

# **QA4EO Daily Report for IOP data:**

<u>01/11/2022</u>

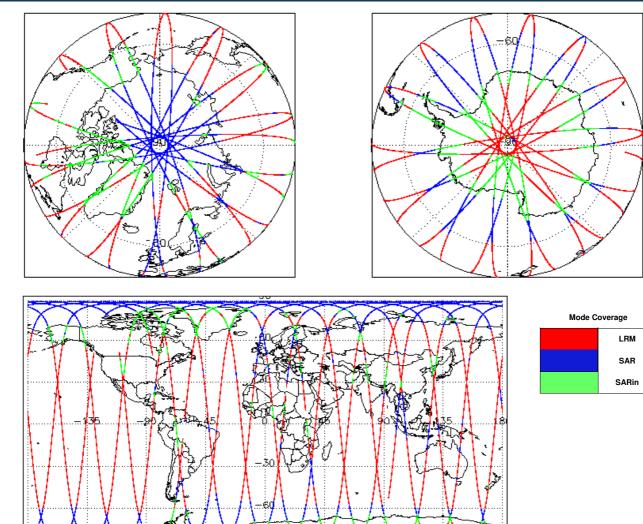
# IDEAS-QA4E0

| Demost Dreduction. | 16-Nov-2022                       | Check                                      | L1 & L2                      | P2P                  |
|--------------------|-----------------------------------|--|------------------------------|----------------------|
| Report Production: | 16-1000-2022                      | Server check: science-pds.cryosat.esa.int  | Nominal                      | Nominal              |
| Processor Used:    | CryoSat Ocean Processor           | Server check: calval-pds.cryosat.esa.int   | Nominal                      | Nominal              |
| Processor useu:    | CryoSal Ocean Processor           | Product Software Check                     | Nominal                      | Nominal              |
| Data Used:         | Intermediate Ocean Products (IOP) | Product Format Check                       | Nominal                      | Nominal              |
| Data Useu:         | L1B, L2 & P2P Science Data        | 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, 7.2         | See Section 7.1, 7.2 |

1. Overview

| Missic | Mission / Instrument News |                 |  |
|--------|---------------------------|-----------------|--|
| 31-C   | Oct-2022                  | None            |  |
| 01-N   | lov-2022                  | None            |  |
| 02-N   | lov-2022                  | Nothing planned |  |





# 3. Instrument Configuration

SIRAL instrument(s) in use:

SIRAL - A

0

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

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 NetCDF product file (.nc).

| For all products, a series of pre-defined checks are performed on the MPH ar   | nd SPH in order to identify any inconsis    | stencies and/or errors raised by the ground-segment processing chain.   |
|--|---|---|
| lumber of products with errors: 0  |   |   |
| 1.3 L1B Auxilary Data File Usage Check   |   |   |
| Each product is checked for missing Data Set Descriptors with respect to a p   | pre-determined baseline and also to che     | eck 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 reco  | ord. The bit value of this flag indicates a | any problems when set.  |
|  |   |   |
| Number of products with errors: 0  |   |   |
| Number of products with errors:         0           4.5 L1B Measurement Confidence Data Check           CryoSat L1B data includes a measurement confidence flag for each measure   | ement record. The bit value of this flag i  | indicates any problems when set.  |
| 4.5 L1B Measurement Confidence Data Check<br>CryoSat L1B data includes a measurement confidence flag for each measure  |   | indicates any problems when set.<br>ne attitude correction is actually not missing. This will be resolved in the next SV  |
| 4.5 L1B Measurement Confidence Data Check<br>CryoSat L1B data includes a measurement confidence flag for each measure<br>Attitude Correction Missing: This flag is currently set in error for IOPR pr  |   |   |
| A.5 L1B Measurement Confidence Data Check<br>CryoSat L1B data includes a measurement confidence flag for each measure<br>Attitude Correction Missing: This flag is currently set in error for IOPR pro-<br>update.<br>Aumber of products with errors: 3      |   | ne attitude correction is actually not missing. This will be resolved in the next SV  |
| A.5 L1B Measurement Confidence Data Check<br>CryoSat L1B data includes a measurement confidence flag for each measure<br>Attitude Correction Missing: This flag is currently set in error for IOPR pripdate.<br>Aumber of products with errors: 3<br>Product | roducts due to a configuration issue. Th    | ne attitude correction is actually not missing. This will be resolved in the next SV  |
| 4.5 L1B Measurement Confidence Data Check<br>CryoSat L1B data includes a measurement confidence flag for each measure<br>Attitude Correction Missing: This flag is currently set in error for IOPR propate.  | roducts due to a configuration issue. Th    | ne attitude correction is actually not missing. This will be resolved in the next SV           Description           There is an error in the scaling of the L1B waveform for one or more |

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

19

Loss of Echo Flag: This flag is currently set for products over land, but this is to be expected. The table provides the full list of products flagged.

#### Number of products with errors:

| Product   | Test Failed  | Description  |
|---|--------------|--|
| CS_OFFL_SIR_IOPM1B_20221031T235431_20221101T000438_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPM1B_20221101T203804_20221101T204354_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPM1B_20221101T231109_20221101T231328_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20221101T024330_20221101T024455_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20221101T082928_20221101T083334_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20221101T092240_20221101T092409_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20221101T104806_20221101T105407_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20221101T114744_20221101T115004_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20221101T162845_20221101T163025_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20221101T164013_20221101T164106_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20221101T165054_20221101T165230_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20221101T195921_20221101T200041_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20221101T213347_20221101T213758_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20221101T054840_20221101T055246_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20221101T064205_20221101T064919_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20221101T090633_20221101T091305_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20221101T132307_20221101T132719_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20221101T190440_20221101T190645_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20221101T191815_20221101T192227_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 NetCDF product file (.nc).

Number of products with errors:

#### 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 Correction, 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. > 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   |
|---|---|---|
|   |   | There is an error with the Mean Dynamic Topography height (solution 1)  |
| CS_OFFL_SIR_IOPM_2_20221031T235431_20221101T000438_C001 | Mean Dynamic Topography (1)   | for one or more records   |
| CS_OFFL_SIR_IOPM_2_20221101T131825_20221101T131844_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height (solution 1)<br>for one or more records   |
| CS_OFFL_SIR_IOPN_2_20221101T000438_20221101T000851_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height (solution 1)<br>for one or more records   |
| CS_OFFL_SIR_IOPN_2_20221101T010400_20221101T010605_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height (solution 1) for one or more records  |
| CS_OFFL_SIR_IOPN_2_20221101T032021_20221101T032423_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height (solution 1) for one or more records  |
| CS_OFFL_SIR_IOPN_2_20221101T041317_20221101T041443_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height (solution 1) for one or more records  |
| CS_OFFL_SIR_IOPN_2_20221101T042233_20221101T042346_C001 | Mean Sea Surface (1)  | There is an error with the MSS height (solution 1) for one or more records  |
| CS_OFFL_SIR_IOPN_2_20221101T055246_20221101T055412_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height (solution 1) for one or more records  |
| CS_OFFL_SIR_IOPN_2_20221101T055924_20221101T060227_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T073304_20221101T073605_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height (solution 1) for one or more records  |
| CS_OFFL_SIR_IOPN_2_20221101T073827_20221101T074344_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1)   |
| CS_OFFL_SIR_IOPN_2_20221101T082259_20221101T082347_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height (solution 1) for one or more records  |
| CS_OFFL_SIR_IOPN_2_20221101T082928_20221101T083334_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1), Total Geocentric Ocean<br>Tide (GOT), Total Geocentric Ocean<br>Tide (FES), Non-Equilibrium Long Period<br>Ocean Tide | There is an error with the MSS height (solution 1), the Mean Dynamic<br>Topography (solution 1) and tidal corrections for one or more records   |
| CS_OFFL_SIR_IOPN_2_20221101T091305_20221101T091539_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T100819_20221101T100934_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T101125_20221101T101400_C001 | Mean Dynamic Topography (1), Total<br>Geocentric Ocean Tide (GOT), Total<br>Geocentric Ocean Tide (FES), Non-<br>Equilibrium Long Period Ocean Tide                         | There is an error with the Mean Dynamic Topography (solution 1), the<br>Total Geocentric Ocean Tide (solution 1: GOT and 2: FES) and the Non-<br>Equilibrium Long Period Ocean Tide for one or more records |
| CS_OFFL_SIR_IOPN_2_20221101T104806_20221101T105407_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height (solution 1) for one or more records  |
| CS_OFFL_SIR_IOPN_2_20221101T114744_20221101T115004_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1)   |
| CS_OFFL_SIR_IOPN_2_20221101T115042_20221101T115226_C001 | Total Geocentric Ocean Tide (GOT),<br>Total Geocentric Ocean Tide (FES), Non-<br>Equilibrium Long Period Ocean Tide   | There is an error with the Total Geocentric Ocean Tide height (solution 1:<br>GOT and 2: FES) and the Non-equilibrium Long Period Ocean Tide height<br>for one or more records                              |
| CS_OFFL_SIR_IOPN_2_20221101T123023_20221101T123212_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1)   |
| CS_OFFL_SIR_IOPN_2_20221101T141002_20221101T141139_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height (solution 1) for one or more records  |
| CS_OFFL_SIR_IOPN_2_20221101T154950_20221101T155339_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T164013_20221101T164106_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height (solution 1) for one or more records  |
| CS_OFFL_SIR_IOPN_2_20221101T172928_20221101T173244_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T173757_20221101T173918_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height (solution 1) for one or more records  |
| CS_OFFL_SIR_IOPN_2_20221101T182026_20221101T182108_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1)   |
| CS_OFFL_SIR_IOPN_2_20221101T195610_20221101T195830_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1), Total Geocentric Ocean<br>Tide (GOT), Total Geocentric Ocean<br>Tide (FES), Non-Equilibrium Long Period<br>Ocean Tide | There is an error with the MSS height (solution 1), the Mean Dynamic<br>Topography (solution 1) and tidal corrections for one or more records   |
| CS_OFFL_SIR_IOPN_2_20221101T195921_20221101T200041_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T213347_20221101T213758_C001 | Mean Dynamic Topography (1), Total<br>Geocentric Ocean Tide (FES), Non-<br>Equilibrium Long Period Ocean Tide   | There is an error with the Mean Dynamic Topography (solution 1), the<br>Total Geocentric Ocean Tide (solution 2: FES) and the Non-Equilibrium<br>Long Period Ocean Tide for one or more records             |
| CS_OFFL_SIR_IOPN_2_20221101T213831_20221101T213952_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1)   |

| CS_OFFL_SIR_IOPN_2_20221101T223239_20221101T223517_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T231421_20221101T231846_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1), Total Geocentric Ocean<br>Tide (GOT)  | There is an error with the MSS height (solution 1), the Mean Dynamic<br>Topography (solution 1), the Total Geocentric Ocean Tide (solution 1:<br>GOT) for one or more records                               |
| CS_OFFL_SIR_IOPR_2_20221101T000851_20221101T001412_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T014714_20221101T015708_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T032423_20221101T033157_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T050330_20221101T051019_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T051019_20221101T051226_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T064205_20221101T064919_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T064919_20221101T065123_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T065348_20221101T070112_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height (solution 1) for one or more records  |
| CS_OFFL_SIR_IOPR_2_20221101T082211_20221101T082259_C001 | Mean Dynamic Topography (1), Total<br>Geocentric Ocean Tide (GOT), Total<br>Geocentric Ocean Tide (FES), Non-<br>Equilibrium Long Period Ocean Tide | There is an error with the Mean Dynamic Topography (solution 1), the<br>Total Geocentric Ocean Tide (solution 1: GOT and 2: FES) and the Non-<br>Equilibrium Long Period Ocean Tide for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T082347_20221101T082815_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T082815_20221101T082928_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T100150_20221101T100647_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T100647_20221101T100819_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T114135_20221101T114744_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T131844_20221101T131854_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height (solution 1) for one or more records  |
| CS_OFFL_SIR_IOPR_2_20221101T131855_20221101T132128_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height (solution 1) for one or more records  |
| CS_OFFL_SIR_IOPR_2_20221101T132307_20221101T132719_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T150118_20221101T150802_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T164106_20221101T164853_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T182108_20221101T182929_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T200041_20221101T200806_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T213952_20221101T214513_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T223517_20221101T223721_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_20221101T231846_20221101T232301_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T232301_20221101T232542_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height (solution 1) for one or more records  |

1

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.

| Product   | Test Failed         | Description   |
|---|---------------------|---|
| CS_OFFL_SIR_IOPM_2_20221101T115701_20221101T120250_C001 | Power scaling error | There is an error in the scaling of the L1B waveform for one or more records    |
| CS_OFFL_SIR_IOPM_2_20221101T181001_20221101T181142_C001 | Power scaling error | There is an error in the scaling of the L1B waveform for one or more<br>records |
| CS_OFFL_SIR_IOPM_2_20221101T215527_20221101T220620_C001 | Power scaling error | There is an error in the scaling of the L1B waveform for one or more records    |

# 5.6 L2 Measurement Quality Flag Check

### L2 Quality Flags (20 Hz)

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.

