# QA4EO Daily Report for IOP data: 13/04/2021

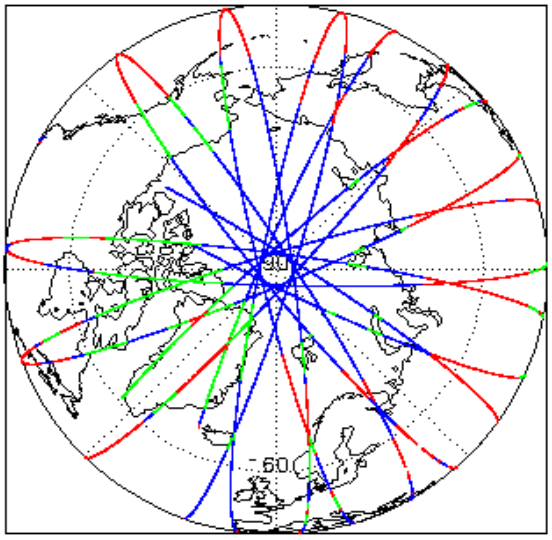
## 1. Overview

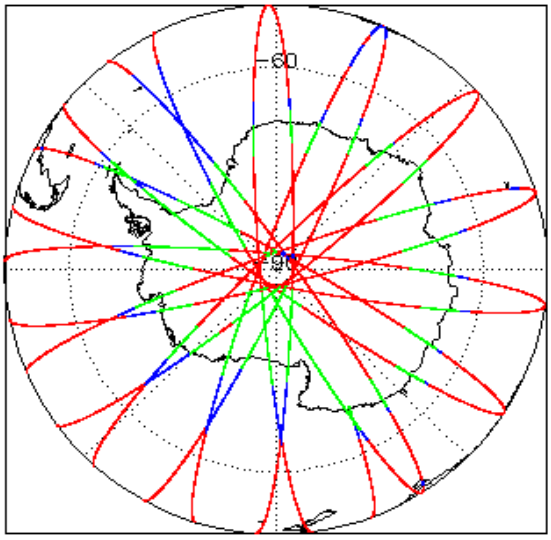
| | |
|---|---|
| **Report Production:** | 16-Apr-2021 |
| **Processor Used:** | CryoSat Ocean Processor |
| **Data Used:** | Intermediate Ocean Products (IOP)<br>L1B, L2 & P2P Science Data |

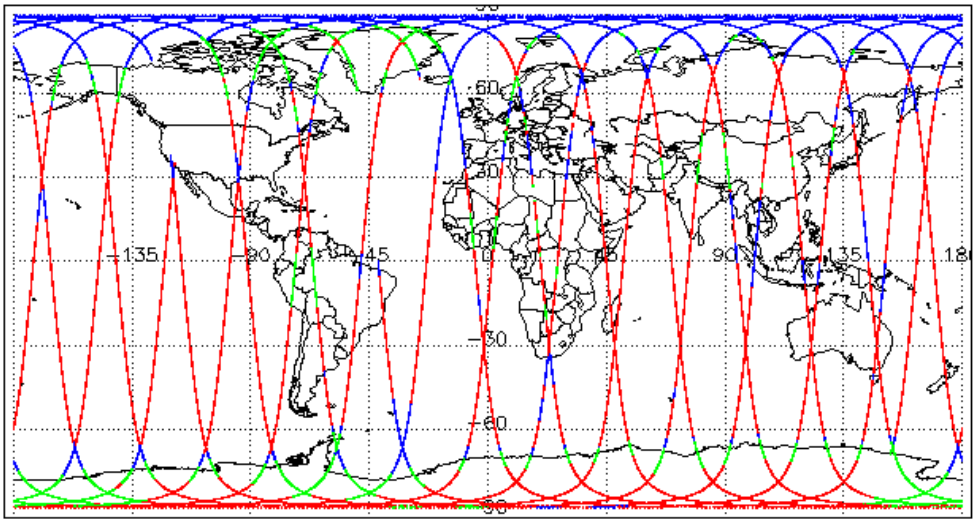
| Check | L1 & L2 | P2P |
|---|---|---|
| Server check: science-pds.cryosat.esa.int | Nominal | Nominal |
| Server check: calval-pds.cryosat.esa.int | Nominal | Nominal |
| Product Software Check | Nominal | Nominal |
| Product Format Check | Nominal | Nominal |
| Product Header Analysis | Nominal | Nominal |
| Auxiliary Data File Usage Check | Nominal | Nominal |
| Auxiliary Correction Error Check | See Section 5.4 | See Section 6.4 |
| Measurement Confidence Data Check | See Section 4.5, 4.6 and 5.5 | See Section 6.5 |
| Range, SWH & Backscatter Measurement Check | See Section 5.6 | See Section 6.6 |
| Ocean Retracking Quality Check | See Section 5.7 | See Section 6.7 |
| QCC Error/ Warning Check | See Section 7.1 and 7.2 | See Section 7.1, 7.2 |

