





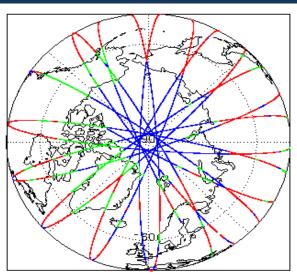
# 1. Overview

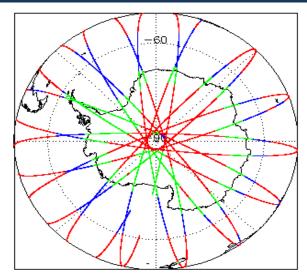
| Report Production: | 18-Oct-2019   |  |  |
|--------------------|---|--|--|
| Processor Used:    | CryoSat Ocean Processor   |  |  |
| Data Used:         | Intermediate Ocean Products (IOP)<br>L1B, L2 & P2P Science Data |  |  |

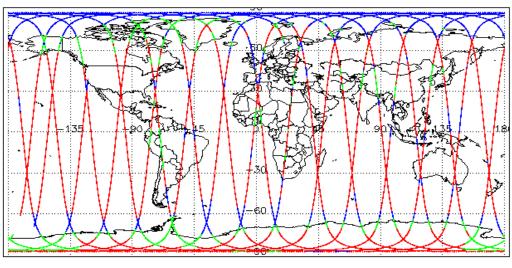
| Check                                      | L1 & L2                      | P2P             |
|--|------------------------------|-----------------|
| Server check: science-pds.cryosat.esa.int  | Nominal                      | Nominal         |
| Server check: calval-pds.cryosat.esa.int   | Nominal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

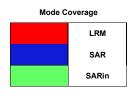
| Mission / Instrument News |                 |  |
|---------------------------|-----------------|--|
| 14-Oct-2019               | None            |  |
| 15-Oct-2019               | None            |  |
| 16-Oct-2019               | Nothing planned |  |

# 2. Global Coverage









# 3. Instrument Configuration

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

SIRAL instrument(s) in use: SIRAL - A

# 4. IOP Level 1B Data Quality Check

# 4.1 L1B Product Format Check

Each product, retrieved and unpacked from the science server, is checked to ensure it consists of both an XML header file (.HDR) and a binary product file (.DBL).

#### 4.2 L1B Product Header Analysis

For all products, a series of pre-defined checks are performed on the MPH and SPH in order to identify any inconsistencies and/or errors raised by the ground-segment processing chain.

L1B Processing Quality HR: The I1b\_proc\_flag\_hr flag is currently set all L1B IOPR and IOPN products because the I1b\_processing\_quality\_hr field is not correctly configured in the OSAR and OSARIn chains. A modification is required in the pert release

Number of products with errors:

# 4.3 L1B Auxilary Data File Usage Check

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

Number of products with errors:

0

#### 4.4 L1B Auxiliary Correction Error Check

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

Number of products with errors:

Ω

#### 4.5 L1B Measurement Confidence Data Check

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

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

Number of products with errors:

2

| Product   | Test Failed         | Description  |
|---|---------------------|--|
| CS_OFFL_SIR_IOPM1B_20191015T155733_20191015T160315_C001 | Power scaling error | There is an error in the scaling of the L1B waveform for one or more records |
| CS_OFFL_SIR_IOPM1B_20191015T175226_20191015T180735_C001 | Power scaling error | There is an error in the scaling of the L1B waveform for one or more records |

### 4.6 L1B Waveform Group Data Check

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

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

Number of products with errors:

00

| Product   | Test Failed  | Description  |
|---|--------------|--|
| CS_OFFL_SIR_IOPM1B_20191015T000122_20191015T000310_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPM1B_20191015T223516_20191015T225507_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20191015T000311_20191015T000404_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20191015T032223_20191015T032338_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20191015T063739_20191015T064138_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20191015T095046_20191015T095652_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20191015T164036_20191015T164157_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20191015T164516_20191015T164729_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20191015T182001_20191015T182214_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20191015T195914_20191015T200405_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20191015T213121_20191015T213222_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20191015T000405_20191015T001152_C001 | Loss of Echo | The tracking echo is missing for one or more records |

## 5. IOP Level 2 Data Quality Check

## 5.1 L2 Product Format Check

Each product, retrieved and unpacked from the science server, is checked to ensure it consists of both an XML header file (.HDR) and a binary product file (.DBL).

Number of products with errors:

0

### 5.2 L2 Product Header Analysis

For all products, a series of pre-defined checks are performed on the MPH and SPH in order to identify any inconsistencies and/or errors raised by the ground-segment processing chain.

Number of products with errors:

0

## 5.3 L2 Auxiliary Data File Usage Check

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

### 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.
- > Sea State Bias & Sea State Bias PLRM: The error value is currently set for products over sea ice, but this is to be expected.
- > Mean Sea Surface: The error value is currently set for products over land and sea ice, but this is to be expected.
- > Mean Dynamic Topography: The error value is currently set for products over land and sea ice, but this is to be expected.
- > Altimetric Wind Speed Error: The error value is currently set for products over land and sea ice, but this is to be expected.

Number of products with errors:

