

1. Overview

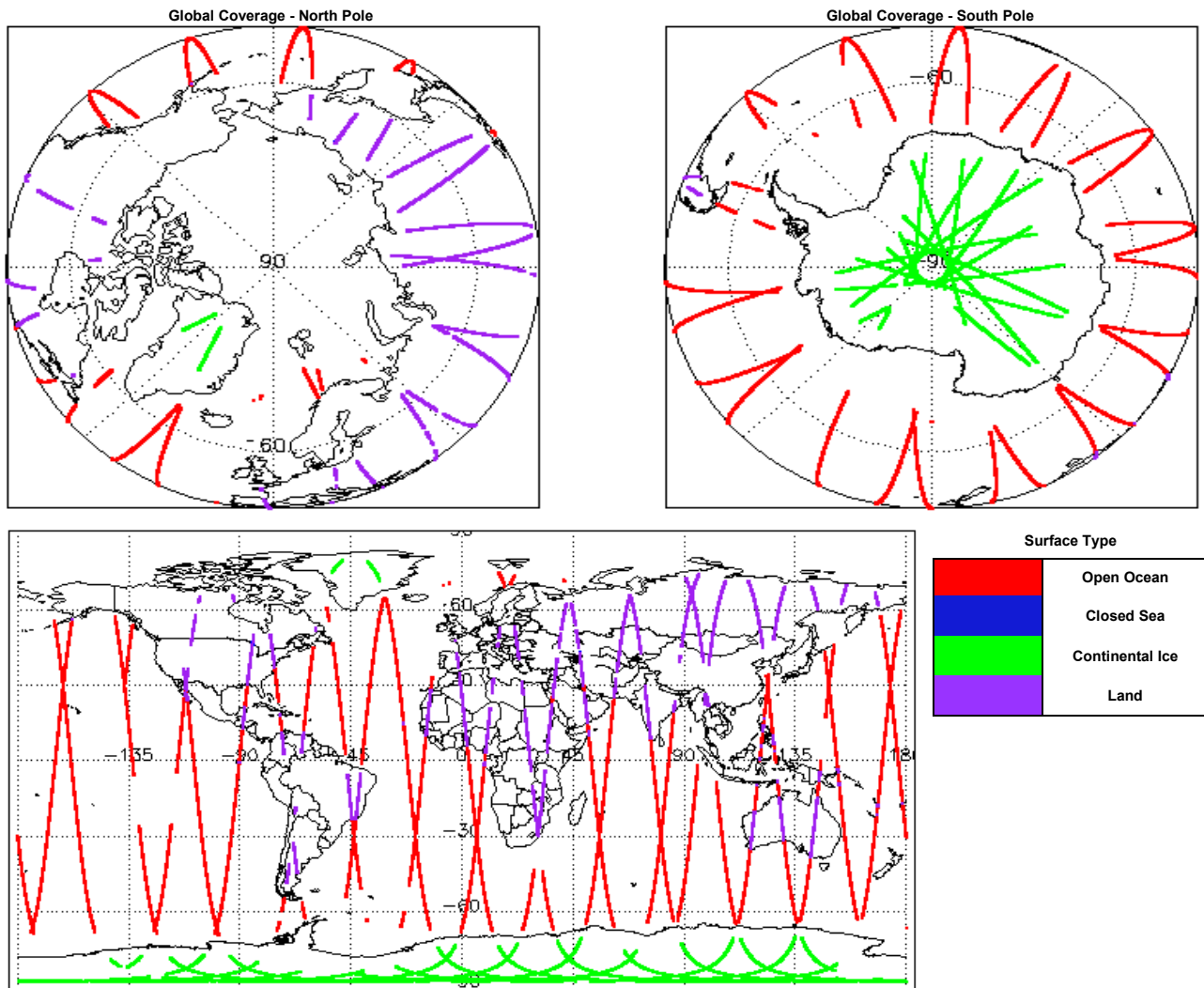
Report Production Date:	29-Mar-2016
Processor Used:	CryoSat Ice Processor
Data Used:	L1 and L2 Fast Delivery Marine (FDM) Mode and L0 Data

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	See Section 4.2
Star Tracker Usage Check	See Section 5.3
Calibration Usage Check	Nominal
Auxiliary Data File Usage Check	See Section 5.5 and 6.3
Auxiliary Correction Error Check	See Section 5.6 and 6.4
Measurement Confidence Data Check	See Section 5.7, 6.5, 6.6, 6.7 and 6.8