| Mission / Instrument News | |
|---|---|
| 12-Apr-2021 | Due to MMFU recovery, SIRAL unavailability on 12/04/2021 from 15:52:20 to 16:06:02 |
| 13-Apr-2021 | None |
| 14-Apr-2021 | Nothing planned |

## 2. Global Coverage




**Mode Coverage**

| | |
|---|---|
| | LRM |
| | SAR |
| | SARin |

## 3. Instrument Configuration

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

| | |
|---|---|
| **SIRAL instrument(s) in use:** | SIRAL - A |

## 4. IOP 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 binary 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 performed on the MPH and SPH in order to identify any inconsistencies and/or errors raised by the ground-segment processing chain.

**L1B Processing Quality HR:** The l1b_proc_flag_hr flag is currently set all L1B IOPR and IOPN products because the l1b_processing_quality_hr field is not correctly configured in the OSAR and OSARIn chains. A modification is required in the next release.

**Number of products with errors:** 0

## 4.3 L1B Auxilary 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

## 4.4 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:** 0

## 4.5 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.

**Attitude Correction Missing:** This flag is currently set in error for IOPR products due to a configuration issue. This is being investigated and will be updated in the next SW update.

**Number of products with errors:** 1

| Product | Test Failed | Description |
|---|---|---|
| CS_OFFL_SIR_IOPM1B_20210413T211303_20210413T211500_C001 | Power scaling error | There is an error in the scaling of the L1B waveform for one or more records |

## 4.6 L1B Waveform Group Data Check

CryoSat L1B data includes a waveform data 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 products over land, but this is to be expected.

**Number of products with errors:** 14

| Product | Test Failed | Description |
|---|---|---|
| CS_OFFL_SIR_IOPM1B_20210413T141748_20210413T143313_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPM1B_20210413T195145_20210413T195326_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20210413T000057_20210413T000327_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20210413T013803_20210413T014042_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20210413T014321_20210413T014433_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20210413T055745_20210413T055927_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20210413T100501_20210413T100605_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20210413T114818_20210413T114847_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20210413T164104_20210413T164606_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20210413T231204_20210413T231453_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20210413T131016_20210413T131135_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20210413T131514_20210413T132120_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20210413T212047_20210413T212435_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20210413T230945_20210413T231204_C001 | Loss of Echo | The tracking echo is missing for one or more records |

# 5. IOP 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 binary 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 performed 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

For all products, the auxiliary corrections within the Geophysical Group are checked for the default error value (32767).

**Currently, there are some common auxiliary correction errors raised in the Level 2 products which are expected due to surface type. All common flags are summarised in the list below, followed by a table highlighting any additional issues which may arise from this test.**

**> ECMWF Meteo Corrections:** Currently the following corrections are not computed over CONTINENTAL ICE: Dry Tropospheric Corection, Wet Tropospheric Correction, Inverse Barometric Correction and the U-Wind and V-Wind components of the ECMWF model wind vector. This is a known anomaly (CRYO-COP-3) and will be resolved in a future IPF update. The affected products are not reported in the table below.

**> Sea State Bias & Sea State Bias PLRM:** The error value is currently set for products over sea ice, but this is to be expected.

**> Mean Sea Surface:** The error value is currently set for products over land and sea ice, but this is to be expected.

**> Mean Dynamic Topography:** The error value is currently set for products over land and sea ice, but this is to be expected.

**> Altimetric Wind Speed Error:** The error value is currently set for products over land and sea ice, but this is to be expected.