52

| Draduct   | Took Folland   | Description   |
|---|--|---|
| Product   | Mean Sea Surface (1), Mean Dynamic   | Description There is an error with the MSS height (solution 1) and the Mean Dynamic   |
| CS_OFFL_SIR_IOPM_2_20191015T082827_20191015T083115_C001 | Topography (1)   | Topography height (solution 1)  |
| CS_OFFL_SIR_IOPN_2_20191015T005231_20191015T005548_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_20191015T010100_20191015T010225_C001 | Mean Dynamic Topography (1)  | There is an error with the Mean Dynamic Topography height for one or more records   |
| CS_OFFL_SIR_IOPN_2_20191015T013326_20191015T013345_C001 | Mean Dynamic Topography (1)  | There is an error with the Mean Dynamic Topography height for one or more records   |
| CS_OFFL_SIR_IOPN_2_20191015T014319_20191015T014417_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_20191015T032223_20191015T032338_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_20191015T045739_20191015T050252_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_20191015T055538_20191015T060150_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_20191015T063739_20191015T064138_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_20191015T072619_20191015T072834_C001 | Mean Dynamic Topography (1)  | There is an error with the Mean Dynamic Topography height for one or more records   |
| CS_OFFL_SIR_IOPN_2_20191015T073502_20191015T073819_C001 | Mean Dynamic Topography (1)  | There is an error with the Mean Dynamic Topography height for one or more records   |
| CS_OFFL_SIR_IOPN_2_20191015T081611_20191015T082000_C001 | Mean Dynamic Topography (1)  | There is an error with the Mean Dynamic Topography height for one or more records   |
| CS_OFFL_SIR_IOPN_2_20191015T095046_20191015T095652_C001 | Topography (1), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period             | Tripegraphy (solution 1), the Total Geocentric Ocean Tide (solution 2: FES) and the Non-Equilibrium Long Period Ocean Tide for one or more                              |
| CS_OFFL_SIR_IOPN_2_20191015T104524_20191015T104648_C001 | Mean Dynamic Topography (1)  | There is an error with the Mean Dynamic Topography height for one or more records   |
| CS_OFFL_SIR_IOPN_2_20191015T105503_20191015T105620_C001 | Mean Dynamic Topography (1)  | There is an error with the Mean Dynamic Topography height for one or more records   |
| CS_OFFL_SIR_IOPN_2_20191015T115446_20191015T115654_C001 | Mean Dynamic Topography (1)  | There is an error with the Mean Dynamic Topography height for one or more records   |
| CS_OFFL_SIR_IOPN_2_20191015T122505_20191015T122632_C001 | Mean Dynamic Topography (1)  | There is an error with the Mean Dynamic Topography height for one or more records   |
| CS_OFFL_SIR_IOPN_2_20191015T123154_20191015T123503_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_20191015T132804_20191015T132921_C001 | Mean Dynamic Topography (1)  | There is an error with the Mean Dynamic Topography height for one or more records   |
| CS_OFFL_SIR_IOPN_2_20191015T140447_20191015T140628_C001 | Mean Dynamic Topography (1)  | There is an error with the Mean Dynamic Topography height for one or more records   |
| CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T154805_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_20191015T164036_20191015T164157_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 Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records |
| CS_OFFL_SIR_IOPN_2_20191015T173408_20191015T173546_C001 | Mean Dynamic Topography (1)  | There is an error with the Mean Dynamic Topography height for one or more records   |
| CS_OFFL_SIR_IOPN_2_20191015T182001_20191015T182214_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_20191015T190256_20191015T190442_C001 | Mean Dynamic Topography (1)  | There is an error with the Mean Dynamic Topography height for one or more records   |
| CS_OFFL_SIR_IOPN_2_20191015T191315_20191015T191511_C001 | Mean Dynamic Topography (1)  | There is an error with the Mean Dynamic Topography height for one or more records   |
| CS_OFFL_SIR_IOPN_2_20191015T195914_20191015T200405_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_20191015T213357_20191015T213420_C001 | Mean Dynamic Topography (1)  | There is an error with the Mean Dynamic Topography height for one or more records   |

|   | iviean Sea Suriace (1), iviean Dynamic   |   |
|---|--|---|
| CS_OFFL_SIR_IOPN_2_20191015T222334_20191015T222557_C001 | Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES) Non-Equilibrium Long Period | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records |
| CS_OFFL_SIR_IOPN_2_20191015T223151_20191015T223318_C001 | Mean Dynamic Topography (1)  | There is an error with the Mean Dynamic Topography height for one or more records   |
| CS_OFFL_SIR_IOPR_2_20191015T000405_20191015T001152_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_20191015T013345_20191015T013358_C001 | Mean Dynamic Topography (1)  | There is an error with the Mean Dynamic Topography height for one or more records   |
| CS_OFFL_SIR_IOPR_2_20191015T014417_20191015T015219_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_20191015T032339_20191015T033059_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_20191015T050252_20191015T050812_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_20191015T064138_20191015T064831_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_20191015T082000_20191015T082827_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_20191015T095652_20191015T100553_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_20191015T113623_20191015T114204_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_20191015T114204_20191015T114438_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_20191015T115412_20191015T115445_C001 | Mean Dynamic Topography (1)  | There is an error with the Mean Dynamic Topography height for one or more records   |
| CS_OFFL_SIR_IOPR_2_20191015T131423_20191015T132143_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_20191015T132143_20191015T132317_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_20191015T145412_20191015T150040_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_20191015T150040_20191015T150208_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_20191015T163343_20191015T163924_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_20191015T163924_20191015T164036_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_20191015T181602_20191015T182001_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_20191015T195238_20191015T195914_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_20191015T213420_20191015T213938_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_20191015T230223_20191015T230427_C001 | Mean Dynamic Topography (1)  | There is an error with the Mean Dynamic Topography height for one or more records   |
| CS_OFFL_SIR_IOPR_2_20191015T231325_20191015T232123_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)                                      |
|   |  | #N/A  |

# 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_20191015T155733_20191015T160315_C001 | Power scaling error | There is an error in the scaling of the L2 waveform for one or more records |
| CS_OFFL_SIR_IOPM_2_20191015T175226_20191015T180735_C001 | Power scaling error | There is an error in the scaling of the L2 waveform for one or more records |

# 5.6 L2 Measurement Quality Flag Check

## L2 Quality Flags (20Hz)

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

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

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

| Product   | Test Failed  | Description  |
|---|--|--|
| CS_OFFL_SIR_IOPM_2_20191015T000122_20191015T000310_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T001552_20191015T004834_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T005548_20191015T010100_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPM_2_20191015T010631_20191015T012234_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T014036_20191015T014158_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T015219_20191015T022739_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T023335_20191015T023547_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPM_2_20191015T023554_20191015T024006_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPM_2_20191015T024525_20191015T031047_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T031056_20191015T031821_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T032051_20191015T032223_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPM_2_20191015T033254_20191015T033638_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T033657_20191015T034522_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T035146_20191015T040105_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T040302_20191015T040654_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T040926_20191015T041446_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPM_2_20191015T042559_20191015T043819_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T044017_20191015T044848_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T045015_20191015T045739_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T051952_20191015T052924_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T053126_20191015T053846_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T053956_20191015T054542_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T054852_20191015T055347_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |

| CS_OFFL_SIR_IOPM_2_20191015T055421_20191015T055538_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
|---|--|--|
| CS_OFFL_SIR_IOPM_2_20191015T060215_20191015T060433_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T061947_20191015T062113_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_20191015T062127_20191015T062800_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T063407_20191015T063639_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T063650_20191015T063739_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T070936_20191015T072424_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T072835_20191015T073313_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPM_2_20191015T074046_20191015T081404_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T083910_20191015T090333_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T090717_20191015T091214_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPM_2_20191015T091233_20191015T091558_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPM_2_20191015T091939_20191015T094554_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T094754_20191015T095046_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T101433_20191015T104258_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T104648_20191015T105127_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPM_2_20191015T110027_20191015T113247_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T114438_20191015T114751_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T115735_20191015T115854_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPM_2_20191015T121704_20191015T121940_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T122632_20191015T123154_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPM_2_20191015T123915_20191015T125959_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T130245_20191015T131422_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T132353_20191015T132804_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T134405_20191015T134854_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T135042_20191015T140020_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T140629_20191015T141052_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
|   |  |  |

|   | <u></u>  | L  |
|---|--|--|
| CS_OFFL_SIR_IOPM_2_20191015T141759_20191015T142304_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T142313_20191015T142842_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T142925_20191015T145236_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T150909_20191015T151402_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T151533_20191015T153831_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T154805_20191015T154958_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPM_2_20191015T155733_20191015T160315_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T160346_20191015T161418_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T161859_20191015T162608_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T164158_20191015T164516_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPM_2_20191015T164729_20191015T165319_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T165446_20191015T170302_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T170516_20191015T172023_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T172653_20191015T172911_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPM_2_20191015T172947_20191015T173408_C001 | -  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPM_2_20191015T173651_20191015T174252_C001 | and Backscatter Quality, OCOG  | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T174411_20191015T175047_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T175226_20191015T180735_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T182919_20191015T183255_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T183400_20191015T183629_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T183752_20191015T184109_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T184130_20191015T184134_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPM_2_20191015T184612_20191015T190030_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T190442_20191015T191315_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPM_2_20191015T191644_20191015T193814_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T200405_20191015T201635_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T201734_20191015T204008_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |

| CS_OFFL_SIR_IOPM_2_20191015T204352_20191015T204543_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
|---|--|--|
| CS_OFFL_SIR_IOPM_2_20191015T204639_20191015T205118_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPM_2_20191015T205616_20191015T205756_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T205941_20191015T212041_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T215301_20191015T221756_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T222557_20191015T223151_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPM_2_20191015T223516_20191015T225507_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T225521_20191015T230222_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T231041_20191015T231234_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20191015T232427_20191015T235717_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20191015T012235_20191015T012551_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPN_2_20191015T050812_20191015T050836_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20191015T142304_20191015T142313_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPN_2_20191015T204230_20191015T204352_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPN_2_20191015T222200_20191015T222320_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |

## L2 Quality Flags (20Hz PLRM)

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

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

| Product   | Test Failed   | Description  |
|---|---|--|
| CS_OFFL_SIR_IOPN_2_20191015T000030_20191015T000122_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_20191015T000311_20191015T000404_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_20191015T001152_20191015T001321_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_20191015T005231_20191015T005548_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM          | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20191015T012235_20191015T012551_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_20191015T022945_20191015T023335_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_20191015T024007_20191015T024114_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_20191015T041712_20191015T041855_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20191015T045739_20191015T050252_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.  |