88

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

| Product   | Test Failed  | Description   |
|---|--|---|
| CS_OFFL_SIR_IOPM_2_20221031T235431_20221101T000438_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T003036_20221101T005128_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T005659_20221101T010041_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records   |
| CS_OFFL_SIR_IOPM_2_20221101T010806_20221101T013257_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T015850_20221101T020420_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records   |
| CS_OFFL_SIR_IOPM_2_20221101T020713_20221101T023107_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T023442_20221101T023956_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records   |
| CS_OFFL_SIR_IOPM_2_20221101T024728_20221101T032021_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T033313_20221101T033533_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T034239_20221101T034241_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records   |
| CS_OFFL_SIR_IOPM_2_20221101T034850_20221101T035026_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T035516_20221101T040134_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T040633_20221101T041021_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T041443_20221101T042031_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records   |
| CS_OFFL_SIR_IOPM_2_20221101T042814_20221101T050006_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T051226_20221101T051414_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T053825_20221101T054840_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T055412_20221101T055924_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records   |
| CS_OFFL_SIR_IOPM_2_20221101T060634_20221101T062740_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T063024_20221101T064144_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T065123_20221101T065348_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T071017_20221101T072814_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T073605_20221101T073827_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records   |
|   |  |   |

| CS_OFFL_SIR_IOPM_2_20221101T074558_20221101T081941_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
|---|--|---|
| CS_OFFL_SIR_IOPM_2_20221101T083348_20221101T085321_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T085341_20221101T090633_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T091917_20221101T092240_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records   |
| CS_OFFL_SIR_IOPM_2_20221101T092511_20221101T094002_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T094204_20221101T095138_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T101400_20221101T103043_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T103524_20221101T103540_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records   |
| CS_OFFL_SIR_IOPM_2_20221101T105407_20221101T105659_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records   |
| CS_OFFL_SIR_IOPM_2_20221101T105710_20221101T110141_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records   |
| CS_OFFL_SIR_IOPM_2_20221101T110451_20221101T111831_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T115316_20221101T115538_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T115701_20221101T120250_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records   |
| CS_OFFL_SIR_IOPM_2_20221101T120534_20221101T122825_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T123212_20221101T124044_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records   |
| CS_OFFL_SIR_IOPM_2_20221101T124425_20221101T130839_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T134236_20221101T140737_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T141426_20221101T141844_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records   |
| CS_OFFL_SIR_IOPM_2_20221101T142354_20221101T144738_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T144937_20221101T145157_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records   |
| CS_OFFL_SIR_IOPM_2_20221101T145846_20221101T150118_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T151509_20221101T154515_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T155339_20221101T155925_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records   |
| CS_OFFL_SIR_IOPM_2_20221101T160302_20221101T160706_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T163829_20221101T164013_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221101T165230_20221101T172520_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |

| CLUCHULSELINITITION CONTROL DESIDINT OF A CONTROL OF A DESIDENCE OF A DES   | CS_OFFL_SIR_IOPM_2_20221101T173244_20221101T173757_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records |
|---|---|---|---|
| CB: 0FH: EFH CPM 2: 0221101116259 0221101116259 0221101116259 0221101116259 0221101116259 0221101116259 0221101116259 0221101116259 0221101116259 0221101116259 0221101116259 022110116   | CS_OFFL_SIR_IOPM_2_20221101T174331_20221101T175914_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                            |
| Cit, DFL, SRU, OPM, 2.80211011190182, 202110111911840. Cell         and backstern Cubity DCC.         bit to CCCO Attractor Flags and Backstern Cubity Flags have been with Attemner Flags and Backstern Cubity Flags. The Coco Attractor Flags and Backstern Cubity Flags. The Coco Attractor Flags, SRU, SWI and Backstere Cubity Flags. The Coco Attractor Flags, SRU, SWI a   | CS_OFFL_SIR_IOPM_2_20221101T182929_20221101T185946_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                            |
| DC DTL SHUDWL 2, 2021101119302, 2021101119302, 0011       Backetaltr Gaby       In or or on secold.         DS_DTL_SHUDWL 2, 2021101119332, 2021101119332, 0011       CODO Altimute Range Auth, 0000       The ODD Altimute Range Auth, 0001         CS_DTL_SHUDWL 2, 2021101119332, 2021101119332, 0011       Como Altimute Range SHL, WHI and Buckster Dudy, Page Haw Bann Ref         CS_DTL_SHUDWL 2, 2021101119332, 002110119333, 0011       Como Altimute Range SHL, WHI and Buckster Dudy, Page Haw Bann Ref         CS_DTL_SHUDWL 2, 2021101119332, 002110119335, 0011       Como Altimute Range SHL, WHI and Buckster Dudy, Page Haw Bann Ref         CS_DTL_SHUDWL 2, 2021101129332, 2021101129353, 0011       Como Altimute Range SHL, WHI and Buckster Dudy, Page Haw Bann Ref         CS_DTL_SHUDWL 2, 2021101129353, 2021101129355, 0011       Como Altimute Range SHL, WHI and Buckster Dudy, Page Haw Bann Ref         CS_DTL_SHUDWL 2, 2021101129353, 2021101129355, 0011       Como Altimute Range SHL, WHI and Buckster Dudy, Page Haw Bann Ref         CS_DTL_SHUDWL 2, 2021101129353, 2021101129355, 0011       Como Altimute Range SHL, WHI and Buckster Dudy, Page Haw Bann Ref         CS_DTL_SHUDWL 2, 2021101129355, 2021101129355, 0011       Como Altimute Range SHL, WHI and Buckster Dudy, Page Haw Bann Ref         CS_DTL_SHUDWL 2, 2021101129355, 2   | CS_OFFL_SIR_IOPM_2_20221101T185957_20221101T190440_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                            |
| NUMERAL OPPLICATION INTERCICUON INTERCECTON   | CS_OFFL_SIR_IOPM_2_20221101T191052_20221101T191245_C001 |   |   |
| C5     OFL_DRI_DRI_2.2021101112227     and backscale     Adams in Resp. COMD       C5     OFL_DRI_DRI_2.20211011121050     and backscale     Adams in Resp. Comd.       C5     OFL_DRI_DRI_2.20211011121050     add backscale     Adams in Resp. Comd.       C6     OFL_DRI_DRI_2.20211011121050     add backscale     Adams in Resp. Comd.       C6     OFL_DRI_DRI_2.2021101121050     add backscale     Adams in Resp. Comd.       C6     OFL_DRI_DRI_2.202211011210150     add backscale     Adams in Resp. Comd.       C6     OFL_DRI_DRI_2.202211011210150     add backscale     Adams in Resp. Comd.       C6     OFL_DRI_DRI_2.20221101120150     add backscale     Comd.       C6     OFL_DRI_DRI_2.20221101120150     add backscale     Comd.       C6     OFL_DRI_DRI_2.202211011201500     add backscale     Comd.       C6 <t< td=""><td>CS_OFFL_SIR_IOPM_2_20221101T191252_20221101T191706_C001</td><td></td><td></td></t<>   | CS_OFFL_SIR_IOPM_2_20221101T191252_20221101T191706_C001 |   |   |
| 05         DFFL_SIR_UDPM_2_20221101T194805_30221101T194805_00201         and basecater Duality, COGG<br>Mannow Regin and Basecater Duality, Cog<br>Mannow Regin and Basecater Duality, Pags New New<br>Mannow Regin and Basecater Duality, Cog<br>Mannow Regin and Basecater Duality, Pags New New<br>Mannow Regin and Basecater Duality, Pags New<br>New New New<br>Mannow Regin and Basecater Duality, Pags New New<br>Mannow Regin an   | CS_OFFL_SIR_IOPM_2_20221101T192227_20221101T194635_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                            |
| CS_DFR_SR_0PKL_2021101720142_0021101720147_0001       And Basksenth Outly, Figs New Exem         And Basksenth Outly, Figs New Exem       And Herein Regra and Basksenth Outly Figs New Exem         CS_DFR_SR_0PKL_2021101720148_0021101720354_0001       Octan Anthretic Regra SNA, SWH and Basksenth Outly Figs New Exem         CS_DFR_SR_0PKL_20221101720148_0021101720354_0001       Octan Anthretic Regra SNA, SWH and Basksenth Outly Figs New Exem         CS_DFR_SR_0PKL_20221101720354_0001       Octan Anthretic Regra SNA, SWH and Basksenth Outly Figs New Exem         CS_DFR_SR_0PKL_20221101720354_0001       Octan Anthretic Regra SNA, SWH and Basksenth Outly Figs New Exem         CS_DFR_SR_0PKL_20221101720354_0001       Octan Anthretic Regra SNA, SWH and Basksenth Outly Figs New Exem         CS_DFR_SR_0PKL_20221101720354_0001       Octan Anthretic Regra SNA, SWH and Basksenth Outly Figs New Exem         CS_DFR_SR_0PKL_20221101720356_0001       OCCO3 Alterect Regra and Basksenth Outly Figs New Exem         CS_DFR_SR_0PKL_20221101720356_0001       OCCO3 Alterect Regra and Basksenth Outly Figs New Exem         CS_DFR_SR_0PKL_20221101720366_0001       OCCO3 Alterect Regra CABSKEND Outly Anthretic Regra SNA, SWH and Basksenth Outly Figs New Exem         CS_DFR_SR_0PKL_20221101720366_0001       OCCO3 Alterect Regra CABSKEND Outly Anthretic Regra SNA, SWH and Basksenth Outly Figs New Exem         CS_DFR_SR_0PKL_20221101720366_0001       OCCO3 Alterect Regra CABSKEND Outly Anthretic Regra SNA, SWH and Basksenth Outly Figs New Exem         CS_DFR_SR_0P  | CS_OFFL_SIR_IOPM_2_20221101T194805_20221101T195454_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                            |
| CS_OFFL_SIR_JOPM_2_30221101720148_35221101720354_0001         and Backstenter Quality Flags have been additional for one more rooted.           CS_OFFL_SIR_JOPM_2_30221101720270_302211017203190_0001         common Attender Range and Backstenter Quality Flags have been additional for one more rooted.           CS_OFFL_SIR_JOPM_2_30221101720270_302211017203190_0001         common Attender Range and Backstenter Quality Flags have been additional for one more rooted.           CS_OFFL_SIR_JOPM_2_30221101720370_30221017203190_0001         common Attender Range and Backstenter Quality Flags have been additional for one more records.           CS_OFFL_SIR_JOPM_2_30221101720364_0001         common Attender Range Quality, QOOG         The OCOG Attender Range and Backstenter Quality Flags have been additional for one or more records.           CS_OFFL_SIR_JOPM_2_30221101720462_30221101720467_0001         common Attender Range Quality, QOOG         The OCOG Attender Range and Backstenter Quality Flags have been additional for one or more records.           CS_OFFL_SIR_JOPM_2_3022110172102647_0001         common Attender Range, SSHA, SVH and Backstenter Quality Flags have been additional for one or more records.         The OCOG Attender Range and Backstenter Quality Flags have been addition for one or more records.           CS_OFFL_SIR_JOPM_2_3022110172112647_0001         common Attender Range, SSHA, SVH and Backstenter Quality Flags have been additioner records.         The OCog Attender Range and Backstenter Quality Flags have been additioner records.           CS_OFFL_SIR_JOPM_2_3022110172112647_0001         comm Attender Range, SSHA, SVH and Backstenter Quality Flags have bee  | CS_OFFL_SIR_IOPM_2_20221101T200953_20221101T201417_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                            |
| CS_OFFL_SR_JOPM_2_802211017201042_00221101720160_0001         and Backstatter Quality COSG<br>Mittherer Range and Backstatter Quality Fage and Backstatter Quality Fage have been<br>Attracter Range and Backstatter Quality         and the QCGC Attracter Range SNL SWH<br>and the QCGC Attracter Range and Backstatter Quality Fage<br>and Sackstatter Quality           CS_OFFL_SIR_JOPM_2_202211017201426_0021         COCG Attracter Range Quality, COCG<br>Attracter Range SNL SWH<br>The COCG Attracter R  | CS_OFFL_SIR_IOPM_2_20221101T201438_20221101T202554_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                            |
| CS_OFFL_SIR_JOPM_2_20221101720306_202211017205145.0001         and the COGA Altmeter Range and Backscatter Quality Flags have been set for one or more records           CS_OFFL_SIR_JOPM_2_202211017205204_202211017205145.0001         OCCOA Altmeter Range Quality, OCCO         The OCCOA Altmeter Range and Backscatter Quality Flags have been set for one or more records           CS_OFFL_SIR_JOPM_2_202211017205204_202211017205417.0001         OCCOA Altmeter Range Quality, OCCO         The OCCOA Altmeter Range and Backscatter Quality Flags have been set for one or more records           CS_OFFL_SIR_JOPM_2_202211017210254_20211017210254_202211017210254_20211017210254_202211017210254_202211017210254_20221101721054_20221101721054_20221101721054_2021101721054_2021101721054_20221101721054_20221101721054_20221101721054_20221101721054_20221101721054_20221101721054_202211017221054_202211017221054_202211017221054_202211017221054_202211017221054_202211017221054_202211017221054_202211017221054_202211017221054_202211017221054_202211017221054_20211017221054_202211017221054_202211017221054_202211017221054_202211017221054_20211017221054_20211017221054_202211017221054_202211017221054_202211017221054_202211017221054_20221101722052_20221101722052_20221101722052_20221101722052_20221101722052_20221101722052_20221101722052_20221101722052_20221101722052_20221101722052_20221101722052_20221101722052_20221101722052_20221101722052_202211017220  | CS_OFFL_SIR_IOPM_2_20221101T202701_20221101T203109_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                            |
