

1. Overview

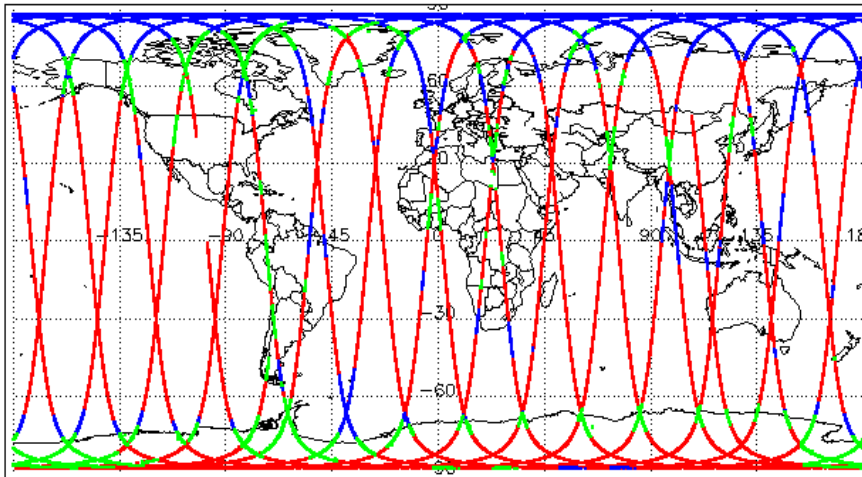
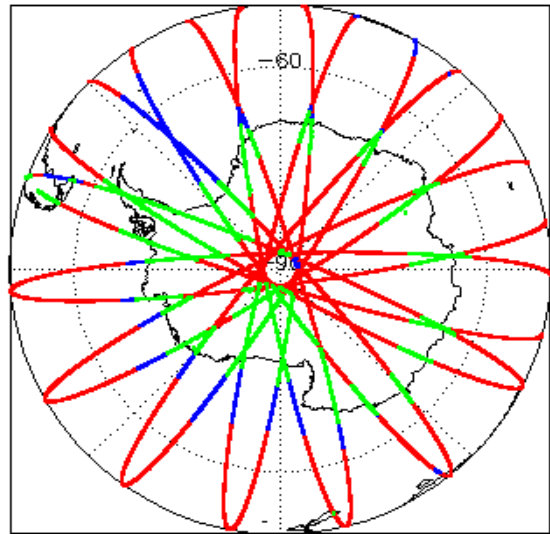
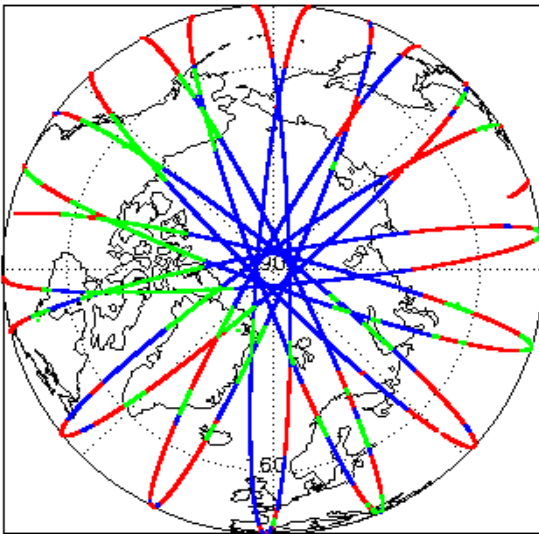
Report Production Date:	16-Mar-2022
Processor Used:	CryoSat Ice Processor
Data Used:	L1B and L2 OFFLINE Data

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	Nominal
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