| CO. COPT. 381 COPT. 2 2010101701345 201001701345 CDD  COPT. 381 COPT. 2 2010101701345 2010101701345 CDD  COPT. 381 COPT. 2 20101017101345 2010101710134 CDD  COPT. 381 COPT. 2 20101017101345 2010101710134 CDD  COPT. 381 COPT. 2 20101017101345 2010101710134 CDD  CO | CS_OFFL_SIR_IOPN_2_20191015T051549_20191015T051952_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. |
|--|---|---|---|
| Comparison   Com   | CS_OFFL_SIR_IOPN_2_20191015T055538_20191015T060150_C001 |   |   |
| Dec   Color    | CS_OFFL_SIR_IOPN_2_20191015T061134_20191015T061314_C001 |   |   |
| CR_OFFL_SRI_OFFL_2_2019015T108582_2019015T00840_CO01  CR_OFFL_SRI_OFFL_2_2019015T08151_2019015T00840_CO01  CR_OFFL_SRI_OFFL_2_2019015T08151_2019015T00840_CO01  CR_OFFL_SRI_OFFL_2_2019015T08151_2019015T00800_CO01  CR_OFFL_SRI_OFFL_2_2019015T08152_2019015T00800_CO01  CR_OFFL_SRI_OFFL_2_2019015T08202_2019015T00800_CO01  CR_OFFL_SRI_OFFL_2_2019015T08000_CO01  CR_OFFL_SRI_OFFL_2_2019015T08000_CO01  CR_OFFL_SRI_OFFL_2_2019015T108000_CO01  CR_OFFL_SRI_OF | CS_OFFL_SIR_IOPN_2_20191015T061345_20191015T061946_C001 |   |   |
| CS OFFL SR JOHN 2 29191017093527 C001  | CS_OFFL_SIR_IOPN_2_20191015T063244_20191015T063407_C001 |   |   |
| CS_OFFL_SR_IOPN_2_20191915T1050032_20191015T09500_DOI  CS_OFFL_SR_IOPN_2_20191915T095003_20191015T09500_DOI  CS_OFFL_SR_IOPN_2_20191915T195003_20191015T09500_DOI  CS_OFFL_SR_IOPN_2_20191915T195003_20191015T09500_DOI  CS_OFFL_SR_IOPN_2_20191915T195003_20191015T19500_DOI  CS_OFFL_SR_IOPN_2_20191915T195003_20191015T12500_DOI  CS_OFFL_SR_IOPN_2_20191915T195003_20191015T12500_DOI  CS_OFFL_SR_IOPN_2_20191915T195003_20191015T122500_DOI  CS_OFFL_SR_IOPN_2_20191915T195003_201 | CS_OFFL_SIR_IOPN_2_20191015T063739_20191015T064138_C001 |   |   |
| CS_OFFL_SRI_IOPN_2_20191015T03503_20191015T03509_CO01  CS_OFFL_SRI_IOPN_2_20191015T03503_20191015T035071_CO01  CS_OFFL_SRI_IOPN_2_20191015T03503_20191015T035071_CO01  CS_OFFL_SRI_IOPN_2_20191015T03503_20191015T035072_CO01  CS_OFFL_SRI_IOPN_2_20191015T03503_20191015T035072_CO01  CS_OFFL_SRI_IOPN_2_20191015T03503_20191015T03503_CO01  CS_OFFL_SRI_IOPN_2_20191015T03503_20191015T03503_CO01  CS_OFFL_SRI_IOPN_2_20191015T03503_20191015T103503_CO01  CS_OFFL_SRI_IOPN_2_20191015T13503_20191015T103503_CO01  CS_OFFL_SRI_IOPN_2_20191015T13503_20191015T113503_CO01  CS_OFFL_SRI_IOPN_2_20191015T13503_20191015T113503_CO01  CS_OFFL_SRI_IOPN_2_20191015T13540_20191015T113503_CO01  CS_OFFL_SRI_IOPN_2_20191015T113540_20191015T113503_CO01  CS_OFFL_SRI_IOPN_2_20191015T113540_20191015T113503_CO01  CS_OFFL_SRI_IOPN_2_20191015T113540_20191015T113503_CO01  CS_OFFL_SRI_IOPN_2_20191015T113540_20191015T113503_CO01  CS_OFFL_SRI_IOPN_2_20191015T113540_20191015T113503_CO01  CS_OFFL_SRI_IOPN_2_20191015T113540_20191015T112503_CO01  CS_OFFL_SRI_IOPN_2_20191015T113540_20191015T112503_CO01  CS_OFFL_SRI_IOPN_2_20191015T113540_20191015T112503_CO01  CS_OFFL_SRI_IOPN_2_20191015T113540_20191015T112503_CO01  CS_OFFL_SRI_IOPN_2_20191015T113540_20191015T112503_CO01  CS_OFFL_SRI_IOPN_2_20191015T113540_20191015T112503_CO01  CS_OFFL_SRI_IOPN_2_20191015T113540_20191015T112503_CO01  CS_OFFL_SRI_IOPN_2_20191015T113540_20191015T112503_CO01  CS_OFFL_SRI_IOPN_2_20191015T113540_20191015T112503_CO01  CS_OFFL_SRI_IOPN_2_20191015T1135403_CO01015T1135403_CO01015T1135403_CO01015 | CS_OFFL_SIR_IOPN_2_20191015T081404_20191015T081527_C001 |   |   |
| CS_OFFL_SIR_JOPN_2_20191015T09585_20191015T09595_20 | CS_OFFL_SIR_IOPN_2_20191015T081611_20191015T082000_C001 |   |   |
| SS_OFFL_SIR_UPNL_2_20191015T1090558_20191015T1090716_C001  Almother Range Clustilly PLRM, COCG Almothe | CS_OFFL_SIR_IOPN_2_20191015T083539_20191015T083909_C001 | OCOG Backscatter Quality  |   |
| CS_OFFL_SIR_IOPN_2_20191015T109504_20191015T109582_2010  CS_OFFL_SIR_IOPN_2_20191015T109504_20191015T109582_20 | CS_OFFL_SIR_IOPN_2_20191015T090553_20191015T090716_C001 | and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality         | and the OCOG Altimeter Range and Backscatter Quality Flags have been                |
| OCOG Backscatter Quality  CS_OFFL_SIR_JOPN_2_20191015T10632_20191015T106449_CD01  All Mareler Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.  The Ocean Allemeter Range and Backscatter Quality Flags have been set for one or more records.  CS_OFFL_SIR_JOPN_2_20191015T105632_20191015T106820_CD01  CS_OFFL_SIR_JOPN_2_20191015T105632_20191015T106820_CD01  CS_OFFL_SIR_JOPN_2_20191015T113451_20191015T115823_CD01  CS_OFFL_SIR_JOPN_2_20191015T115440_20191015T115854_CD01  CS_OFFL_SIR_JOPN_2_20191015T115440_20191015T115854_CD01  CS_OFFL_SIR_JOPN_2_20191015T115440_20191015T115854_CD01  CS_OFFL_SIR_JOPN_2_20191015T115440_20191015T115854_CD01  CS_OFFL_SIR_JOPN_2_20191015T115440_20191015T115854_CD01  CS_OFFL_SIR_JOPN_2_20191015T115440_20191015T115854_CD01  CS_OFFL_SIR_JOPN_2_20191015T115440_20191015T115854_CD01  CS_OFFL_SIR_JOPN_2_20191015T115440_20191015T115854_CD01  CS_OFFL_SIR_JOPN_2_20191015T12030_20191015T12034_CD01  CS_OFFL_SIR_JOPN_2_20191015T12030_20191015T12034_CD01  CS_OFFL_SIR_JOPN_2_20191015T12034_20191015T12034_CD01  CCOG Allimeter Range Quality PLRM, CDCO Backscatter Quality  CCOG Backscatter Quality  CCOG Backscatter Quality  CCOG Backscatter Quality  CCOG Allimeter Range Quality PLRM, CDCO Backscatter Quality Flags have been set for one or more records.  CCOG Allimeter Range Quality PLRM, CDCO Backscatter Quality Flags have been set for one or more records.  CCOG Allimeter Range Quality PLRM, CDCO Backscatter Quality Flags have been set for one or more records.  CCOG Allimeter Range Quality PLRM, CDCO Backscatter Quality Flags have been set for one or more records.  CCOG Allimeter Range Quality PLRM, CDCO Backscatter Quality Flags have been set for one or more records.  CCOG Allimeter Range Quality PLRM, CDCO Backscatter Quality Flags have been set for one or more records.  CCOG Allimeter Range Quality PLRM, CDCO Backscatter Quality Flags have been set for one or more records.  CCOG Allimeter Range Quality PLRM, CDCO Backscatter Quality Flags have been set for one or more  | CS_OFFL_SIR_IOPN_2_20191015T091558_20191015T091713_C001 |   |   |