| DS_OPPL_SIR_UOPM_2_20221101T205204_20221101T205417_C001         Backstatter Cuality         End on error more records           CS_OFFL_SIR_UOPM_2_20221101T205204_20221101T205417_C001         COOG Allimeter Range SUBA, SWH<br>and Backstatter Cuality, COOG<br>Allimeter Range, SSHA, SWH<br>and Backstatter Cuality, COOG<br>Allimeter Range, SSHA, SWH and Backstatter Cuality, Flags have been<br>actine and Backstatter Cuality, COOG<br>Allimeter Range, SSHA, SWH and Backstatter Cuality, Flags<br>and the OCOA Allimeter Range, SSHA, SWH and Backstatter Cuality, Flags<br>and the OCOA Allimeter Range, SSHA, SWH and Backstatter Cuality, Flags<br>and the OCOA Allimeter Range, SSHA, SWH and Backstatter Cuality, Flags<br>and the OCOA Allimeter Range, SSHA, SWH and Backstatter Cuality, Flags<br>and the OCOA Allimeter Range, SSHA, SWH and Backstatter Cuality, Flags<br>and backstatter Cuality, COOG<br>Allimeter Range, SSHA, SWH and Backstatter Cuality, Flags<br>and backstatter Cuality, COOG<br>Allimeter Range, SSHA, SWH and Backstatter Cuality, Flags<br>and backstatter Cuality, COOG<br>Allimeter Range, SSHA, SWH and Backstatter Cuality, Flags<br>and backstatter Cuality, COOG<br>Allimeter Range, SSHA, SWH and Backstatter Cuality, Flags<br>and the OCOA Allimeter Range, SSHA, SWH<br>and Backstatter Cuality, COOG<br>Allimeter Range, SSHA, SWH and Backstatter Cuality, Flags<br>and the OCOA Allimeter Range, SSHA, SWH<br>and Backstatter Cuality, COOG<br>Allimeter Range, SSHA, SWH and Backstatter Cuality, Flags<br>and the OCOA Allimeter Range, SSHA, SWH<br>and Backstatter Cuality, COOG<br>Allimeter Range, SSHA, SWH and Backstatter Cuality, Flags<br>and the OCOA Allimeter Range, SSHA, SWH<br>and Backstatter Cuality, COOG<br>Allimeter Range, SSHA, SWH and Backstatter Cuality, Flags have been<br>Allimeter Range and Backstatter Cuality, Flags have been set<br>for one or more records <td>CS_OFFL_SIR_IOPM_2_20221101T203804_20221101T204354_C001</td> <td>and Backscatter Quality, OCOG</td> <td>and the OCOG Altimeter Range and Backscatter Quality Flags have been</td> | CS_OFFL_SIR_IOPM_2_20221101T203804_20221101T204354_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                            |
| DS_OPEL_SIR_JOPM_2_20221101T210264_20221101T211355_001         Backscatter Quality         for one or more neords           CS_OFFL_SIR_JOPM_2_20221101T210254_20221101T211355_001         Cosen Attimuter Range SSHA, SWH<br>and Backscatter Quality         The Ocean Attimuter Range, SSHA, SWH<br>and the OCCA Attimuter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCCA Attimuter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCCA Attimuter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCCA Attimuter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCCA Attimuter Range and Backscatter Quality Flags<br>and the OCCA Attimuter Range and Backscatter Quality Flags<br>and the OCCA Attimuter Range and Backscatter Quality Flags<br>and the OCCA Attimuter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCCA Attimuter Range and Backscatter Quality Flags<br>and the OCCA Attimuter Range and Backscatter Quality Flags<br>and the OCCA Attimuter Range and Backscatter Quality Flags<br>and the OCCA Attimuter Range, SSHA, SWH<br>and Backscatter Quality, COCG<br>Attimuter Range, SSHA, SWH<br>and Backscatter Quality, COCG<br>Attimuter Range and Backscatter Quality, COCG<br>Attimuter Range and Backscatter Quality, COCG<br>Attimuter Range, SSHA, SWH and Backscatter Quality Flags have been<br>at for one or more necords           CS_OFFL_SIR_JOPM_2_20221101T221645_C0211017221645_C0211         Cosen Attimuter Range, SSHA, SWH<br>and Backscatter Quality, COCG<br>Attimuter Range and Backscatter Quality, Flags have been set<br>for one or more necords           CS_OFFL_SIR_JOPM_2_20221101T222162_20221101T222164_C0201         COSEN Attimuter Range ASHA, SWH<br>and Backscatter Quality, COCG<br>Attimeter Range ASHA, SWH and Backscatter Quality Flags have been s  | CS_OFFL_SIR_IOPM_2_20221101T204622_20221101T205145_C001 |   |   |
| CS_OFFL_SIR_IOPM_2_20221101T210254_20221101T21055_0001       and Backscatter Quality, COCG         Attemeter Range and Backscatter Quality, COCG       and the OCGG Allimeter Range, and Backscatter Quality Flags have been at the OCGG Allimeter Range, and Backscatter Quality Flags have been at the OCGG Allimeter Range, and Backscatter Quality Flags have been at the OCGG Allimeter Range, and Backscatter Quality Flags have been at the OCGG Allimeter Range, and Backscatter Quality Flags have been at the OCGG Allimeter Range, SSHA, SWH and Backscatter Quality, COCG         CS_OFFL_SIR_IOPM_2_20221101T212716_20221101T212347_O001       Decan Altimeter Range, SSHA, SWH and Backscatter Quality, COCG         CS_OFFL_SIR_IOPM_2_20221101T215527_20221101T210520_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, COCG         CS_OFFL_SIR_IOPM_2_20221101T215527_20221101T220520_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, COCG         CS_OFFL_SIR_IOPM_2_20221101T22154_20221101T221646_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, COCG         CS_OFFL_SIR_IOPM_2_20221101T22157_20221101T22242_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, Flags have been set for one or more records         CS_OFFL_SIR_IOPM_2_20221101T22157_20221101T22242_C001       Ocean Altimeter Range Quality, COCG         CS_OFFL_SIR_IOPM_2_20221101T223121_20221101T22242_C001       Ocean Altimeter Range Quality, COCG         CS_OFFL_SIR_IOPM_2_20221101T223121_20221101T223242_C001       Ocean Altimeter Range Quality, COCG         CS_OFFL_SIR_IOPM_2_20221101T223121_20221101T223242_C001       Ocea  | CS_OFFL_SIR_IOPM_2_20221101T205204_20221101T205417_C001 |   |   |
| CS_OFFL_SIR_JOPM_2_20221101T211648_20221101T212645_C001       and Backscatter Quality, COCG       and the OCCG Altimeter Range and Backscatter Quality, Set for one or more records         CS_OFFL_SIR_JOPM_2_20221101T212716_20221101T21347_C001       Cocan Altimeter Range, SSHA, SWH and Backscatter Quality, CocG Altimeter Range, SSHA, SWH and Backscatter Quality, Flags have been Altimeter Range, SSHA, SWH and Backscatter Quality, Flags have been Altimeter Range, SSHA, SWH and Backscatter Quality, Flags have been Altimeter Range, SSHA, SWH and Backscatter Quality, Flags have been Altimeter Range, SSHA, SWH and Backscatter Quality, Flags have been Altimeter Range, SSHA, SWH and Backscatter Quality, Flags have been Altimeter Range, SSHA, SWH and Backscatter Quality, Flags have been Altimeter Range, SSHA, SWH and Backscatter Quality, Flags have been Altimeter Range, SSHA, SWH and Backscatter Quality, Flags have been Altinter Range and Backscatter Quality, Flags have been Altimeter Ran  | CS_OFFL_SIR_IOPM_2_20221101T210254_20221101T211355_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                            |
| CS_OFFL_SIR_IOPM_2_20221101T212716_20221101T213347_C001       and Backscatter Quality       and Backscatter Quality       and the COCG Altimeter Range and Backscatter Quality       Figure Range Altimeter Range and Backscatter Quality       Figure Range Altimeter Range and Backscatter Quality       Figure Range Altimeter Range Altimeter Range StHA, SWH and Backscatter Quality Figure Range and Backscatter Quality       Figure Range And Backscatter Quality       Figure Range And Backscatter Quality       Figure Range And Backscatter Quality       Figure Range And Backscatter Quality       Figure Range And Backscatter Quality       Figure Range And Backscatter Quality       Figure Range And Backscatter Quality       Figure Range And Backscatter Quality       Figure Range And Backscatter Quality       Figure Range And Backscatter Quality       Figure Range And Backscatter Quality       Figure Range And Backscatter Quality       Figure Range And Backscatter Quality       Figure Range And Backscatter Quality       Figure Range And Backscatter Quality       Figure Range And Backscatter Quality  | CS_OFFL_SIR_IOPM_2_20221101T211648_20221101T212645_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                            |