Mission / Instrument News

23-Mar-2016	None
24-Mar-2016	None
25-Mar-2016	Nothing planned

2. 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 0 Data Quality Check

4.1 L0 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 L0 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: 7

Product	Test Failed
CS_OPER_SIR1SAR_0_20160324T045737_20160324T045813_0001.HDR	Percentage of processing errors detected greater than minimum acceptable threshold.
CS_OPER_SIR1SAR_0_20160324T081856_20160324T082317_0001.HDR	Percentage of processing errors detected greater than minimum acceptable threshold.
CS_OPER_SIR1SIN_0_20160324T055504_20160324T055739_0001.HDR	Percentage of processing errors detected greater than minimum acceptable threshold.
CS_OPER_SIR1SIN_0_20160324T020045_20160324T020133_0001.HDR	Percentage of processing errors detected greater than minimum acceptable threshold.
CS_OPER_SIR1SIN_0_20160324T055431_20160324T055452_0001.HDR	Percentage of processing errors detected greater than minimum acceptable threshold.
CS_OPER_SIR1SIN_0_20160324T203942_20160324T204121_0001.HDR	Percentage of processing errors detected greater than minimum acceptable threshold.
CS_OPER_SIR2SIN_0_20160324T005934_20160324T010125_0001.HDR	Percentage of processing errors detected greater than minimum acceptable threshold.

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 Star Tracker Usage Check

Each product is checked in order to ensure a valid star tracker file has been used in processing.

Number of products with errors: 2

Product	Test Failed
CS_OFFL_SIR_FDM_1B_20160324T131229_20160324T131318_C001	No Star Tracker file used in the processing of this product
CS_OFFL_SIR_FDM_1B_20160324T162621_20160324T162748_C001	No Star Tracker file used in the processing of this product

5.4 L1B FDM Calibration Usage Check

Each product is checked in order to ensure the necessary calibration files have been used in processing.

Number of products with errors: 0

5.5 L1B FDM Auxiliary Data File Usage Check

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

Number of products with errors: 26

Product	AUX File	Comment
All FDM_1B products from 20160324T115206 onwards (26 products)	Meteo AUXI file: CS_OPER_AUXISEAMPS_20160324T180000_2 0160324T180000_0001	Forecast Auxiliary file missing at the time of processing

5.6 L1B FDM Auxiliary Correction Error Check

CryoSat L1B data includes a correction error flag (field 54) for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors: 27

Product	Test Failed	Description
CS_OFFL_SIR_FDM_1B_20160324T115206_20160324T122453_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20160324T122719_20160324T122932_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20160324T122948_20160324T123537_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20160324T123804_20160324T130347_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20160324T130727_20160324T131212_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20160324T131229_20160324T131318_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20160324T131318_20160324T131342_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20160324T132708_20160324T132747_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20160324T132910_20160324T133226_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20160324T133506_20160324T133751_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20160324T133755_20160324T134627_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20160324T135203_20160324T140354_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections

CS_OFFL_SIR_FDM_1B_20160324T140642_20160324T140756_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20160324T140929_20160324T141354_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20160324T141643_20160324T144608_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20160324T144612_20160324T144643_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20160324T144719_20160324T144909_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20160324T144942_20160324T145205_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20160324T145432_20160324T145442_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20160324T150927_20160324T151551_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20160324T154839_20160324T155417_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20160324T155538_20160324T160201_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20160324T160554_20160324T161117_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20160324T161259_20160324T161940_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20160324T162123_20160324T162244_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20160324T162518_20160324T162602_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20160324T162621_20160324T162748_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections

5.7 L1B FDM Measurement Confidence Data Check

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

Number of products with errors: 4

Product	Test Failed	Description
CS_OFFL_SIR_FDM_1B_20160324T051426_20160324T051533_C001	Echo error, TRK echo error	The tracking echo has returned an error and the Rx1 Echo Error flag is set, indicating a degraded echo
CS_OFFL_SIR_FDM_1B_20160324T131229_20160324T131318_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20160324T160554_20160324T161117_C001	Echo error, TRK echo error	The tracking echo has returned an error and the Rx1 Echo Error flag is set, indicating a degraded echo
CS_OFFL_SIR_FDM_1B_20160324T162621_20160324T162748_C001	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 ground-segment 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 with respect to a pre-determined baseline and also to check the validity of Auxiliary Data Files is correct.