**Number of products with errors:** 57

| Product | Test Failed | Description |
|---|---|---|
| CS_OFFL_SIR_IOPM_2_20210413T083412_20210413T083502_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPM_2_20210413T134707_20210413T140148_C001 | Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide | There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records |
| CS_OFFL_SIR_IOPM_2_20210413T191520_20210413T194415_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPN_2_20210413T000057_20210413T000327_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records |
| CS_OFFL_SIR_IOPN_2_20210413T000401_20210413T000523_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPN_2_20210413T013803_20210413T014042_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records |
| CS_OFFL_SIR_IOPN_2_20210413T014046_20210413T014227_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPN_2_20210413T014321_20210413T014433_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPN_2_20210413T023725_20210413T023958_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPN_2_20210413T031901_20210413T032330_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT) | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records |
| CS_OFFL_SIR_IOPN_2_20210413T041637_20210413T042005_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPN_2_20210413T045801_20210413T050153_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPN_2_20210413T055745_20210413T055927_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPN_2_20210413T091343_20210413T091656_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPN_2_20210413T100501_20210413T100605_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPN_2_20210413T104629_20210413T104743_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPN_2_20210413T105242_20210413T105602_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPN_2_20210413T122719_20210413T122955_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPN_2_20210413T132232_20210413T132353_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT) | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records |
| CS_OFFL_SIR_IOPN_2_20210413T140437_20210413T140850_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPN_2_20210413T150613_20210413T150819_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPN_2_20210413T154450_20210413T154644_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPN_2_20210413T164104_20210413T164606_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT) | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records |
| CS_OFFL_SIR_IOPN_2_20210413T190548_20210413T190750_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records |
| CS_OFFL_SIR_IOPN_2_20210413T204339_20210413T204659_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPN_2_20210413T205222_20210413T205340_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPN_2_20210413T222235_20210413T222555_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPN_2_20210413T223116_20210413T223240_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPN_2_20210413T231204_20210413T231453_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT) | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records |
| CS_OFFL_SIR_IOPN_2_20210413T235906_20210414T000105_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |

| | | |
|---|---|---|
| CS_OFFL_SIR_IOPR_2_20210413T000523_20210413T001133_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20210413T014433_20210413T014956_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20210413T023959_20210413T024212_C001 | Mean Sea Surface (1) | There is an error with the MSS height (solution 1) for one or more records |
| CS_OFFL_SIR_IOPR_2_20210413T032330_20210413T032413_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20210413T032414_20210413T033032_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20210413T050153_20210413T050658_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20210413T063851_20210413T064734_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20210413T081808_20210413T082051_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPR_2_20210413T082051_20210413T082808_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20210413T082920_20210413T083122_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPR_2_20210413T083502_20210413T083648_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPR_2_20210413T095314_20210413T100333_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20210413T100333_20210413T100500_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20210413T113547_20210413T114232_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20210413T114232_20210413T114817_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20210413T131514_20210413T132120_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20210413T132120_20210413T132232_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20210413T145521_20210413T145654_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPR_2_20210413T145722_20210413T145916_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20210413T145916_20210413T150150_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20210413T163504_20210413T164103_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20210413T181618_20210413T182125_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20210413T194416_20210413T194457_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPR_2_20210413T195015_20210413T195145_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPR_2_20210413T195516_20210413T200328_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20210413T213403_20210413T214229_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20210413T231453_20210413T232239_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |

## 5.5 L2 Measurement Confidence Data Check

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

**Number of products with errors:** 1

| Product | Test Failed | Description |
|---|---|---|
| CS_OFFL_SIR_IOPM_2_20210413T211303_20210413T211500_C001 | Power scaling error | There is an error in the scaling of the L2 waveform for one or more records |

## 5.6 L2 Measurement Quality Flag Check

### *L2 Quality Flags (20Hz)*

CryoSat L2 data includes Quality Flags for each 20 Hz, 20 Hz PLRM and 1 Hz measurement record. The bit value of this flag indicates any problems when set.

**Currently, there are several common flags raised in the Level 2 products, which are summarised below. The table provides the full list of products flagged.**

**> Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags:** These flags are currently set for some records over ocean.

**> OCOG Altimeter Range and Backscatter Quality Flags:** These flags are currently set for some records over continental ice.

**Number of products with errors:** 87

| Product | Test Failed | Description |
|---|---|---|
| CS_OFFL_SIR_IOPM_2_20210412T235921_20210413T000015_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T001702_20210413T003151_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T003630_20210413T004238_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T004305_20210413T004920_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T005106_20210413T005629_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T010735_20210413T012001_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T014227_20210413T014321_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T020020_20210413T021103_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T021306_20210413T022830_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T023034_20210413T023529_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T024414_20210413T024919_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T030150_20210413T031318_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T035227_20210413T040728_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T041007_20210413T041443_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T041520_20210413T041636_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T042100_20210413T044800_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T052134_20210413T054149_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T054241_20210413T054655_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T055012_20210413T055358_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T055420_20210413T055745_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T060016_20210413T062740_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T065949_20210413T072649_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T072822_20210413T073313_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T074007_20210413T081447_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T082808_20210413T082920_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |

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| CS_OFFL_SIR_IOPM_2_20210413T083412_20210413T083502_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T083936_20210413T084824_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T085957_20210413T090128_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T090327_20210413T090616_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T090818_20210413T091343_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T091936_20210413T094146_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T094432_20210413T095314_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T100630_20210413T100918_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T102548_20210413T104524_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T104743_20210413T105242_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T105841_20210413T113134_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T115727_20210413T122021_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T122955_20210413T123148_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T123849_20210413T125414_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T125416_20210413T125608_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T130049_20210413T130905_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T132848_20210413T134454_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T134707_20210413T140148_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T140850_20210413T141100_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T141147_20210413T141603_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T141747_20210413T143313_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T143513_20210413T144434_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T150917_20210413T151100_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T151200_20210413T151933_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T151935_20210413T152245_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T152911_20210413T154350_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |

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| CS_OFFL_SIR_IOPM_2_20210413T154644_20210413T155505_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T155726_20210413T161422_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T161611_20210413T161844_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T165609_20210413T165924_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T165937_20210413T172305_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T172827_20210413T173326_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T173623_20210413T180155_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T183457_20210413T190144_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T190750_20210413T191350_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T191520_20210413T194415_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T195011_20210413T195015_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T195145_20210413T195326_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T200648_20210413T204046_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T204659_20210413T205222_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T205359_20210413T210016_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T213026_20210413T213403_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T214624_20210413T215503_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T215748_20210413T222010_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T222555_20210413T222703_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T222708_20210413T223115_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T223314_20210413T224620_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T224807_20210413T225248_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20210413T232501_20210413T235827_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T000057_20210413T000327_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T023559_20210413T023606_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T031427_20210413T031550_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |

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| CS_OFFL_SIR_IOPN_2_20210413T150613_20210413T150819_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T162144_20210413T162532_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T172424_20210413T172543_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T212614_20210413T212625_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T223116_20210413T223240_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T022830_20210413T022851_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T054149_20210413T054240_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T081808_20210413T082051_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T104524_20210413T104629_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T132810_20210413T132848_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |

## *L2 Quality Flags (20Hz PLRM)*

**Currently, there are several common flags raised in the Level 2 products, which are summarised below. The table provides the full list of products flagged.**

**> Ocean Altimeter Range, SSHA, SWH and Backscatter PLRM Quality Flags:** These flags are currently set for occasional records over sea ice.

**> OCOG Altimeter Range and Backscatter PLRM Quality Flags:** These flags are currently set for occasional records over continental ice.

**Number of products with errors:** 99

| Product | Test Failed | Description |
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| CS_OFFL_SIR_IOPN_2_20210413T000057_20210413T000327_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T000401_20210413T000523_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T005905_20210413T010051_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T013803_20210413T014042_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T015741_20210413T015950_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T022851_20210413T023034_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T023725_20210413T023958_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T024212_20210413T024342_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T025607_20210413T030130_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T031901_20210413T032330_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T041637_20210413T042005_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T045547_20210413T045711_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T045801_20210413T050153_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |

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| CS_OFFL_SIR_IOPN_2_20210413T051647_20210413T051828_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T073649_20210413T073830_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T081448_20210413T081606_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T081646_20210413T081807_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T084824_20210413T084920_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T090654_20210413T090818_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T091343_20210413T091656_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T102243_20210413T102548_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T105242_20210413T105602_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T122719_20210413T122955_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T123148_20210413T123813_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T132232_20210413T132353_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T140437_20210413T140850_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T141101_20210413T141146_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T144434_20210413T144534_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T150150_20210413T150254_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T150334_20210413T150422_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T150613_20210413T150819_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T152408_20210413T152911_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T154450_20210413T154644_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T155505_20210413T155652_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T162144_20210413T162532_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T164104_20210413T164606_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T181407_20210413T181441_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T190349_20210413T190509_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T204339_20210413T204659_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |

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| CS_OFFL_SIR_IOPN_2_20210413T211500_20210413T211618_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T214229_20210413T214550_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T225249_20210413T225613_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T231204_20210413T231453_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20210413T235906_20210414T000105_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T000523_20210413T001133_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T001420_20210413T001647_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T004920_20210413T004941_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T014433_20210413T014956_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T015027_20210413T015147_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T015548_20210413T015659_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T032414_20210413T033032_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T034436_20210413T034855_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T034859_20210413T035029_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T035032_20210413T035227_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T040728_20210413T040806_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T044800_20210413T045024_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T055927_20210413T060016_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T062740_20210413T062926_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T063851_20210413T064734_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T064755_20210413T065028_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T081808_20210413T082051_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T082051_20210413T082808_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T083752_20210413T083936_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T091656_20210413T091936_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T095314_20210413T100333_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |

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| CS_OFFL_SIR_IOPR_2_20210413T100333_20210413T100500_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T101112_20210413T101256_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T101518_20210413T101710_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T105603_20210413T105841_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T113308_20210413T113336_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T113547_20210413T114232_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T114232_20210413T114817_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T122021_20210413T122719_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T125608_20210413T130049_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T131016_20210413T131135_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T131514_20210413T132120_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T132120_20210413T132232_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T134454_20210413T134707_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T145916_20210413T150150_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T150422_20210413T150613_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T150819_20210413T150917_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T151100_20210413T151200_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T161844_20210413T162111_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T163358_20210413T163504_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T163504_20210413T164103_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T165439_20210413T165609_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T181209_20210413T181407_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T181441_20210413T181558_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T181618_20210413T182125_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T194558_20210413T194611_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T195516_20210413T200328_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |

| | | |
|---|---|---|
| CS_OFFL_SIR_IOPR_2_20210413T204046_20210413T204339_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T210016_20210413T210305_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T212047_20210413T212435_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T212658_20210413T212917_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T213403_20210413T214229_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T222010_20210413T222235_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T231453_20210413T232239_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20210413T232406_20210413T232500_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |

### *L2 Quality Flags (1 Hz & 1Hz PLRM)*

**Currently, there are several common flags raised in the Level 2 products, which are summarised below.**

**> 1Hz and 1Hz Ocean SSHA Quality Flags:** These flags are currently set for products over sea ice, which is to be expected.

**Number of products with errors:** 206

## 5.8 L2 Ocean Retracking Quality Check

### *L2 Retracking Flags (20Hz)*

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

**Ocean Retracking Quality Flag:** This flag is currently set for products over land and sea ice, but this is to be expected. The number of products with this error flag set is given below.

**Number of products with errors:** 61

### *L2 Retracking Flags (20Hz, PLRM)*

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

**Ocean Retracking Quality Flag (PLRM):** This flag is currently set for products IOPR and IOPN products over sea ice, but this is to be expected.

**Number of products with errors:** 156

# 6. IOP L2 Pole-to-Pole Data Quality Check

## 6.1 P2P 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

## 6.2 P2P Product Header Analysis

For all products, a series of pre-defined checks are performed 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 P2P 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

## 6.4 P2P Auxiliary Correction Error Check

For all products, the auxiliary corrections within the Geophysical Group are checked for the default error value (32767).

**Currently, there are some common auxiliary correction errors raised in the Level 2 products which are expected due to surface type. All common flags are summarised in the list below, followed by a table highlighting any additional issues which may arise from this test.**

**> ECMWF Meteo Corrections:** Currently the following corrections are not computed over CONTINENTAL ICE: Dry Tropospheric Corection, Wet Tropospheric Correction, Inverse Barometric Correction and the U-Wind and V-Wind components of the ECMWF model wind vector. This is a known anomaly (CRYO-COP-3) and will be resolved in a future IPF update. The affected products are not reported in the table below.

**> Sea State Bias & Sea State Bias PLRM:** The error value is currently set for products over sea ice, but this is to be expected.

**> Mean Sea Surface:** The error value is currently set for products over land and sea ice, but this is to be expected.

**> Mean Dynamic Topography:** The error value is currently set for products over land and sea ice, but this is to be expected.

**> Altimetric Wind Speed Error:** The error value is currently set for products over land and sea ice, but this is to be expected.

**Number of products with errors:** 30

| Product | Test Failed | Description |
|---|---|---|
| CS_OFFL_SIR_IOP_2__20210412T231711_20210413T000648_C002 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records |

