

### 1. Overview

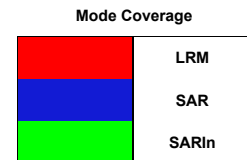
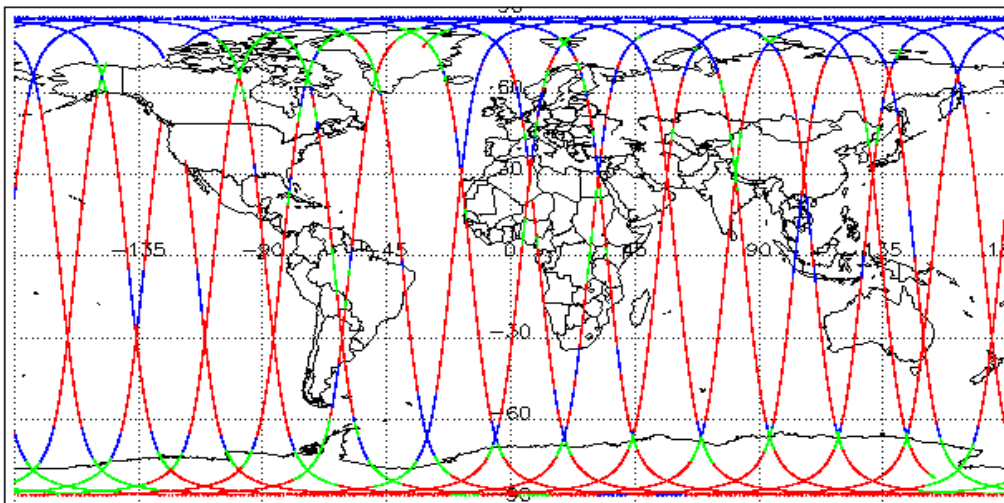
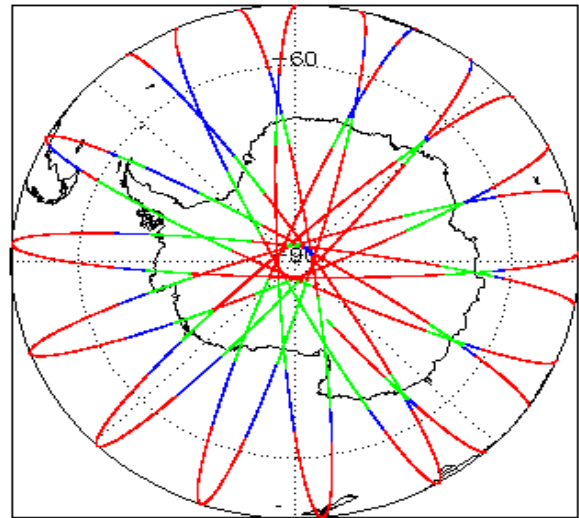
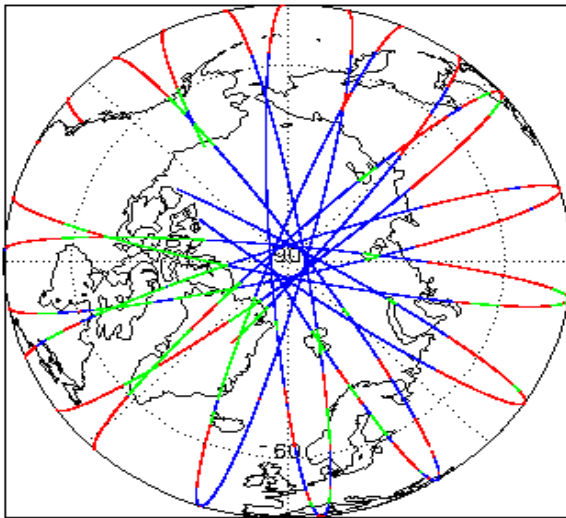
Report Production:	21-Jun-2019
Processor Used:	CryoSat Ocean Processor
Data Used:	Geophysical Ocean Products (GOP) L1B, L2 & P2P Science Data

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	Nominal
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

12-May-2019	None
13-May-2019	None
14-May-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
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### 4. GOP Level 1B Data Quality Check

#### 4.1 L1B Product Format Check

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

Number of products with errors: 0

## 4.2 L1B Product Header Analysis

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

**L1B Processing Quality HR:** The l1b\_proc\_flag\_hr flag is currently set all L1B GOPR and GOPN products because the l1b\_processing\_quality\_hr field is not correctly configured in the OSAR and OSARIn chains. A modification is required in the next release.

