

1. Overview

Report Production Date:	21-Jun-2023
Processor Used:	CryoSat Ice Processor
Data Used:	L1B and L2 OFFLINE Data

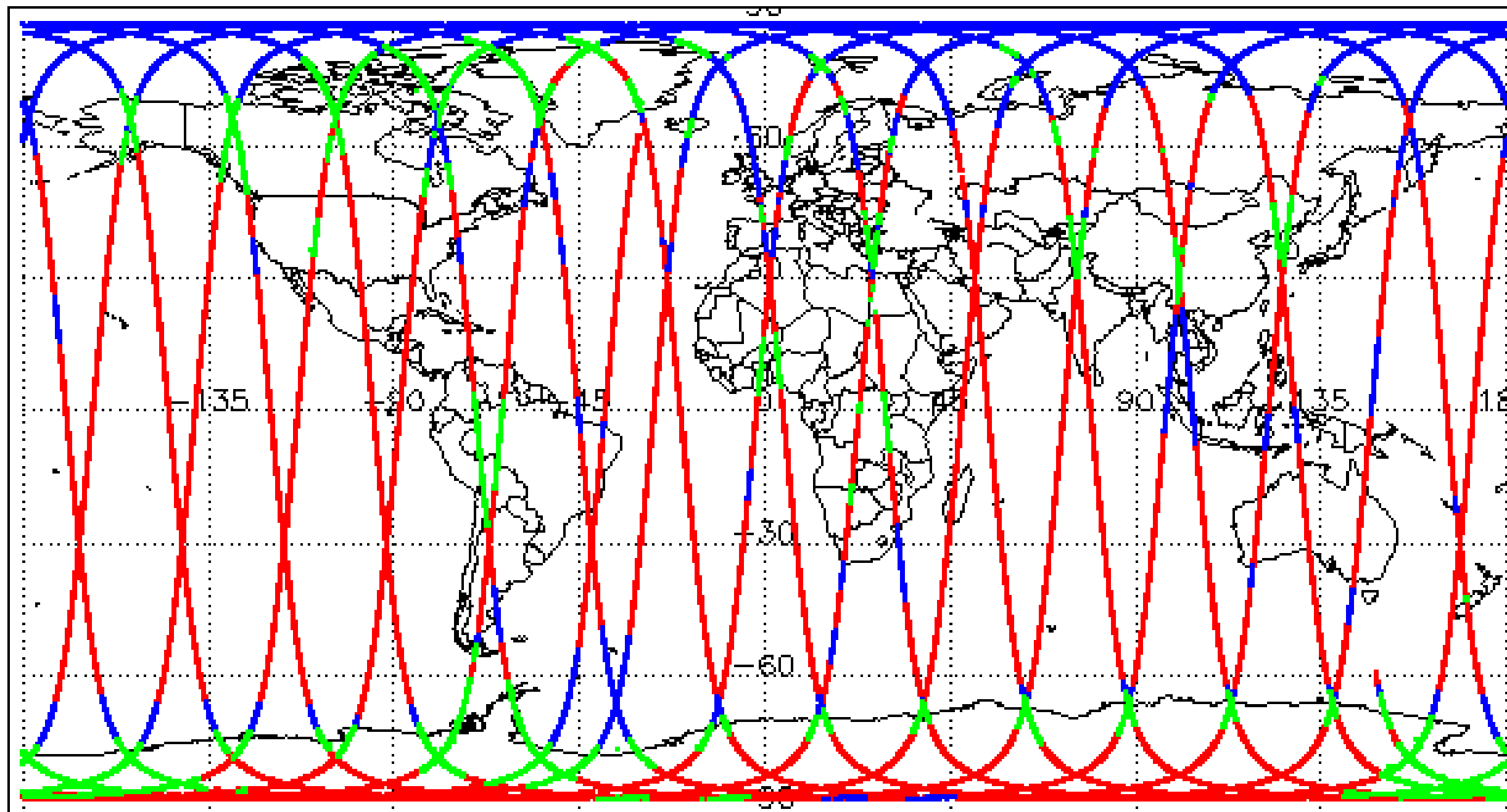
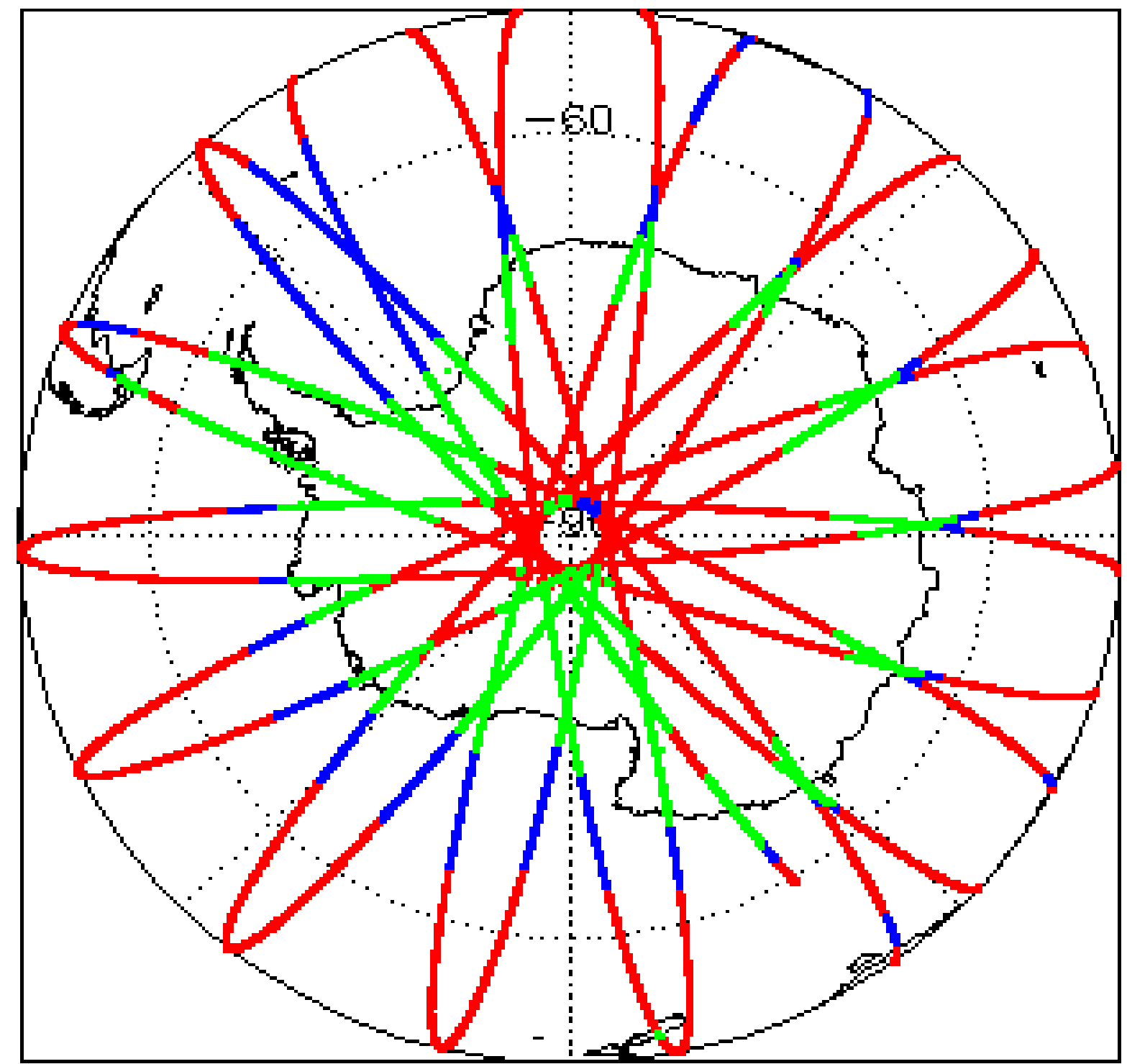
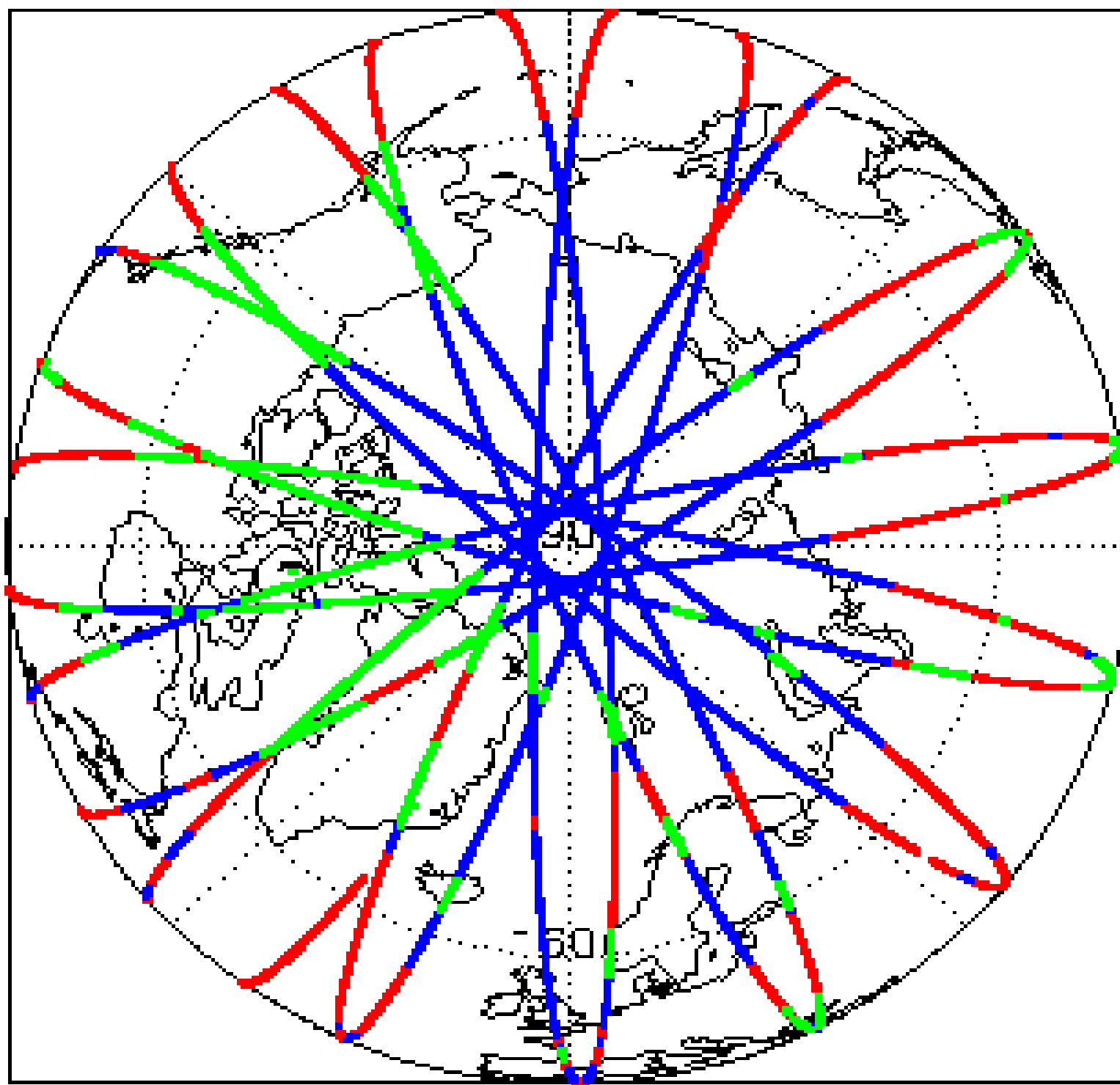
Check	Status
Server check: science-pds.cryosat.esa.int	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal
Product Software Check	Nominal
Product Format Check	Nominal
Product Header Analysis	Nominal
Star Tracker Usage Check	Nominal
L1B Tracking Flag Check	See Section 4.4
L1B Calibration Usage Check	Nominal
L1B & L2 Auxiliary Data File Usage Check	Nominal
L1B & L2 Auxiliary Correction Error Check	See Section 4.7 and 5.4
L1B & L2 Measurement Confidence Data Check	See Section 4.8 and 5.5
QCC Errors/ Warnings	See Section 6.1, 6.2 and 6.3