| | | |
|---|---|---|
| CS_OFFL_SIR_IOP_2__20210413T000648_20210413T005625_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2__20210413T005625_20210413T014603_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records |
| CS_OFFL_SIR_IOP_2__20210413T014603_20210413T023540_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2__20210413T023540_20210413T032517_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT) | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records |
| CS_OFFL_SIR_IOP_2__20210413T032517_20210413T041455_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2__20210413T041455_20210413T050432_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2__20210413T050432_20210413T055409_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2__20210413T055409_20210413T064347_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2__20210413T064347_20210413T073324_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2__20210413T073324_20210413T082301_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2__20210413T082301_20210413T091239_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2__20210413T091239_20210413T100216_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2__20210413T100216_20210413T105153_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2__20210413T105153_20210413T114131_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2__20210413T114131_20210413T123108_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2__20210413T123108_20210413T132045_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2__20210413T132045_20210413T141023_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records |
| CS_OFFL_SIR_IOP_2__20210413T141023_20210413T150000_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2__20210413T150000_20210413T154937_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2__20210413T154937_20210413T163915_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2__20210413T163915_20210413T172852_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT) | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records |
| CS_OFFL_SIR_IOP_2__20210413T172852_20210413T181830_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2__20210413T181830_20210413T190807_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records |
| CS_OFFL_SIR_IOP_2__20210413T190807_20210413T195744_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2__20210413T195744_20210413T204722_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2__20210413T204722_20210413T213659_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2__20210413T213659_20210413T222636_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2__20210413T222636_20210413T231614_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT) | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records |
| CS_OFFL_SIR_IOP_2__20210413T231614_20210414T000551_C002 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |

## 6.5 P2P Measurement Confidence Data Check

CryoSat P2P data includes a measurement confidence flag for each 20-Hz measurement record. The bit value of this flag indicates any problems when set.

**Number of products with errors:** 1

| Product | Test Failed | Description |
|---|---|---|
| CS_OFFL_SIR_IOP_2__20210413T204722_20210413T213659_C001 | Power scaling error | There is an error in the scaling of the L2 waveform for one or more records |

## 6.6 P2P Measurement Quality Flag Check

### *P2P Quality Flags (20Hz)*

CryoSat P2P data includes Quality Flags for each 20 Hz, 20 Hz PLRM and 1 Hz measurement record, copied from the corresponding L2 products.

**Since the P2P Quality Flags are copied directly from the L2 Quality Flags, please see Section 5.6 for the full list of products affected.**

**Number of products with errors:** 30

### *P2P Quality Flags (20Hz PLRM)*

**Since the P2P Quality Flags are copied directly from the L2 Quality Flags, please see Section 5.6 for the full list of products affected.**

**Number of products with errors:** 28

### *P2P Quality Flags (1 Hz & 1Hz PLRM)*

**Since the P2P Quality Flags are copied directly from the L2 Quality Flags, please see Section 5.6 for the full list of products affected.**

**Number of products with errors:** 30

## 6.8 P2P Ocean Retracking Quality Check

### *P2P Retracking Flags (20Hz)*

Cryosat P2P data includes an ocean retracking quality flag (field 19) for each 20-Hz measurement record. The bit value of this flag indicates any problems when set.

**Ocean Retracking Quality Flag (PLRM):** This flag is currently set for products IOPR and IOPN products over sea ice, but this is to be expected.

**Number of products with errors:** 29

### *P2P Retracking Flags PLRM*

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

**Ocean Retracking Quality Flag (PLRM):** This flag is currently set for products IOPR and IOPN products over sea ice, but this is to be expected.

**Number of products with errors:** 30

# 7. IOP QCC Report Analysis

The Quality Control for CryoSat (QCC) facility 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 | No. Products | No. QCC Reports | No. Valid | No. Warnings | No. Errors |
|---|---|---|---|---|---|
| SIR_IOPM1B | 170 | 170 | 1 | 169 | 0 |
| SIR_IOPR1B | 139 | 98 | 2 | 96 | 0 |
| SIR_IOPN1B | 98 | 139 | 0 | 139 | 0 |
| SIR_IOPM_2 | 170 | 170 | 115 | 55 | 0 |
| SIR_IOPR_2 | 139 | 98 | 38 | 60 | 0 |
| SIR_IOPN_2 | 98 | 139 | 45 | 89 | 5 |
| SIR_IOP_P2P | 29 | 29 | 0 | 24 | 5 |

## 7.1 QCC Errors

**Number of QCC reports with errors:** 18

**Total number of occurrences of each error**

| Product Type | RLOBOPNCDF | RL | RL | RLOBOPNCDF | RL | RL | - | - | - | - | - |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SIR_IOPR_2 | 5 | 1 | 5 | 5 | 1 | 5 | | | | | |

| Product Type | RLOBOPNCDF | RL | RLOBOPNCDF | RL | - | - | - | - | - | - | - |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SIR_IOP_2_ | 5 | 5 | 5 | 5 | | | | | | | |

| Test Description Key: | | |
|---|---|---|
| **Abbreviation** | **Test name** | **Details** |
| RLOBOPNCDF | RangeLatitudeOrBlankOP_7NetCDF | Latitude should be between -90E7 and 90E7 |
| RL | RangeLatitude_6 | Latitude should be between -90E6 and 90E6 |
| RL | RangeLatitude_7 | Latitude should be between -90E7 and 90E7 |
| RLOBOPNCDF | RangeLongitudeOrBlankOP_7NetCDF | Longitude should be between -180E7 and 180E7 |
| RL | RangeLongitude_6 | Longitude should be between -180E6 and 180E6 |
| RL | RangeLongitude_7 | Longitude should be between -180E7 and 180E7 |