Number of products with errors: 0

## 4.3 L1B Auxiliary Data File Usage Check

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

Number of products with errors: 0

## 4.4 L1B Auxiliary Correction Error Check

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

Number of products with errors: 0

## 4.5 L1B Measurement Confidence Data Check

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

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

Number of products with errors: 0

## 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 some products over land, but this is to be expected.

Number of products with errors: 30

Product	Test Failed	Description
CS_OFFL_SIR_GOPM1B_20190513T123516_20190513T124642_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPM1B_20190513T124845_20190513T130343_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPM1B_20190513T173632_20190513T180212_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20190513T000314_20190513T000438_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20190513T012839_20190513T013451_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20190513T022825_20190513T023036_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20190513T040742_20190513T041227_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20190513T094718_20190513T095140_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20190513T103536_20190513T103613_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20190513T103653_20190513T103935_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20190513T103945_20190513T104110_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20190513T135342_20190513T135654_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20190513T163327_20190513T163510_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20190513T204039_20190513T204136_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20190513T235812_20190513T235932_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20190513T022406_20190513T022824_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20190513T023036_20190513T023129_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20190513T023357_20190513T023436_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20190513T035958_20190513T040742_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20190513T053809_20190513T054817_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20190513T071534_20190513T071602_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20190513T085848_20190513T090105_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20190513T090122_20190513T091233_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20190513T104111_20190513T104857_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20190513T135252_20190513T135342_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20190513T135917_20190513T140613_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20190513T185346_20190513T190117_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20190513T195238_20190513T195544_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20190513T220751_20190513T221007_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20190513T221111_20190513T221814_C001	Loss of Echo	The tracking echo is missing for one or more records

## 5. GOP Level 2 Data Quality Check

### 5.1 L2 Product Format Check

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

Number of products with errors: 0

### 5.2 L2 Product Header Analysis

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

Number of products with errors: 0

### 5.3 L2 Auxiliary Data File Usage Check

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

Number of products with errors: 0

### 5.4 L2 Auxiliary Correction Error Check

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

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

> **ECMWF Meteo Corrections:** Currently the following corrections are not computed over CONTINENTAL ICE: Dry Tropospheric 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.

> **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: 62

Product	Test Failed	Description
CS_OFFL_SIR_GOPM_2_20190513T000020_20190513T000314_C001	GPD Wet Tropospheric Correction	There is an error with the GPD Wet Tropospheric correction for one or more records
CS_OFFL_SIR_GOPM_2_20190513T000511_20190513T003342_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPM_2_20190513T100102_20190513T102146_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPM_2_20190513T235031_20190513T235054_C001	GPD Wet Tropospheric Correction	There is an error with the GPD Wet Tropospheric correction for one or more records
CS_OFFL_SIR_GOPM_2_20190513T235933_20190514T000208_C001	GPD Wet Tropospheric Correction	There is an error with the GPD Wet Tropospheric correction for one or more records
CS_OFFL_SIR_GOPN_2_20190512T235811_20190513T000019_C001	GPD Wet Tropospheric Correction	There is an error with the GPD Wet Tropospheric correction for one or more records
CS_OFFL_SIR_GOPN_2_20190513T000314_20190513T000438_C001	GPD Wet Tropospheric Correction	There is an error with the GPD Wet Tropospheric correction for one or more records
CS_OFFL_SIR_GOPN_2_20190513T004853_20190513T005011_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_GOPN_2_20190513T012839_20190513T013451_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_GOPN_2_20190513T022825_20190513T023036_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_GOPN_2_20190513T031101_20190513T031240_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20190513T040742_20190513T041227_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
CS_OFFL_SIR_GOPN_2_20190513T045919_20190513T050154_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_GOPN_2_20190513T063019_20190513T063409_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
CS_OFFL_SIR_GOPN_2_20190513T071150_20190513T071204_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20190513T073120_20190513T073244_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
CS_OFFL_SIR_GOPN_2_20190513T081001_20190513T081315_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_GOPN_2_20190513T081829_20190513T081944_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20190513T095733_20190513T095849_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_GOPN_2_20190513T103653_20190513T103935_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
CS_OFFL_SIR_GOPN_2_20190513T103945_20190513T104110_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_GOPN_2_20190513T121914_20190513T122017_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_GOPN_2_20190513T131310_20190513T131539_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_GOPN_2_20190513T135707_20190513T135917_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_GOPN_2_20190513T145216_20190513T145553_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_GOPN_2_20190513T153348_20190513T153739_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_GOPN_2_20190513T154248_20190513T154323_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20190513T163327_20190513T163510_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records