We would love to hear from you! Please let us know your feedback about these daily quality reports: What do you like/ dislike? What quality information do you need? Send your feedback to cs2_qc_team@telespazio.com

Mission / Instrument News

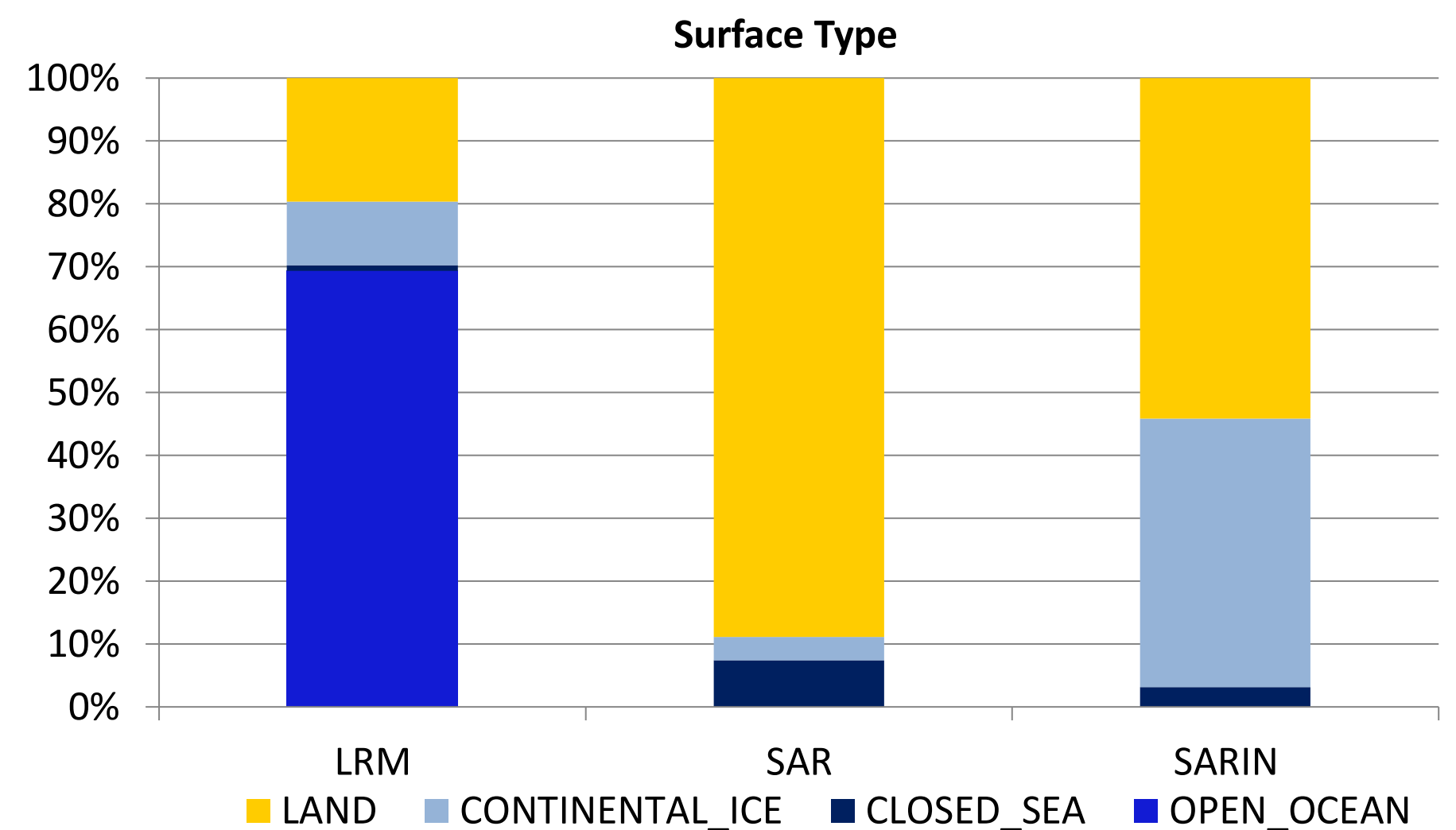
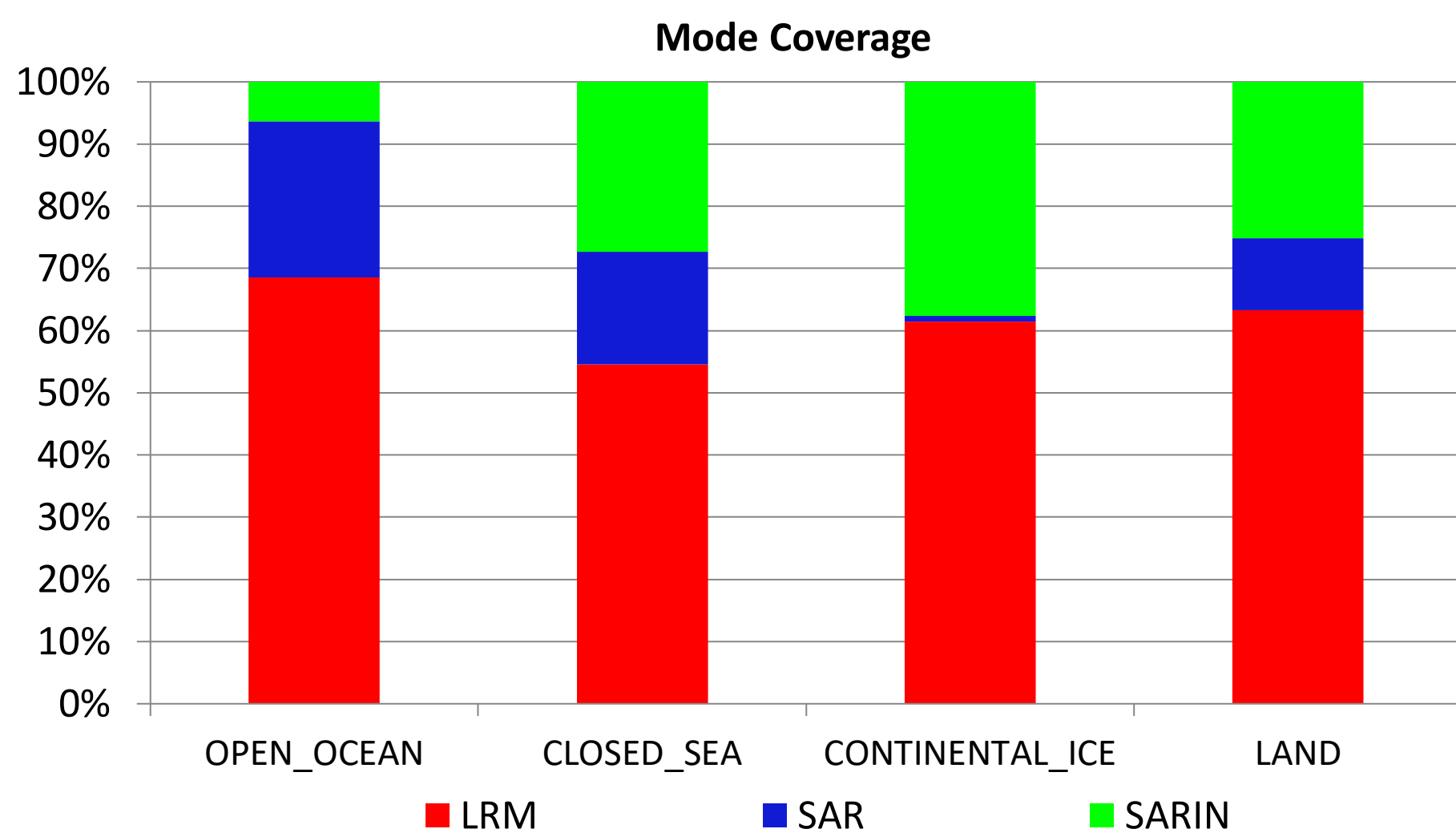
26-Apr-2023	None
27-Apr-2023	None
28-Apr-2023	Nothing planned

2. Global Coverage



Mode Coverage (%)

LRM	66.6
SAR	19.5
SARIn	13.9



3. Instrument Configuration

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

SIRAL instrument(s) in use:	SIRAL - A
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4. Level 1B Data Quality Check

4.1 L1B 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 product file (.DBL).

Number of products with errors: 0

4.2 L1B 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

4.3 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: 0

4.4 L1B Tracking Flags Check

CryoSat L1B data includes a tracking flag for each measurement record. The bit value of this flag indicates any problems when set.