## 7.2 QCC Warnings

**Number of QCC reports with warnings** 2263

**Total number of occurrences of each warning**

| Product Type | BCSHNCDF | IOHHMOOR | MVIOEPFDNCDF | MVIOEPNCDF | MVIONCDF | RBSZOPOEPFDNCDF | RBSZOPOEPFDPLRMNCD |
|---|---|---|---|---|---|---|---|
| SIR_IOPM1B | 169 | 0 | 0 | 0 | 0 | 0 | 0 |
| SIR_IOPM_2 | 0 | 0 | 42 | 45 | 1 | 38 | 0 |
| SIR_IOPN1B | 96 | 0 | 0 | 0 | 0 | 0 | 0 |
| SIR_IOPN_2 | 0 | 0 | 12 | 31 | 7 | 27 | 27 |
| SIR_IOPR1B | 138 | 0 | 0 | 0 | 0 | 0 | 0 |
| SIR_IOPR_2 | 0 | 5 | 28 | 53 | 0 | 28 | 25 |

| Product Type | RBSZOPOEPNCDF | RNELPOTONCDF | RPEPOPFDLRMNCDF | RPEPOPFDPLRMSARNCD | RPEPOPFDPLRMSINNCDI | RPEPOPFDSARNCDF | RPEPOPFDSINNCDF |
|---|---|---|---|---|---|---|---|
| SIR_IOPM1B | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SIR_IOPM_2 | 32 | 0 | 35 | 0 | 0 | 0 | 0 |
| SIR_IOPN1B | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SIR_IOPN_2 | 20 | 0 | 0 | 0 | 25 | 0 | 29 |
| SIR_IOPR1B | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SIR_IOPR_2 | 14 | 1 | 0 | 51 | 0 | 59 | 0 |

| Product Type | RPEPOPLRMNCDF | RPEPOPSARNCDF | RPEPOPSINNCDF | RSSBCONCDF | RSSHAOFDNCDF | RSSHAOFDPLRMNCDF | RSSHAONCDF |
|---|---|---|---|---|---|---|---|
| SIR_IOPM1B | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SIR_IOPM_2 | 30 | 0 | 0 | 6 | 31 | 0 | 5 |
| SIR_IOPN1B | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SIR_IOPN_2 | 0 | 0 | 25 | 19 | 42 | 49 | 33 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| SIR_IOPR1B | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SIR_IOPR_2 | 0 | 51 | 0 | 0 | 68 | 39 | 10 |

| Product Type | RSWHOEPFDNCDF | RSWHOEPFDPLRMNCDF | RSWHOEPNCDF | SPHRTASCNSNCDF | SOOHHIFHD | SCSTODHRNCDF | SCSTODNCDF |
|---|---|---|---|---|---|---|---|
| SIR_IOPM1B | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| SIR_IOPM_2 | 42 | 0 | 0 | 1 | 0 | 0 | 0 |
| SIR_IOPN1B | 0 | 0 | 0 | 0 | 0 | 48 | 3 |
| SIR_IOPN_2 | 26 | 29 | 15 | 0 | 1 | 0 | 0 |
| SIR_IOPR1B | 0 | 0 | 0 | 0 | 0 | 139 | 11 |
| SIR_IOPR_2 | 39 | 49 | 2 | 0 | 12 | 0 | 0 |

| Product Type | IOHHMOOR | MVIOEPFDNCDF | MVIOEPNCDF | MVIONCDF | RBSZOPOEPFDNCDF | RBSZOPOEPFDPLRMNCD | RBSZOPOEPNCDF |
|---|---|---|---|---|---|---|---|
| SIR_IOP_2_ | 18 | 29 | 29 | 6 | 29 | 17 | 28 |

| Product Type | RNELPOTONCDF | RPEPOPFDPLRMSINNCDI | RPEPOPFDSINNCDF | RPEPOPSINNCDF | RSSBCONCDF | RSSHAOFDNCDF | RSSHAOFDPLRMNCDF |
|---|---|---|---|---|---|---|---|
| SIR_IOP_2_ | 1 | 16 | 27 | 20 | 19 | 28 | 17 |

| Product Type | RSSHAONCDF | RSWHOEPFDNCDF | RSWHOEPFDPLRMNCDF | RSWHOEPNCDF | SPHLPQWNCDF | - | - |
|---|---|---|---|---|---|---|---|
| SIR_IOP_2_ | 26 | 29 | 17 | 14 | 29 | | |

| Product Type | - | - | - | - | - | - | - |
|---|---|---|---|---|---|---|---|
| SIR_IOP_2_ | | | | | | | |