## 5.5 L2 Measurement Confidence Data Check

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

Number of products with errors: 0

## 5.6 L2 Measurement Quality Flag Check

### L2 Quality Flags (20Hz)

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

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

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

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

Number of products with errors: 75

Product	Test Failed	Description
CS_OFFL_SIR_GOPM_2_20190513T000020_20190513T000314_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_GOPM_2_20190513T000511_20190513T003342_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPM_2_20190513T005520_20190513T011117_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPM_2_20190513T012724_20190513T012839_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPM_2_20190513T013451_20190513T013729_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_GOPM_2_20190513T014448_20190513T015904_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPM_2_20190513T020044_20190513T020327_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPM_2_20190513T024606_20190513T030944_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPM_2_20190513T031240_20190513T032127_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_GOPM_2_20190513T032406_20190513T034744_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPM_2_20190513T041442_20190513T044833_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPM_2_20190513T045456_20190513T045919_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_GOPM_2_20190513T050323_20190513T053551_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPM_2_20190513T055613_20190513T061111_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPM_2_20190513T061645_20190513T062745_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPM_2_20190513T063410_20190513T063958_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_GOPM_2_20190513T064138_20190513T064743_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPM_2_20190513T065027_20190513T065922_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPM_2_20190513T073244_20190513T074337_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPM_2_20190513T074340_20190513T080625_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPM_2_20190513T081315_20190513T081828_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_GOPM_2_20190513T082124_20190513T082315_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPM_2_20190513T082506_20190513T083935_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPM_2_20190513T085548_20190513T085747_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPM_2_20190513T085801_20190513T085848_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPM_2_20190513T091233_20190513T092122_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPM_2_20190513T092408_20190513T094532_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPM_2_20190513T095322_20190513T095733_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_GOPM_2_20190513T100102_20190513T102146_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.



CS_OFFL_SIR_GOPM_2_20190513T223301_20190513T225555_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPM_2_20190513T230531_20190513T230723_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_GOPM_2_20190513T231437_20190513T232959_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPM_2_20190513T233628_20190513T234607_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPN_2_20190513T000314_20190513T000438_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPN_2_20190513T121914_20190513T122017_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPN_2_20190513T123333_20190513T123516_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPR_2_20190513T023036_20190513T023129_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPR_2_20190513T030945_20190513T031101_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPR_2_20190513T095850_20190513T100102_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPR_2_20190513T185346_20190513T190117_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.