| and Backscater Quality PLRN. COOR Allimeter Range and Backscater Quality PLRN. COOR Allimeter Range and Backscater Quality PLRN. CS_OFFL_SIR_JOPN_2_20191015T195503_20191015T195820_CO01  CS_OFFL_SIR_JOPN_2_20191015T115451_20191015T115824_CO01  CS_OFFL_SIR_JOPN_2_20191015T115448_20191015T115854_CO01  CS_OFFL_SIR_JOPN_2_20191015T115448_20191015T115854_CO01  CS_OFFL_SIR_JOPN_2_20191015T125503_20191015T125554_CO01  CS_OFFL_SIR_JOPN_2_20191015T125550_20191015T125532_CO01  CS_OFFL_SIR_JOPN_2_20191015T125550_20191015T125532_CO01  CS_OFFL_SIR_JOPN_2_20191015T125550_20191015T125332_CO01  CS_OFFL_SIR_JOPN_2_20191015T125550_20191015T125332_CO01  CS_OFFL_SIR_JOPN_2_20191015T125550_20191015T125332_CO01  CS_OFFL_SIR_JOPN_2_20191015T125550_20191015T125332_CO01  CS_OFFL_SIR_JOPN_2_20191015T125550_20191015T125332_CO01  CS_OFFL_SIR_JOPN_2_20191015T125550_20191015T125332_CO01  CS_OFFL_SIR_JOPN_2_20191015T125550_20191015T125332_CO01  CS_OFFL_SIR_JOPN_2_20191015T125550_20191015T125332_CO01  CCS_OFFL_SIR_JOPN_2_20191015T125550_20191015T125332_CO01  CCS_OFFL_SIR_JOPN_2_20191015T125550_20191015T125332_CO01  CCS_OFFL_SIR_JOPN_2_20191015T125550_20191015T125332_CO01  CCS_OFFL_SIR_JOPN_2_20191015T125550_20191015T125332_CO01  CCS_OFFL_SIR_JOPN_2_20191015T125550_20191015T125332_CO01  CCS_OFFL_SIR_JOPN_2_20191015T125550_20191015T125332_CO01  CCS_OFFL_SIR_JOPN_2_20191015T125550_20191015T125332_CO01  CCS_OFFL_SIR_JOPN_2_20191015T125550_20191015T125332_CO01  CCS_OFFL_SIR_JOPN_2_20191015T125550_20191015T132533_CO01  CCS_OFFL_SIR_JOPN_2_20191015T134042_20191015T132533_CO01  CCS_OFFL_SIR_JOPN_2_20191015T134042_20191015T132533_CO01  CCS_OFFL_SIR_JOPN_2_20191015T134042_20191015T132533_CO01  CCS_OFFL_SIR_JOPN_2_20191015T134042_20191015T134050_CO01  CCS_OFFL_SIR_JOPN_2_20191015T134042_20191015T134050_CO01  CCS_OFFL_SIR_JOPN_2_20191015T134042_20191015T134050_CO01  CCS_OFFL_SIR_JOPN_2_20191015T134042_20191015T134050_CO01  CCS_OFFL_SIR_JOPN_2_20191015T134042_20191015T134050_CO01  CCS_OFFL_SIR_JOPN_2_20191015T134042_20191015T134050_CO01  CCS_OFFL_SIR_JOPN_ | CS_OFFL_SIR_IOPN_2_20191015T095046_20191015T095652_C001 |   |   |
| CS_OFFL_SIR_IOPN_2_20191015T105032_20191015T115620_C001  CS_OFFL_SIR_IOPN_2_20191015T11361_20191015T115620_C001  CS_OFFL_SIR_IOPN_2_20191015T11361_20191015T115620_C001  CS_OFFL_SIR_IOPN_2_20191015T115440_20191015T115620_C001  CS_OFFL_SIR_IOPN_2_20191015T115440_20191015T11564_C001  CS_OFFL_SIR_IOPN_2_20191015T120530_20191015T120554_C001  CS_OFFL_SIR_IOPN_2_20191015T120530_20191015T120554_C001  CS_OFFL_SIR_IOPN_2_20191015T120530_20191015T120554_C001  CS_OFFL_SIR_IOPN_2_20191015T120530_20191015T120554_C001  CS_OFFL_SIR_IOPN_2_20191015T120530_20191015T120554_C001  CS_OFFL_SIR_IOPN_2_20191015T120530_20191015T120554_C001  CS_OFFL_SIR_IOPN_2_20191015T120530_20191015T120554_C001  CS_OFFL_SIR_IOPN_2_20191015T120554_C001  CS_OFFL_SIR_IOPN_2_20191015T120554_C001  CS_OFFL_SIR_IOPN_2_20191015T120554_C001  CS_OFFL_SIR_IOPN_2_20191015T120554_C001  CS_OFFL_SIR_IOPN_2_20191015T122055_C00191015T120554_C001  CS_OFFL_SIR_IOPN_2_20191015T122055_C00191015T120554_C001  CS_OFFL_SIR_IOPN_2_20191015T122055_C00191015T120554_C001  CS_OFFL_SIR_IOPN_2_20191015T122055_C00191015T122055_C001  CS_OFFL_SIR_IOPN_2_20191015T122055_C00191015T122055_C001  CS_OFFL_SIR_IOPN_2_20191015T123054_C0191015T122055_C001  CS_OFFL_SIR_IOPN_2_20191015T123054_C0191015T123050_C001  CS_OFFL_SIR_IOPN_2_20191015T123054_C0191015T123050_C001  CS_OFFL_SIR_IOPN_2_20191015T134042_20191015T134065_C001  CS_OFFL_SIR_IOPN_2_20191015T134042_20191015T134065_C001  CS_OFFL_SIR_IOPN_2_20191015T140447_20191015T134065_C001  CS_OFFL_SIR_IOPN_2_20191015T140447_20191015T140628_C001  CS_OFFL_SIR_IOPN_2_20191015T140447_20191015T140628_C001  CS_OFFL_SIR_IOPN_2_20191015T140447_20191015T140628_C001  CS_OFFL_SIR_IOPN_2_20191015T140447_20191015T140628_C001  CS_OFFL_SIR_IOPN_2_20191015T140447_20191015T140628_C001  CCS_OFFL_SIR_IOPN_2_20191015T140447_20191015T140628_C001  CCS_OFFL_SIR_IOPN_2_20191015T140447_20191015T140628_C001  CCS_OFFL_SIR_IOPN_2_20191015T140447_20191015T140628_C001  CCS_OFFL_SIR_IOPN_2_20191015T140447_20191015T140628_C001  CCS_OFFL_SIR_IOPN_2_20191015T140447_20191015T140628_ | CS_OFFL_SIR_IOPN_2_20191015T104524_20191015T104648_C001 | and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality         | and the OCOG Altimeter Range and Backscatter Quality Flags have been                |
| OCOG Backscatter Quality PLRM.  | CS_OFFL_SIR_IOPN_2_20191015T105503_20191015T105620_C001 | and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality         | and the OCOG Altimeter Range and Backscatter Quality Flags have been                |
| OCG Backscatter Quality PLRM. CS_OFFL_SIR_IOPN_2_20191015T115446_20191015T115654_C001  CS_OFFL_SIR_IOPN_2_20191015T115446_20191015T115654_C001  CS_OFFL_SIR_IOPN_2_20191015T120530_20191015T120554_C001  CS_OFFL_SIR_IOPN_2_20191015T120530_20191015T120554_C001  CS_OFFL_SIR_IOPN_2_20191015T120550_20191015T120554_C001  CS_OFFL_SIR_IOPN_2_20191015T120550_20191015T121141_C001  CS_OFFL_SIR_IOPN_2_20191015T12505_20191015T121141_C001  CS_OFFL_SIR_IOPN_2_20191015T12505_20191015T122632_C001  CS_OFFL_SIR_IOPN_2_20191015T12505_20191015T122632_C001  CS_OFFL_SIR_IOPN_2_20191015T123154_20191015T12503_C001  CS_OFFL_SIR_IOPN_2_20191015T132304_20191015T132921_C001  CS_OFFL_SIR_IOPN_2_20191015T132304_20191015T132921_C001  CS_OFFL_SIR_IOPN_2_20191015T132042_20191015T134405_C001  CS_OFFL_SIR_IOPN_2_20191015T134042_20191015T13405_C001  CS_OFFL_SIR_IOPN_2_20191015T140447_20191015T140628_C001  CS_OFFL_SIR_IOPN_2_20191015T14053_20191015T14405_C001  CS_OFFL_SIR_IOPN_2_20191015T14053_20191015T140628_C001  CS_OFFL_SIR_IOPN_2_20191015T14053_20191015T140628_C001  CS_OFFL_SIR_IOPN_2_20191015T14053_20191015T140628_C001  CS_OFFL_SIR_IOPN_2_20191015T14063_20191015T14405_C001  CS_OFFL_SIR_IOPN_2_20191015T14063_20191015T14405_C001  CS_OFFL_SIR_IOPN_2_20191015T140647_20191015T140628_C001  CS_OFFL_SIR_IOPN_2_20191015T140647_20191015T140628_C001  CS_OFFL_SIR_IOPN_2_20191015T140647_20191015T140628_C001  CS_OFFL_SIR_IOPN_2_20191015T140647_20191015T140628_C001  CS_OFFL_SIR_IOPN_2_20191015T140647_20191015T140628_C001 | CS_OFFL_SIR_IOPN_2_20191015T113451_20191015T113623_C001 |   |   |
| and Backscatter Quality PLRM, COG Altimeter Range and Backscatter Quality PLRM, COG Altimeter Range and Backscatter Quality PLRM, CS_OFFL_SIR_IOPN_2_20191015T120530_20191015T120554_C001  CS_OFFL_SIR_IOPN_2_20191015T120530_20191015T121141_C001  CS_OFFL_SIR_IOPN_2_20191015T120530_20191015T1214141_C001  CS_OFFL_SIR_IOPN_2_20191015T123505_20191015T122532_C001  CS_OFFL_SIR_IOPN_2_20191015T123505_20191015T123503_C001  CS_OFFL_SIR_IOPN_2_20191015T123504_20191015T123503_C001  CS_OFFL_SIR_IOPN_2_20191015T123504_20191015T123503_C001  CS_OFFL_SIR_IOPN_2_20191015T132804_20191015T132921_C001  CS_OFFL_SIR_IOPN_2_20191015T132804_20191015T132921_C001  CS_OFFL_SIR_IOPN_2_20191015T132804_20191015T132921_C001  CS_OFFL_SIR_IOPN_2_20191015T134042_20191015T134055_C001  CS_OFFL_SIR_IOPN_2_20191015T140447_20191015T140628_C001  CS_OFFL_SIR_IOPN_2_20191015T140447 | CS_OFFL_SIR_IOPN_2_20191015T115340_20191015T115412_C001 | OCOG Backscatter Quality  |   |