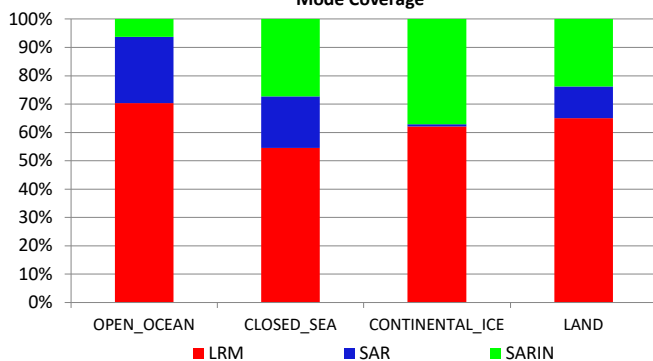
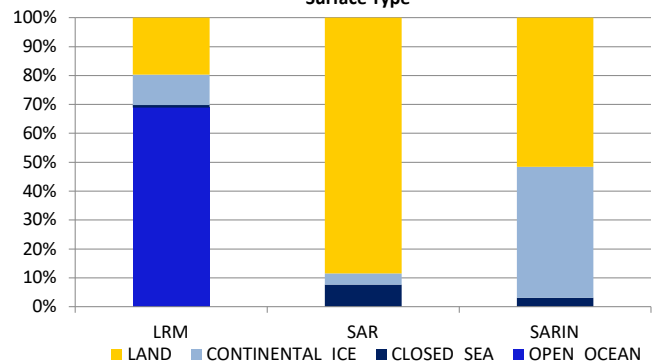
Mission / Instrument News

13-Feb-2022	None
14-Feb-2022	None
15-Feb-2022	Nothing planned

2. Global Coverage


Mode Coverage (%)

	LRM	68.1
	SAR	18.2
	SARIn	13.7

Mode Coverage

Surface Type


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 NetCDF product file (.nc).

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: 143

Product	Test Failed	Description
CS_OFFL_SIR_LRM_1B_20220214T000143_20220214T000534_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T000855_20220214T001650_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T004227_20220214T004343_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T004737_20220214T004907_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T004911_20220214T004923_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T004927_20220214T005029_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T005033_20220214T005047_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T005049_20220214T005050_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T005055_20220214T005104_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T005107_20220214T005140_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T005144_20220214T005214_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T005217_20220214T005315_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T005317_20220214T005626_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T011115_20220214T012158_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T012202_20220214T014500_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T014726_20220214T014936_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T014958_20220214T015539_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T015802_20220214T022334_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T022728_20220214T023221_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T023237_20220214T023311_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T023311_20220214T023349_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T024712_20220214T024754_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T024917_20220214T025159_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T025505_20220214T025514_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T025517_20220214T025519_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T025526_20220214T032338_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T033651_20220214T040506_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T040509_20220214T040550_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T040555_20220214T040632_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T040634_20220214T040634_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T040642_20220214T040648_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T040651_20220214T040915_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T040949_20220214T041209_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T052541_20220214T053152_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T053307_20220214T053947_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T054521_20220214T054617_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T054629_20220214T054751_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T054751_20220214T054857_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T055316_20220214T055455_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T060819_20220214T064237_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T071804_20220214T072257_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T072331_20220214T072511_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T074424_20220214T074430_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T080904_20220214T082025_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T092258_20220214T092407_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T092411_20220214T092413_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T092419_20220214T092451_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T094211_20220214T094416_E001	Loss of echo	The tracking echo is missing for one or more records

CS_OFFL_SIR_LRM_1B_20220214T222225_20220214T222229_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T222231_20220214T222247_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T222250_20220214T222422_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T222426_20220214T222431_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T222440_20220214T222444_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T222451_20220214T222510_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T222512_20220214T222514_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T222527_20220214T222527_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T222530_20220214T222535_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T222539_20220214T222542_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T222544_20220214T222607_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T225732_20220214T230032_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T230138_20220214T230200_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T230203_20220214T231318_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T231903_20220214T232129_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T232800_20220214T234303_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T234442_20220214T235502_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T235504_20220214T235555_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T235559_20220214T235601_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220214T235603_20220215T000002_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 (field 54) for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors: 0

4.8 L1B 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.

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 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: 0

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 NetCDF product file (.nc).

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 (field 30) for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors: 0

5.5 L2 Measurement Quality Flag Check

CryoSat L2 data includes a quality flag (field 50) 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.

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.

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.

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.

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.

Number of products with errors: 241

CS_OFFL_SIR_SIN_2_20220214T205839_20220214T205924_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_20220214T213744_20220214T214018_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_20220214T214212_20220214T214450_E001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20220214T214653_20220214T214836_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_20220214T221804_20220214T221949_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_20220214T223251_20220214T223411_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_20220214T223822_20220214T223937_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_20220214T231319_20220214T231903_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_20220214T232129_20220214T232157_E001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20220214T232621_20220214T232800_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