Loss of Echo Flag: This flag is currently set for some products over land, but this is to be expected.

Number of products with errors: 111

Product	Test Failed	Description
CS_OFFL_SIR_LRM_1B_20230427T001813_20230427T003133_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T004009_20230427T004207_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T004859_20230427T010429_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T010631_20230427T011553_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T011915_20230427T012135_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T012137_20230427T012141_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T012150_20230427T012153_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T012156_20230427T012616_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T014259_20230427T015515_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T020041_20230427T020238_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T020242_20230427T020244_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T020248_20230427T020324_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T020326_20230427T020353_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T020355_20230427T020952_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T021009_20230427T021024_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T021829_20230427T022134_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T025150_20230427T025242_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T025244_20230427T025254_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T025612_20230427T025757_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T025800_20230427T025828_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T025830_20230427T025913_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T025915_20230427T030020_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T030024_20230427T030147_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T030150_20230427T030558_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T032133_20230427T035419_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T035645_20230427T035901_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T035907_20230427T040508_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T040751_20230427T043336_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T043656_20230427T044131_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T045839_20230427T050158_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T050200_20230427T050223_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T050438_20230427T050522_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T050525_20230427T053244_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T054644_20230427T061617_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T061701_20230427T061834_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T061914_20230427T062144_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T073607_20230427T074045_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T075449_20230427T075501_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T075503_20230427T075525_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T075543_20230427T075546_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T075548_20230427T075714_E001	Loss of echo	The tracking echo is missing for one or more records

CS_OFFL_SIR_LRM_1B_20230427T220803_20230427T221228_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T221833_20230427T222417_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T222419_20230427T222439_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T223101_20230427T225108_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230427T225403_20230427T225550_E001	Loss of echo	The tracking echo is missing for one or more records

4.5 L1B Calibration Usage Check

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

Number of products with errors: 0

4.6 L1B 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: 0

4.7 L1B Auxiliary Correction Error Check

CryoSat L1B data includes a correction error flag 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_SAR_1B_20230427T131142_20230427T131144_E001	Dry tropospheric Correction Error, Wet tropospheric Correction Error, Inverse barometric Correction Error, Dynamic atmosphere Correction Error, Ocean equilibrium tide, Ocean long period tide, Ocean loading tide, Solid Earth tide, Geocentr. polar tide, Surface type flag	Auxillary corrections missing due to short product length.
CS_OFFL_SIR_SAR_1B_20230427T131145_20230427T131147_E001	Dry tropospheric Correction Error, Wet tropospheric Correction Error, Inverse barometric Correction Error, Dynamic atmosphere Correction Error, Ocean equilibrium tide, Ocean long period tide, Ocean loading tide, Solid Earth tide, Geocentr. polar tide, Surface type flag	Auxillary corrections missing due to short product length.
CS_OFFL_SIR_SAR_1B_20230427T150526_20230427T150526_E001	Dry tropospheric Correction Error, Wet tropospheric Correction Error, Inverse barometric Correction Error, Dynamic atmosphere Correction Error, Ocean equilibrium tide, Ocean long period tide, Ocean loading tide, Solid Earth tide, Geocentr. polar tide, Surface type flag	Auxillary corrections missing due to short product length.
CS_OFFL_SIR_SAR_1B_20230427T225128_20230427T225128_E001	Dry tropospheric Correction Error, Wet tropospheric Correction Error, Inverse barometric Correction Error, Dynamic atmosphere Correction Error, Ocean equilibrium tide, Ocean long period tide, Ocean loading tide, Solid Earth tide, Geocentr. polar tide, Surface type flag	Auxillary corrections missing due to short product length.