| CS_OFFL_SIR_IOPM_2_20221101T21527_20221101T220620_C001       and Backscatter Quality, OCOG<br>Attimeter Range and Backscatter Quality Flags have been<br>act for one or more records         CS_OFFL_SIR_IOPM_2_20221101T221124_20221101T221646_C001       Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, EQGG<br>Altimeter Range, ASHA, SWH and Backscatter Quality Flags have been<br>set for one or more records         CS_OFFL_SIR_IOPM_2_20221101T221657_20221101T222650_20221101T223045_C001       OCOGA Altimeter Range Quality, OCOG<br>Backscatter Quality       The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records         CS_OFFL_SIR_IOPM_2_20221101T223024_20221101T223045_C001       OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality       The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records         CS_OFFL_SIR_IOPM_2_20221101T223024_20221101T223036_C001       OCCGA Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality Flags have been<br>Altimeter Range and Backscatter Quality Flags have been<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>and the OCOG Alti   | CS_OFFL_SIR_IOPM_2_20221101T212716_20221101T213347_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                            |
| CS_OFFL_SIR_IOPM_2_20221101T221124_20221101T221646_C001       and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality       and the OCOG Altimeter Range and Backscatter Quality Flags<br>set for one or more records         CS_OFFL_SIR_IOPM_2_20221101T221657_20221101T222242_C001       Ocean Altimeter Range and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality, Flags have been<br>set for one or more records         CS_OFFL_SIR_IOPM_2_20221101T222550_20221101T223045_C001       OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality       The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records         CS_OFFL_SIR_IOPM_2_20221101T223121_20221101T223045_C001       OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality       The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records         CS_OFFL_SIR_IOPM_2_20221101T223121_20221101T22339_C001       OCOG Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records         CS_OFFL_SIR_IOPM_2_20221101T223924_20221101T224332_C001       Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records         CS_OFFL_SIR_IOPM_2_20221101T223924_20221101T223924_0021101T239046_C001       Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality       The Ocean Altimeter Range and Backscatter Quality Flags<br>hard the OCOG Altimeter Range and Backscatter Quality Flags<br>hard the OCOG Al   | CS_OFFL_SIR_IOPM_2_20221101T215527_20221101T220620_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                            |
| CS_OFFL_SIR_IOPM_2_20221101T221657_20221101T22242_C001       and Backscatter Quality, OCOG<br>Attimeter Range and Backscatter Quality       and the OCOG Attimeter Range and Backscatter Quality       set for one or more records         CS_OFFL_SIR_IOPM_2_20221101T222550_20221101T223045_C001       OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality       The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records         CS_OFFL_SIR_IOPM_2_20221101T223121_20221101T22339_C001       OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality       The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records         CS_OFFL_SIR_IOPM_2_20221101T223924_20221101T22339_C001       OCOG Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records       The Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, Flags have been set<br>for one or more records         CS_OFFL_SIR_IOPM_2_20221101T223924_20221101T223094_C001       Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records       The Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality Flags have been<br>set for one or more records         CS_OFFL_SIR_IOPM_2_20221101T225709_20221101T230946_C001       Ocean Altimeter Range Quality, OCOG<br>Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records       The OCCGA Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records  | CS_OFFL_SIR_IOPM_2_20221101T221124_20221101T221646_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                            |
| CS_OFFL_SIR_IOPM_2_20221101122330_202211011223345_C001       Backscatter Quality       for one or more records         CS_OFFL_SIR_IOPM_2_202211011223121_202211011223239_C001       OCOG Altimeter Range Quality, OCOG Backscatter Quality       The OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_IOPM_2_202211011223924_202211011223924_202211011223924_202211011223924_202211011223924_202211011223924_202211011223924_202211011223924_202211011223924_202211011223924_202211011223924_202211011239946_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_IOPM_2_202211011223709_202211011230946_C001       Ocean Altimeter Range and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags have been and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_IOPM_2_202211011223709_202211011233617_C001       OCOG Altimeter Range Quality, OCOG Backscatter Quality       The OCCG Altimeter Range and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_IOPM_2_202211011233607_202211011233617_C001       OCCG Altimeter Range Quality, OCCG Backscatter Quality, OCCG Backscatter Quality Flags have been set for one or more records       The OCCG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_IOPM_2_202211011233607_202211017233617_C001       OCCGA Altimeter Range, SSHA, SWH and Backscatter Quality Flags and Backscatter Quality Flags have been set for one or more records   | CS_OFFL_SIR_IOPM_2_20221101T221657_20221101T222242_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                            |
| CS_OFFL_SIR_IOPM_2_202211011223121_202211011223239_C001       Backscatter Quality       for one or more records         CS_OFFL_SIR_IOPM_2_202211011223924_202211011224332_C001       Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records       The Ocean Altimeter Range, SSHA, SWH<br>and the OCOG Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records         CS_OFFL_SIR_IOPM_2_202211011225709_202211011230946_C001       Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records         CS_OFFL_SIR_IOPM_2_202211011233607_202211011233617_C001       OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality       The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records         CS_OFFL_SIR_IOPM_2_202211011233607_202211011233617_C001       OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality       The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records         CS_OFFL_SIR_IOPM_2_202211011233607_202211017234723_202211021000126_C001       Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG       The OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags  | CS_OFFL_SIR_IOPM_2_20221101T222550_20221101T223045_C001 |   |   |
| CS_OFFL_SIR_IOPM_2_20221101T223924_20221101T224332_C001       and Backscatter Quality, OCOG<br>Attimeter Range and Backscatter Quality       and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records         CS_OFFL_SIR_IOPM_2_20221101T225709_20221101T230946_C001       Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records       The Ocean Altimeter Range, SSHA, SWH and the OCOG Altimeter Range and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records         CS_OFFL_SIR_IOPM_2_20221101T233607_20221101T233617_C001       OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality       The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records         CS_OFFL_SIR_IOPM_2_20221101T233607_20221101T233617_C001       Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG       The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records         CS_OFFL_SIR_IOPM_2_20221101T233607_20221102T000126_C001       Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG       The OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags<br>have been  | CS_OFFL_SIR_IOPM_2_20221101T223121_20221101T223239_C001 |   |   |
| CS_OFFL_SIR_IOPM_2_20221101T225709_20221101T230946_C001       and Backscatter Quality, OCOG       and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_IOPM_2_20221101T233607_20221101T233617_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_20221101T233607_20221101T233617_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_IOPM_2_20221101T234723_20221102T000126_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records   | CS_OFFL_SIR_IOPM_2_20221101T223924_20221101T224332_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                            |
| CS_OFFL_SIR_IOPM_2_202211011233607_202211011233617_C001       Backscatter Quality       for one or more records         ScS_OFFL_SIR_IOPM_2_202211011234723_20221102T000126_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been  | CS_OFFL_SIR_IOPM_2_20221101T225709_20221101T230946_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                            |
| CS_OFFL_SIR_IOPM_2_20221101T234723_20221102T000126_C001 and Backscatter Quality, OCOG and the OCOG Altimeter Range and Backscatter Quality Flags have been  | CS_OFFL_SIR_IOPM_2_20221101T233607_20221101T233617_C001 |   |   |
|   | CS_OFFL_SIR_IOPM_2_20221101T234723_20221102T000126_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                            |