| CS_OFFL_SIR_IOPN_2_20191015T12035_20191015T121141_C001  CS_OFFL_SIR_IOPN_2_20191015T121035_20191015T121141_C001  CS_OFFL_SIR_IOPN_2_20191015T122505_20191015T122632_C001  CS_OFFL_SIR_IOPN_2_20191015T122505_20191015T122632_C001  CS_OFFL_SIR_IOPN_2_20191015T123503_C001  CS_OFFL_SIR_IOPN_2_20191015T123503_C001  CS_OFFL_SIR_IOPN_2_20191015T132804_20191015T123503_C001  CS_OFFL_SIR_IOPN_2_20191015T132804_20191015T132921_C001  CS_OFFL_SIR_IOPN_2_20191015T132804_20191015T132921_C001  CS_OFFL_SIR_IOPN_2_20191015T134042_20191015T134405_C001  CS_OFFL_SIR_IOPN_2_20191015T134044_20191015T1340628_C001  CS_OFFL_SIR_IOPN_2_20191015T140447_20191015T140628_C001  CS_OFFL_SIR_IOPN_2_20191015T140447_20191015T140628_C001  CS_OFFL_SIR_IOPN_2_20191015T140447_20191015T140628_C001  CS_OFFL_SIR_IOPN_2_20191015T140647_20191015T140628_C001  CS_OFFL_SIR_IOPN_2_20191015T140647_20191015T141652_C001  CS_OFFL_SIR_IOPN_2_20191015T141653_20191015T141621_C001  CS_OFFL_SIR_IOPN_2_20191015T141653_20191015T141652_C001  CS_OFFL_SIR_IOPN_2_20191015T141653_20191015T141651_C001  CS_OFFL_SIR_IOPN_2_20191015T141653_20191015T141651_C001  CS_OFFL_SIR_IOPN_2_20191015T141653_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T141653_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T141653_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T141653_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T141653_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T141653_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T141653_20191015T141628_C001  CS_OFFL_SIR_IOPN_2_2019101 | CS_OFFL_SIR_IOPN_2_20191015T115446_20191015T115654_C001 | and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality         | and the OCOG Altimeter Range and Backscatter Quality Flags have been                |
| CS_OFFL_SIR_IOPN_2_20191015T122505_20191015T122632_C001  CS_OFFL_SIR_IOPN_2_20191015T122505_20191015T122632_C001  CS_OFFL_SIR_IOPN_2_20191015T123154_20191015T122632_C001  CS_OFFL_SIR_IOPN_2_20191015T123154_20191015T123503_C001  CS_OFFL_SIR_IOPN_2_20191015T123154_20191015T123503_C001  CS_OFFL_SIR_IOPN_2_20191015T132804_20191015T132921_C001  CS_OFFL_SIR_IOPN_2_20191015T132804_20191015T132921_C001  CS_OFFL_SIR_IOPN_2_20191015T134042_20191015T134405_C001  CS_OFFL_SIR_IOPN_2_20191015T134042_20191015T140628_C001  CS_OFFL_SIR_IOPN_2_20191015T140447_20191015T140628_C001  CS_OFFL_SIR_IOPN_2_20191015T141053_20191015T141421_C001  CS_OFFL_SIR_IOPN_2_20191015T141053_20191015T141421_C001  CS_OFFL_SIR_IOPN_2_20191015T144053_20191015T144085_C001  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T1546530_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T1545530_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T1545530_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T1545530_20191015T154 | CS_OFFL_SIR_IOPN_2_20191015T120530_20191015T120554_C001 |   |   |
| CS_OFFL_SIR_IOPN_2_20191015T122505_20191015T122632_CO01  Altimeter Range and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM oCOG Altimeter Range and Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T154805_C001  Altimeter Range and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T154805_C001  Altimeter Range and Backscatter Quality Flags have been set for one or more records.  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T | CS_OFFL_SIR_IOPN_2_20191015T121035_20191015T121141_C001 | OCOG Backscatter Quality  |   |
| CS_OFFL_SIR_IOPN_2_20191015T123194_20191015T132921_C001  CS_OFFL_SIR_IOPN_2_20191015T132804_20191015T132921_C001  CS_OFFL_SIR_IOPN_2_20191015T134042_20191015T134405_C001  CS_OFFL_SIR_IOPN_2_20191015T134042_20191015T134405_C001  CS_OFFL_SIR_IOPN_2_20191015T140447_20191015T140628_C001  CS_OFFL_SIR_IOPN_2_20191015T140447_20191015T140628_C001  CS_OFFL_SIR_IOPN_2_20191015T140447_20191015T140628_C001  CS_OFFL_SIR_IOPN_2_20191015T141053_20191015T141421_C001  CS_OFFL_SIR_IOPN_2_20191015T141053_20191015T141421_C001  CS_OFFL_SIR_IOPN_2_20191015T141053_20191015T141421_C001  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T154805_ | CS_OFFL_SIR_IOPN_2_20191015T122505_20191015T122632_C001 | and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality         | and the OCOG Altimeter Range and Backscatter Quality Flags have been                |
| CS_OFFL_SIR_IOPN_2_20191015T134042_20191015T134405_C001  CS_OFFL_SIR_IOPN_2_20191015T134042_20191015T134405_C001  CS_OFFL_SIR_IOPN_2_20191015T140447_20191015T140628_C001  CS_OFFL_SIR_IOPN_2_20191015T140447_20191015T140628_C001  CS_OFFL_SIR_IOPN_2_20191015T141053_20191015T141421_C001  CS_OFFL_SIR_IOPN_2_20191015T141053_20191015T141421_C001  CS_OFFL_SIR_IOPN_2_20191015T141053_20191015T141421_C001  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T154958_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T154958_20191015T155311_C001  CS_OFFL_SIR_IOPN_2_20191015T154958_20191015T155311_C001  COGG Altimeter Range Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM, OCOG Altimeter Range Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM, OCOG Altimeter R | CS_OFFL_SIR_IOPN_2_20191015T123154_20191015T123503_C001 |   |   |
| CS_OFFL_SIR_IOPN_2_20191015T134042_20191015T140628_C001  CS_OFFL_SIR_IOPN_2_20191015T140447_20191015T140628_C001  CS_OFFL_SIR_IOPN_2_20191015T141053_20191015T141421_C001  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T155311_C001  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T155311_C001  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T155311_C001  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T155311_C001  CS_OFFL_SIR_IOPN_2_20191015T154658_20191015T155311_C001  CCOG Altimeter Range Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range and Backscatter Quality Flags have been set for one or more records.   | CS_OFFL_SIR_IOPN_2_20191015T132804_20191015T132921_C001 |   |   |
| CS_OFFL_SIR_IOPN_2_20191015T14053_20191015T141421_C001  CS_OFFL_SIR_IOPN_2_20191015T141053_20191015T141421_C001  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T154805_C001  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T155311_C001  | CS_OFFL_SIR_IOPN_2_20191015T134042_20191015T134405_C001 |   |   |
| CS_OFFL_SIR_IOPN_2_20191015T141053_20191015T141421_C001  and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T154805_C001  and Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  CS_OFFL_SIR_IOPN_2_20191015T154588_20191015T155311_C001  CS_OFFL_SIR_IOPN_2_20191015T154958_20191015T155311_C001  The Occan Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.  The Occan Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Occan Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Occan Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Occan Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Occan Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Occan Altimeter Range and Backscatter Quality Flags have been set for one or more records.  | CS_OFFL_SIR_IOPN_2_20191015T140447_20191015T140628_C001 | OCOG Backscatter Quality  |   |
| CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T154805_C001  and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM  and the OCOG Altimeter Range and Backscatter Quality PLRM  CS_OFFL_SIR_IOPN_2_20191015T154958_20191015T155311_C001  CS_OFFL_SIR_IOPN_2_20191015T154958_20191015T155311_C001  The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The OCOG Range and Backscatter Quality Flags have been set for one or more records.  | CS_OFFL_SIR_IOPN_2_20191015T141053_20191015T141421_C001 | and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | and the OCOG Altimeter Range and Backscatter Quality Flags have been                |
|  | CS_OFFL_SIR_IOPN_2_20191015T154530_20191015T154805_C001 | and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality         | and the OCOG Altimeter Range and Backscatter Quality Flags have been                |
|  | CS_OFFL_SIR_IOPN_2_20191015T154958_20191015T155311_C001 |   |   |