4.8 L1B Measurement Confidence Data Check

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

Currently, there are several common error flags raised in the Level 1B products which are expected due to operational mode or surface type. All common flags are summarised in the list below, followed by a table of any additional issues arising from this test.

Block Degraded Flag: This flag is currently set for a number of individual records generally at the start or end of products (all modes), but this is to be expected.

Phase Perturbation Applied Flag: This flag is currently set for all L1B SARIn products, indicating that the ADC correction application is deactivated, but this is in line with the current configuration.

Number of products with errors: 1

Product	Test Failed	Description
CS_OFFL_SIR_LRM_1B_20230427T115326_20230427T120231_E001	Echo error, TRK echo error	The tracking echo has returned an error and the Rx1 Echo Error flag is set, indicating a degraded echo

5. Level 2 Data Quality Check

5.1 L2 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 product file (.DBL).

Number of products with errors: 0

5.2 L2 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 L2 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: 0

5.4 L2 Auxiliary Correction Error Check

CryoSat L2 data includes a correction error flag for each measurement record. The bit value of this flag indicates any problems when set.

Currently, there are several common error flags raised in the Level 2 products which are expected due to operational mode or surface type. All common flags are summarised in the list below, followed by a table of any additional issues arising from this test.

Sea State Bias error: This flag is currently set in all L2 LRM products over ocean, indicating a problem with the sea state bias. Due to a known anomaly, the sea state bias field is currently unfilled in all Baseline-E L2 LRM products. This anomaly will be resolved in the next IPF update.

Snow Depth Model error: This flag is currently set in all L2 SAR products over ocean, which fall outside of the extent of the current snow depth model. Currently the snow depth model is only available over the high-latitude Arctic. There is no model currently provided for the Antarctic or marginal Arctic regions. An updated model will be provided in the next IPF update.

Number of products with errors: 124

Product	Test Failed	Description
CS_OFFL_SIR_SAR_2__20230427T001728_20230427T001813_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T003133_20230427T003734_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T004846_20230427T004858_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T010429_20230427T010631_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T013801_20230427T013917_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T014029_20230427T014259_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T020953_20230427T021009_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T022757_20230427T022820_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T024333_20230427T024959_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T024959_20230427T025149_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T031436_20230427T031454_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T031638_20230427T031742_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T031751_20230427T032009_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T035420_20230427T035454_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T040717_20230427T040751_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T053245_20230427T053432_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T054607_20230427T054643_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T061617_20230427T061701_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T062144_20230427T063413_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T071158_20230427T071427_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T072505_20230427T072514_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T073132_20230427T073607_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T075207_20230427T075246_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T075827_20230427T080150_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T080400_20230427T080438_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T081458_20230427T081528_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T085114_20230427T085357_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T090352_20230427T090441_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T093234_20230427T093345_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T093515_20230427T093526_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T093603_20230427T093723_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T093723_20230427T094204_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T094229_20230427T094448_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T094546_20230427T095606_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T102939_20230427T103112_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T103715_20230427T103721_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T104241_20230427T104357_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T111220_20230427T111226_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T111956_20230427T112032_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T113417_20230427T113607_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model