Number of products with errors: 26

Product	AUX File	Comment
All FDM_2_ products from 20160324T115206 onwards (26 products)	Meteo AUXI file: CS_OPER_AUXISEAMPS_20160324T180000_2 0160324T180000_0001	Forecast Auxiliary file missing at the time of processing

6.4 L2 FDM Auxiliary Correction Error Check

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: 48

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2_20160324T010156_20160324T013109_C001	Sea State Bias Correction	There is an error with the Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20160324T020134_20160324T022826_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20160324T024121_20160324T025312_C001	Sea State Bias Correction	There is an error with the Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20160324T033835_20160324T034853_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20160324T042044_20160324T045448_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records

CS_OFFL_SIR_FDM_2__20160324T160554_20160324T161117_C001	Dry Tropospheric Correction, Wet Tropospheric Correction, Inverse Barometric Correction, U-Wind and V-Wind Component Errors	Due to missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections and with the U-Wind and V-Wind components of the ECMWF model wind vector for one or more records
CS_OFFL_SIR_FDM_2__20160324T161259_20160324T161940_C001	Dry Tropospheric Correction, Wet Tropospheric Correction, Inverse Barometric Correction, U-Wind and V-Wind Component Errors	Due to missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections and with the U-Wind and V-Wind components of the ECMWF model wind vector for one or more records
CS_OFFL_SIR_FDM_2__20160324T162123_20160324T162244_C001	Dry Tropospheric Correction, Wet Tropospheric Correction, Inverse Barometric Correction, U-Wind and V-Wind Component Errors	Due to missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections and with the U-Wind and V-Wind components of the ECMWF model wind vector for one or more records
CS_OFFL_SIR_FDM_2__20160324T162518_20160324T162602_C001	Dry Tropospheric Correction, Wet Tropospheric Correction, Inverse Barometric Correction, U-Wind and V-Wind Component Errors	Due to missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections and with the U-Wind and V-Wind components of the ECMWF model wind vector for one or more records
CS_OFFL_SIR_FDM_2__20160324T162621_20160324T162748_C001	Dry Tropospheric Correction, Wet Tropospheric Correction, Inverse Barometric Correction, U-Wind and V-Wind Component Errors	Due to missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections and with the U-Wind and V-Wind components of the ECMWF model wind vector for one or more records
CS_OFFL_SIR_FDM_2__20160324T163315_20160324T163443_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2__20160324T164801_20160324T172222_C001	Sea State Bias Correction	There is an error with the Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2__20160324T173440_20160324T180258_C001	Sea State Bias Correction	There is an error with the Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2__20160324T181235_20160324T181237_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2__20160324T182626_20160324T190005_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2__20160324T191402_20160324T194249_C001	Sea State Bias Correction	There is an error with the Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2__20160324T194305_20160324T195019_C001	Sea State Bias Correction	There is an error with the Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2__20160324T200920_20160324T201717_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2__20160324T202347_20160324T203942_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2__20160324T211232_20160324T212434_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2__20160324T215149_20160324T220120_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2__20160324T220357_20160324T221858_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2__20160324T225354_20160324T225608_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2__20160324T225732_20160324T230121_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2__20160324T234059_20160324T235802_C001	Sea State Bias Correction	There is an error with the Sea State Bias Correction for one or more records

6.5 L2 FDM Measurement Confidence Data Check

CryoSat L2 data includes a measurement confidence flag (field 8) for each 20-Hz measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors: 4

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20160324T051426_20160324T051533_C001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo
CS_OFFL_SIR_FDM_2__20160324T131229_20160324T131318_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20160324T160554_20160324T161117_C001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo
CS_OFFL_SIR_FDM_2__20160324T162621_20160324T162748_C001	Attitude correction missing	The attitude has not been corrected

6.6 L2 FDM Range Measurement Check

CryoSat L2 data includes a CFI (field 17) and OCOG (field 22) Range Averaging Status flag for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors: 19

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20160324T020134_20160324T022826_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20160324T033835_20160324T034853_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20160324T042044_20160324T045448_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20160324T052319_20160324T054747_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20160324T055949_20160324T063434_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20160324T065905_20160324T072157_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20160324T074030_20160324T080954_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20160324T093706_20160324T094628_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20160324T101415_20160324T102546_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20160324T115206_20160324T122453_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20160324T133755_20160324T134627_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.