| CS_OFFL_SIR_IOPN_2_20221101T042233_20221101T042346_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
|---|--|---|
| CS_OFFL_SIR_IOPN_2_20221101T112837_20221101T112944_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records   |
| CS_OFFL_SIR_IOPN_2_20221101T130839_20221101T131230_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records   |
| CS_OFFL_SIR_IOPN_2_20221101T132128_20221101T132146_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221101T154950_20221101T155339_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records   |
| CS_OFFL_SIR_IOPN_2_20221101T155925_20221101T160041_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T040134_20221101T040633_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T050106_20221101T050120_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records   |
| CS_OFFL_SIR_IOPR_2_20221101T104249_20221101T104257_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records   |
| CS_OFFL_SIR_IOPR_2_20221101T163654_20221101T163738_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records   |
| CS_OFFL_SIR_IOPR_2_20221101T203201_20221101T203227_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records   |
| CS_OFFL_SIR_IOPR_2_20221101T205602_20221101T210254_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T223045_20221101T223050_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records   |

### L2 Quality Flags (20 Hz 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.

101

| Product   | Test Failed   | Description   |
|---|---|---|
| CS_OFFL_SIR_IOPN_2_20221101T000438_20221101T000851_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221101T002503_20221101T002902_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T005342_20221101T005659_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221101T010041_20221101T010048_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T010400_20221101T010605_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221101T013544_20221101T013825_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T015727_20221101T015850_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T024330_20221101T024455_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221101T032021_20221101T032423_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221101T033157_20221101T033232_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |

| CS_OFFL_SIR_IOPN_2_20221101T042233_20221101T042346_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
|---|---|---|
| CS_OFFL_SIR_IOPN_2_20221101T050006_20221101T050106_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records  |
| CS_OFFL_SIR_IOPN_2_20221101T052037_20221101T052116_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T052953_20221101T053137_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T053514_20221101T053534_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T070840_20221101T070928_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T073304_20221101T073605_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221101T082928_20221101T083334_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T091736_20221101T091917_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T092240_20221101T092409_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221101T095138_20221101T095508_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T104806_20221101T105407_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T110141_20221101T110325_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221101T115042_20221101T115226_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221101T131702_20221101T131825_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T132719_20221101T133159_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221101T141002_20221101T141139_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T141305_20221101T141426_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T141844_20221101T142132_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T155925_20221101T160041_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221101T161615_20221101T161950_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T162845_20221101T163025_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221101T163056_20221101T163119_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T163531_20221101T163654_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T163743_20221101T163829_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T164853_20221101T165013_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |

|   | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG  | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags  |
|---|---|---|
| CS_OFFL_SIR_IOPN_2_20221101T172928_20221101T173244_C001 | Altimeter Range and Backscatter Quality<br>PLRM   | and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records   |
| CS_OFFL_SIR_IOPN_2_20221101T175914_20221101T180152_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T190645_20221101T191052_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221101T191706_20221101T191815_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221101T195610_20221101T195830_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T204454_20221101T204622_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T213831_20221101T213952_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221101T214513_20221101T214542_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T215252_20221101T215527_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T222406_20221101T222550_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T223239_20221101T223517_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221101T223721_20221101T223855_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221101T225114_20221101T225648_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T230946_20221101T231109_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPN_2_20221101T231421_20221101T231846_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPR_2_20221101T000851_20221101T001412_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T001436_20221101T001539_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPR_2_20221101T010605_20221101T010806_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T014714_20221101T015708_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T024455_20221101T024728_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T032423_20221101T033157_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T041021_20221101T041317_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T042346_20221101T042814_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T051510_20221101T051557_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPR_2_20221101T051606_20221101T051901_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPR_2_20221101T054840_20221101T055246_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |

| CS_OFFL_SIR_IOPR_2_20221101T060227_20221101T060634_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
|---|---|---|
| CS_OFFL_SIR_IOPR_2_20221101T064205_20221101T064919_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T072814_20221101T073304_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T082211_20221101T082259_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T082347_20221101T082815_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T082815_20221101T082928_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T090633_20221101T091305_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T092409_20221101T092511_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T100150_20221101T100647_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T100647_20221101T100819_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T112338_20221101T112721_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records  |
| CS_OFFL_SIR_IOPR_2_20221101T114135_20221101T114744_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T124234_20221101T124425_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T131855_20221101T132128_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records  |
| CS_OFFL_SIR_IOPR_2_20221101T132146_20221101T132243_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T140737_20221101T141002_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T142132_20221101T142354_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T150118_20221101T150802_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T154515_20221101T154950_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T163654_20221101T163738_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T164106_20221101T164853_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T172520_20221101T172928_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T173918_20221101T174331_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T180817_20221101T180940_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T181142_20221101T181243_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T181910_20221101T182026_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
|   |   |   |

| CS_OFFL_SIR_IOPR_2_20221101T182108_20221101T182929_C001   | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
|---|---|---|
| CS_OFFL_SIR_IOPR_2_20221101T191245_20221101T191252_C001   | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPR_2_20221101T191815_20221101T192227_C001   | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T200041_20221101T200806_C001   | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T201417_20221101T201438_C001   | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T205602_20221101T210254_C001   | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T213952_20221101T214513_C001   | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T221646_20221101T221657_C001   | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T223045_20221101T223050_C001   | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPR_2_20221101T223517_20221101T223721_C001   | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T224332_20221101T224503_C001   | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| CS_OFFL_SIR_IOPR_2_20221101T232301_20221101T232542_C001   | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221101T233926_20221101T234723_C001   | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records   |
| L2 Quality Flags (1 Hz & 1 Hz PLRM)<br>Currently, there are several common flags raised in the Level 2 products,<br>> 1 Hz and 1 Hz Ocean SSHA Quality Flags: These flags are currently set for |   | d. The number of products with this error flag set is given below.  |
| Number of products with errors: 187   |   |   |
| 5.8 L2 Ocean Retracking Quality Check   |   |   |
| L2 Retracking Flags (20 Hz)   |   |   |
| CryoSat L2 data includes an ocean retracking quality flag for each 20 Hz measu  | -   |   |
| <ul> <li>&gt; Ocean Retracking Quality Flag: This flag is currently set for products over la<br/>Number of products with errors:</li> <li>61</li> </ul>   | and and sea ice, but this is to be expected. In   | e number of products with this error flag set is given below.   |
| L2 Retracking Flags (20 Hz PLRM)  |   |   |
| CryoSat L2 data includes an ocean retracking quality flag for each 20 Hz PLRM   | measurement record. The bit value of this fla   | g indicates any problems when set.  |
| > Ocean Retracking Quality Flag (PLRM): This flag is currently set for produc<br>given below.   | ts IOPR and IOPN products over sea ice, but   | this is to be expected. The number of products with this error flag set is  |
| Number of products with errors:         147   |   |   |
| 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 en  | nsure it consists of both an XML header file (.I  | 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. 0

Number of products with errors:

# 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:

# 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).

0

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 check.