| CS_OFFL_SIR_IOPN_2_20191015T155424_20191015T155624_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM          | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
|---|---|--|
| CS_OFFL_SIR_IOPN_2_20191015T162608_20191015T162718_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_20191015T172055_20191015T172653_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_20191015T181459_20191015T181553_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20191015T182347_20191015T182607_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20191015T184242_20191015T184612_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_20191015T191315_20191015T191511_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20191015T194404_20191015T194520_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_20191015T195914_20191015T200405_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20191015T204543_20191015T204639_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_20191015T205118_20191015T205335_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20191015T213121_20191015T213222_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20191015T213357_20191015T213420_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20191015T223151_20191015T223318_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_20191015T231030_20191015T231041_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20191015T232259_20191015T232427_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_20191015T000405_20191015T001152_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM          | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20191015T001321_20191015T001400_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_20191015T010225_20191015T010631_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20191015T013556_20191015T014035_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_20191015T014417_20191015T015219_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20191015T022739_20191015T022945_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20191015T024114_20191015T024525_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20191015T032339_20191015T033059_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20191015T040654_20191015T040751_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20191015T041856_20191015T041925_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20191015T041925_20191015T042558_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
|   |   |  |

| CS_OFFL_SIR_IOPR_2_20191015T043820_20191015T044017_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality   | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
|---|---|--|
| CS_OFFL_SIR_IOPR_2_20191015T050252_20191015T050812_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20191015T050836_20191015T051006_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20191015T054542_20191015T054707_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20191015T060433_20191015T060746_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20191015T064138_20191015T064831_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20191015T070226_20191015T070316_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_20191015T073819_20191015T074045_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20191015T082000_20191015T082827_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM          | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20191015T095652_20191015T100553_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20191015T100626_20191015T100842_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality   | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPR_2_20191015T105620_20191015T110027_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20191015T113414_20191015T113450_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_20191015T114204_20191015T114438_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 and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20191015T114751_20191015T114859_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_20191015T115412_20191015T115445_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.  |