CS_OFFL_SIR_SAR_2__20230427T202114_20230427T202313_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T202551_20230427T202639_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T203637_20230427T203917_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T210135_20230427T210421_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T211323_20230427T211555_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T212319_20230427T212454_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T212530_20230427T212602_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T213058_20230427T213258_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T213338_20230427T213347_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T213532_20230427T213655_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T213656_20230427T213700_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T215031_20230427T215218_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T220504_20230427T220622_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T221556_20230427T221833_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T223018_20230427T223101_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T225109_20230427T225113_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T225115_20230427T225126_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T225130_20230427T225143_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T225144_20230427T225332_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T225335_20230427T225337_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T225339_20230427T225353_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T225355_20230427T225357_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T230356_20230427T230757_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T230849_20230427T231046_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T231541_20230427T231711_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T234008_20230427T234706_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230427T235801_20230427T235830_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SIN_2__20230427T003734_20230427T004009_E001	Mean Sea Surface model	There is an error with the Mean Sea Surface for one or more records
CS_OFFL_SIR_SIN_2__20230427T071428_20230427T071809_E001	Mean Sea Surface model	There is an error with the Mean Sea Surface for one or more records
CS_OFFL_SIR_SIN_2__20230427T085357_20230427T085714_E001	Mean Sea Surface model	There is an error with the Mean Sea Surface for one or more records
CS_OFFL_SIR_SIN_2__20230427T121840_20230427T122024_E001	Mean Sea Surface model	There is an error with the Mean Sea Surface for one or more records
CS_OFFL_SIR_SIN_2__20230427T135707_20230427T140320_E001	Mean Sea Surface model	There is an error with the Mean Sea Surface for one or more records
CS_OFFL_SIR_SIN_2__20230427T153633_20230427T153950_E001	Mean Sea Surface model	There is an error with the Mean Sea Surface for one or more records
CS_OFFL_SIR_SIN_2__20230427T203328_20230427T203637_E001	Mean Sea Surface model	There is an error with the Mean Sea Surface for one or more records
CS_OFFL_SIR_SIN_2__20230427T221228_20230427T221556_E001	Mean Sea Surface model	There is an error with the Mean Sea Surface for one or more records
CS_OFFL_SIR_SIN_2__20230427T234706_20230427T234941_E001	Mean Sea Surface model	There is an error with the Mean Sea Surface for one or more records
CS_OFFL_SIR_SIN_2__20230427T235134_20230427T235447_E001	Mean Sea Surface model	There is an error with the Mean Sea Surface for one or more records

5.5 L2 Measurement Quality Flag Check

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

Currently, there are several common error flags raised in the Level 2 products which are expected due to operational mode or surface type. All common flags are summarised in the list below, followed by a table of any additional issues arising from this test.

Height and Backscatter errors: These flags are currently set for products over land, but this is to be expected. Retracker 1 Height and Backscatter error flags are also set for products over sea-ice, but this is to be expected.

SSHA interpolation error: This flag is currently set for a number of SAR products occurring at surface type boundaries, but this is to be expected.

Freeboard error: This flag is correctly set in all L2 SAR products that are not discriminated as sea-ice, and for which freeboard cannot be calculated.

Peakiness error: This flag is currently set for products over sea-ice, but this is to be expected.

SARin X-Track Angle Error: This flag is set when the difference between the computed surface elevation and the DEM is >50 m. The DEM is only available over Greenland and Antarctica and as a result this flag is set for L2 SARin products in all other locations as expected.

Number of products with errors: 243

CS_OFFL_SIR_SIN_2__20230427T221228_20230427T221556_E001	Backscatter Error (Retracker 2), Backscatter Error (Retracker 3), SARIn X-track Angle Error	There is a backscatter error for Retracker 2 and 3 and an ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2__20230427T222439_20230427T222448_E001	Backscatter Error (Retracker 2), Backscatter Error (Retracker 3)	There is a backscatter error for Retracker 2 and 3 for one or more records
CS_OFFL_SIR_SIN_2__20230427T230346_20230427T230355_E001	Backscatter Error (Retracker 2), Backscatter Error (Retracker 3)	There is a backscatter error for Retracker 2 and 3 for one or more records
CS_OFFL_SIR_SIN_2__20230427T230758_20230427T230849_E001	Backscatter Error (Retracker 2), Backscatter Error (Retracker 3), SARIn X-track Angle Error, Surface model unavailable	There is a backscatter error for Retracker 2 and 3, an ambiguous angle was detected for SARIn mode, and no DEM or Slope Model was used for the location for one or more records
CS_OFFL_SIR_SIN_2__20230427T234706_20230427T234941_E001	Backscatter Error (Retracker 2), Backscatter Error (Retracker 3), SARIn X-track Angle Error	There is a backscatter error for Retracker 2 and 3 and an ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2__20230427T235134_20230427T235447_E001	Backscatter Error (Retracker 2), Backscatter Error (Retracker 3), SARIn X-track Angle Error	There is a backscatter error for Retracker 2 and 3 and an ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2__20230427T235600_20230427T235800_E001	Backscatter Error (Retracker 2), Backscatter Error (Retracker 3), SARIn X-track Angle Error	There is a backscatter error for Retracker 2 and 3 and an ambiguous angle was detected for SARIn mode for one or more records