**Test Description Key:**

| Abbreviation | Test name | Details |
|---|---|---|
| BCSHNCDF | BurstCounterStep20HzNetCDF | The burst counter should be one higher with regard to the previous burst counter |
| IOHHMOOR | IndexOf1Hzin20HzMappingOutOfRange | The mapping of 20 Hz to 1 Hz measurements should be in the range 0 to (number of 1 Hz samples - 1) |
| MVIOEPFDNCDF | MissingValueIntOceanExcludingPolarFD2NetCDF | The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees |
| MVIOEPNCDF | MissingValueIntOceanExcludingPolarNetCDF | The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees |
| MVIONCDF | MissingValueIntOceanNetCDF | The value should not be a 'missing value' for surface type 0 only |
| RBSZOPOEPFDNCDF | RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2NetCDF | The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees |
| RBSZOPOEPFDPLRMNCDF | RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2PLRMNetCDF | The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees |
| RBSZOPOEPNCDF | RangeBackscatterSigmaZeroOPOceanExcludingPolarNetCDF | The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees |
| RNELPOTONCDF | RangeNELPOceanTideOceanNetCDF | The Non-equilibrium long period ocean loading tide height should be between -40mm and 40mm (or missing) for surface type = ocean |
| RPEPOPFDLRMNCDF | RangePeakinessExcludingPolarOPFD2LRMNetCDF | The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees |
| RPEPOPFDPLRMSARNCDF | RangePeakinessExcludingPolarOPFD2PLRMSARNetCDF | The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees |
| RPEPOPFDPLRMSINNCDF | RangePeakinessExcludingPolarOPFD2PLRMSINNetCDF | The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees |
| RPEPOPFDSARNCDF | RangePeakinessExcludingPolarOPFD2SARNetCDF | The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees |
| RPEPOPFDSINNCDF | RangePeakinessExcludingPolarOPFD2SINNetCDF | The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees |
| RPEPOPLRMNCDF | RangePeakinessExcludingPolarOPLRMNetCDF | The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees |
| RPEPOPSARNCDF | RangePeakinessExcludingPolarOPSARNetCDF | The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees |
| RPEPOPSINNCDF | RangePeakinessExcludingPolarOPSINNetCDF | The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees |
| RSSBCONCDF | RangeSeaStateBiasCorrectionOceanNetCDF | The sea state bias correction should be between -500mm and 0mm (or missing) for surface type = ocean |
| RSSHAOFDNCDF | RangeSeaSurfaceHeightAnomalyOceanFD3NetCDF | The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean |
| RSSHAOFDPLRMNCDF | RangeSeaSurfaceHeightAnomalyOceanFD3PLRMNetCDF | The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean |
| RSSHAONCDF | RangeSeaSurfaceHeightAnomalyOceanNetCDF | The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean |
| RSWHOEPFDNCDF | RangeSignificantWaveHeightOceanExcludingPolarFD2NetCDF | The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees |
| RSWHOEPFDPLRMNCDF | RangeSignificantWaveHeightOceanExcludingPolarFD2PLRMNetCDF | The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees |
| RSWHOEPNCDF | RangeSignificantWaveHeightOceanExcludingPolarNetCDF | The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees |
| SPHRTASCNSNCDF | SPH_Rel_Time_ASC_Node_Start_v2_NetCDF | Rel_Time_ASC_Node_Start mismatch (DBL ASC, rounded up to 0.1) |
| SOOHHIFHD | SameOrOneHigher1HzIndexFor20HzData | The 1 Hz index of a 20 Hz sample should be the same or 1 higher than its previous sample |
| SCSTODHRNCDF | SequenceCounterStepTODHRNetCDF | The sequence counter should be modulo 4 higher with regard to the previous sequence counter |
| SCSTODNCDF | SequenceCounterStepTODNetCDF | The sequence counter should be one higher (modulo 16384) with regard to the previous sequence counter |

## 7.3 Missing QCC Reports

**Number of products with missing QCC reports:** 0