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

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

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

Number of products with errors: 189

## 5.8 L2 Ocean Retracking Quality Check

#### L2 Retracking Flags (20Hz)

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

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

Number of products with errors: 63

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

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

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

Number of products with errors: 146

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

# 6.1 P2P Product Format Check

Each product, retrieved and unpacked from the science server, is checked to ensure it consists of both an XML header file (.HDR) and a NetCDF product file (.nc).

Number of products with errors:

#### 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.

#### 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).

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.
- > Sea State Bias & Sea State Bias PLRM: The error value is currently set for products over sea ice, but this is to be expected.
- > Mean Sea Surface: The error value is currently set for products over land and sea ice, but this is to be expected.
- > Mean Dynamic Topography: The error value is currently set for products over land and sea ice, but this is to be expected.
- > Altimetric Wind Speed Error: The error value is currently set for products over land and sea ice, but this is to be expected.

Number of products with errors:

30

| Product   | Test Failed  | Description   |
|---|--|---|
| CS_OFFL_SIR_IOP_220191014T231716_20191015T000650_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)  |
| CS_OFFL_SIR_IOP_220191015T000650_20191015T005629_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_220191015T005629_20191015T014604_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_220191015T014604_20191015T023543_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_220191015T023543_20191015T032517_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_220191015T032517_20191015T041456_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_220191015T041456_20191015T050431_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_220191015T050431_20191015T055410_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_220191015T055410_20191015T064344_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_220191015T064344_20191015T073323_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_220191015T073323_20191015T082258_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_220191015T082258_20191015T091237_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_220191015T091237_20191015T100212_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_220191015T100212_20191015T105151_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_220191015T105151_20191015T114125_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_220191015T114125_20191015T123104_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_220191015T123104_20191015T132039_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_220191015T132039_20191015T141018_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_220191015T141018_20191015T145952_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_220191015T145952_20191015T154931_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_220191015T154931_20191015T163906_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_220191015T163906_20191015T172845_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 Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records |
| CS_OFFL_SIR_IOP_220191015T172845_20191015T181819_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)  |
| CS_OFFL_SIR_IOP_220191015T181819_20191015T190758_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_220191015T190758_20191015T195733_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_220191015T195733_20191015T204712_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_ZZ01910151204712_201910151213047_C001 | Topography (1)                     | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)                                      |
|---|------------------------------------|---|
| CS_OFFL_SIR_IOP_220191015T213647_20191015T222626_C001 |                                    | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records |
| CS_OFFL_SIR_IOP_220191015T222626_20191015T231600_C001 | Mean Sea Surface (1), Mean Dynamic | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>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:

2

| Product  | Test Failed         | Description   |
|--|---------------------|---|
| CS_OFFL_SIR_IOP_220191015T154931_20191015T163906_C001  | Power scaling error | There is an error in the scaling of the L2 waveform for one or more records |
| CS_OFFL_SIR_IOP_2_20191015T172845_20191015T181819_C001 | Power scaling error | There is an error in the scaling of the L2 waveform for one or more records |

### 6.6 P2P Measurement Quality Flag Check

## P2P Quality Flags (20Hz)

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

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

Number of products with errors: 30

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

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

Number of products with errors:

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

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

Number of products with errors:

### 6.8 P2P Ocean Retracking Quality Check

### P2P Retracking Flags (20Hz)

Cryosal 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.

30