> 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.

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> 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.

| Product  | Test Failed   | Description   |
|--|---|---|
| CS_OFFL_SIR_IOP_220221031T232137_20221101T001116_C002  | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1)   |
| CS_OFFL_SIR_IOP_2_20221101T001116_20221101T010052_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1)   |
| CS_OFFL_SIR_IOP_220221101T010052_20221101T015031_C001  | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T015031_20221101T024007_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)  |
| CS_OFFL_SIR_IOP_220221101T024007_20221101T032945_C001  | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)  |
| CS_OFFL_SIR_IOP_220221101T032945_20221101T041921_C001  | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)  |
| CS_OFFL_SIR_IOP_220221101T041921_20221101T050900_C001  | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)  |
| CS_OFFL_SIR_IOP_220221101T050900_20221101T055836_C001  | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1)   |
| CS_OFFL_SIR_IOP_220221101T055836_20221101T064815_C001  | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)  |
| CS_OFFL_SIR_IOP_220221101T064815_20221101T073751_C001  | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)  |
| CS_OFFL_SIR_IOP_220221101T073751_20221101T082729_C001  | Mean Sea Surface (1), Mean Dynamic<br>Topography (1), Total Geocentric Ocean<br>Tide (GOT), Total Geocentric Ocean<br>Tide (FES), Non-Equilibrium Long Period<br>Ocean Tide | There is an error with the MSS height (solution 1), the Mean Dynamic<br>Topography (solution 1), and tidal corrections for one or more records  |
| CS_OFFL_SIR_IOP_2_20221101T082729_20221101T091705_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1), Total Geocentric Ocean<br>Tide (GOT), Total Geocentric Ocean<br>Tide (FES), Non-Equilibrium Long Period<br>Ocean Tide | There is an error with the MSS height (solution 1), the Mean Dynamic<br>Topography (solution 1), and tidal corrections for one or more records  |
| CS_OFFL_SIR_IOP_220221101T091705_20221101T100644_C001  | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T100644_20221101T105620_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1), Total Geocentric Ocean<br>Tide (GOT), Total Geocentric Ocean<br>Tide (FES), Non-Equilibrium Long Period<br>Ocean Tide | There is an error with the MSS height (solution 1), the Mean Dynamic<br>Topography (solution 1), and tidal corrections for one or more records  |
| CS_OFFL_SIR_IOP_220221101T105620_20221101T114559_C001  | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T114559_20221101T123535_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1), Total Geocentric Ocean<br>Tide (GOT), Total Geocentric Ocean<br>Tide (FES), Non-Equilibrium Long Period<br>Ocean Tide | There is an error with the MSS height (solution 1), the Mean Dynamic<br>Topography (solution 1), and tidal corrections for one or more records  |
| CS_OFFL_SIR_IOP_2_20221101T123535_20221101T132514_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T132514_20221101T141450_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T141450_20221101T150428_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T150428_20221101T155404_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)  |
| CS_OFFL_SIR_IOP_220221101T155404_20221101T164343_C001  | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)  |
| CS_OFFL_SIR_IOP_220221101T164343_20221101T173319_C001  | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)  |
| CS_OFFL_SIR_IOP_220221101T173319_20221101T182258_C001  | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)  |
| CS_OFFL_SIR_IOP_220221101T182258_20221101T191234_C001  | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T191234_20221101T200212_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1), Total Geocentric Ocean<br>Tide (GOT), Total Geocentric Ocean<br>Tide (FES), Non-Equilibrium Long Period<br>Ocean Tide | There is an error with the MSS height (solution 1), the Mean Dynamic<br>Topography (solution 1), and tidal corrections for one or more records  |
| CS_OFFL_SIR_IOP_2_20221101T200212_20221101T205148_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T205148_20221101T214127_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1), Total Geocentric Ocean<br>Tide (FES), Non-Equilibrium Long Period<br>Ocean Tide                                       | There is an error with the MSS height (solution 1), the Mean Dynamic<br>Topography (solution 1), the Total Geocentric Ocean Tide (solution 2:<br>FES) and the Non-Equilibrium Long Period Ocean Tide for one or more<br>records |

| CS_OFFL_SIR_IOP_2_20221101T214127_20221101T223103_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20221101T223103_20221101T232042_C001 |  | There is an error with the MSS height (solution 1), the Mean Dynamic<br>Topography (solution 1), the Total Geocentric Ocean Tide (solution 1:<br>GOT) for one or more records |
| CS_OFFL_SIR_IOP_220221101T232042_20221102T001018_C002  | Mean Sea Surface (1), Mean Dynamic<br>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: 3 Product Test Failed Description There is an error in the scaling of the L1B waveform for one or more CS\_OFFL\_SIR\_IOP\_2\_\_20221101T114559\_20221101T123535\_C001 Power scaling error records There is an error in the scaling of the L1B waveform for one or more CS\_OFFL\_SIR\_IOP\_2\_20221101T173319\_20221101T182258\_C001 Power scaling error records There is an error in the scaling of the L1B waveform for one or more CS OFFL SIR IOP 2 20221101T214127 20221101T223103 C001 Power scaling error records 6.6 P2P Measurement Quality Flag Check

### P2P Quality Flags (20 Hz)

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. The number of P2P products affected is given below.

| Number of products with errors:                      | 30  |
|--|---|
| P2P Quality Flags (20 Hz PLRM)                       |   |
| Since the P2P Quality Flags are copied din<br>below. | rectly from the L2 Quality Flags, please see Section 5.6 for the full list of products affected. The number of P2P products affected is given |
| Number of products with errors:                      | 30  |
| P2P Quality Flags (1 Hz & 1 Hz PL                    | .RM)  |
| Since the P2P Quality Flags are copied dir<br>below. | rectly from the L2 Quality Flags, please see Section 5.6 for the number of L2 products affected. The number of P2P products affected is given |
| Number of products with errors:                      | 30  |
| 6.8 P2P Ocean Retracking Qua                         | ality Check   |
| POR Ratura alain n Ela na (00 l.l.a.)                |   |

#### P2P Retracking Flags (20 Hz)

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:

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

28