDM_2_20130828T211652_20130828T211830_B001
CS_OFFL_SIR_FDM_2_20130828T211833_20130828T212948_B001
CS_OFFL_SIR_FDM_2_20130828T213111_20130828T213333_B001
CS_OFFL_SIR_FDM_2_20130828T214602_20130828T215616_B001
CS_OFFL_SIR_FDM_2_20130828T215826_20130828T220050_B001
CS_OFFL_SIR_FDM_2_20130828T220643_20130828T222154_B001
CS_OFFL_SIR_FDM_2_20130828T222537_20130828T223017_B001
CS_OFFL_SIR_FDM_2_20130828T223023_20130828T223032_B001
CS_OFFL_SIR_FDM_2_20130828T223038_20130828T223249_B001
CS_OFFL_SIR_FDM_2_20130828T223745_20130828T224824_B001
CS_OFFL_SIR_FDM_2_20130828T225353_20130828T231108_B001
CS_OFFL_SIR_FDM_2_20130828T231230_20130828T231315_B001
CS_OFFL_SIR_FDM_2_20130828T232532_20130828T232819_B001
CS_OFFL_SIR_FDM_2_20130828T232835_20130828T233237_B001
CS_OFFL_SIR_FDM_2_20130828T233614_20130828T234038_B001
CS_OFFL_SIR_FDM_2_20130828T234113_20130828T235623_B001
CS_OFFL_SIR_FDM_2_20130828T235730_20130829T000054_B001