## L2 Quality Flags (20Hz PLRM)

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

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

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

**Number of products with errors:** 56

Product	Test Failed	Description
CS_OFFL_SIR_GOPN_2_20190513T000314_20190513T000438_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_GOPN_2_20190513T004853_20190513T005011_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_GOPN_2_20190513T005333_20190513T005520_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_GOPN_2_20190513T012839_20190513T013451_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_GOPN_2_20190513T022825_20190513T023036_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_GOPN_2_20190513T023129_20190513T023357_C001	Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPN_2_20190513T045345_20190513T045456_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_GOPN_2_20190513T045919_20190513T050154_C001	Ocean Altimeter Range Quality PLRM, OCOG Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality, OCOG Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags, and the OCOG Altimeter Range and Backscatter Flags have been set for one or more records.
CS_OFFL_SIR_GOPN_2_20190513T072050_20190513T072140_C001	Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPN_2_20190513T072929_20190513T073037_C001	Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPN_2_20190513T081829_20190513T081944_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_GOPN_2_20190513T094718_20190513T095140_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_GOPN_2_20190513T103653_20190513T103935_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_GOPN_2_20190513T103945_20190513T104110_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_GOPN_2_20190513T113458_20190513T113644_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_GOPN_2_20190513T121343_20190513T121749_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_GOPR_2_20190513T171502_20190513T171953_C001	Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPR_2_20190513T171953_20190513T172309_C001	Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPR_2_20190513T172331_20190513T172603_C001	Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPR_2_20190513T181408_20190513T181613_C001	Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPR_2_20190513T185346_20190513T190117_C001	Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPR_2_20190513T195238_20190513T195544_C001	Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPR_2_20190513T202900_20190513T203916_C001	Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPR_2_20190513T203916_20190513T204038_C001	Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPR_2_20190513T213137_20190513T213425_C001	Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPR_2_20190513T221111_20190513T221814_C001	Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPR_2_20190513T221814_20190513T222232_C001	Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPR_2_20190513T231315_20190513T231437_C001	Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPR_2_20190513T235055_20190513T235705_C001	Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH 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: 192

## 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: 66

### 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 GOPR and GOPN products over sea ice, but this is to be expected.

Number of products with errors: 149

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

### 6.1 P2P Product Format Check

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

Number of products with errors: 0

### 6.2 P2P Product Header Analysis

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

Number of products with errors: 0

### 6.3 P2P Auxiliary Data File Usage Check

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

Number of products with errors: 0

## 6.4 P2P Auxiliary Correction Error Check

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

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

> **ECMWF Meteo Corrections:** Currently the following corrections are not computed over CONTINENTAL ICE: Dry Tropospheric 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.

> **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_GOP_2__20190512T235742_20190513T004721_C001	GPD Wet Tropospheric Correction, Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the GPD Wet Tropospheric Correction, the MSS height (solution 1) and the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOP_2__20190513T004721_20190513T013656_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) for one or more records
CS_OFFL_SIR_GOP_2__20190513T013656_20190513T022635_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) for one or more records
CS_OFFL_SIR_GOP_2__20190513T022635_20190513T031610_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) for one or more records
CS_OFFL_SIR_GOP_2__20190513T031610_20190513T040549_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) for one or more records
CS_OFFL_SIR_GOP_2__20190513T040549_20190513T045523_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
CS_OFFL_SIR_GOP_2__20190513T045523_20190513T054502_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) for one or more records
CS_OFFL_SIR_GOP_2__20190513T054502_20190513T063437_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1) and all Tidal corrections for one or more products
CS_OFFL_SIR_GOP_2__20190513T063437_20190513T072416_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) for one or more records
CS_OFFL_SIR_GOP_2__20190513T072416_20190513T081351_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
CS_OFFL_SIR_GOP_2__20190513T081351_20190513T090329_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) for one or more records
CS_OFFL_SIR_GOP_2__20190513T090329_20190513T095304_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) for one or more records
CS_OFFL_SIR_GOP_2__20190513T095304_20190513T104243_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1) and all Tidal corrections for one or more products
CS_OFFL_SIR_GOP_2__20190513T104243_20190513T113217_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) for one or more records
CS_OFFL_SIR_GOP_2__20190513T113217_20190513T122156_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) for one or more records
CS_OFFL_SIR_GOP_2__20190513T122156_20190513T131131_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) for one or more records
CS_OFFL_SIR_GOP_2__20190513T131131_20190513T140110_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) for one or more records
CS_OFFL_SIR_GOP_2__20190513T140110_20190513T145045_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) for one or more records
CS_OFFL_SIR_GOP_2__20190513T145045_20190513T154023_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) for one or more records
CS_OFFL_SIR_GOP_2__20190513T154023_20190513T162958_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) for one or more records
CS_OFFL_SIR_GOP_2__20190513T162958_20190513T171937_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) for one or more records
CS_OFFL_SIR_GOP_2__20190513T171937_20190513T180912_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) for one or more records
CS_OFFL_SIR_GOP_2__20190513T180912_20190513T185851_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) for one or more records
CS_OFFL_SIR_GOP_2__20190513T185851_20190513T194826_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) for one or more records
CS_OFFL_SIR_GOP_2__20190513T194826_20190513T203804_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) for one or more records
CS_OFFL_SIR_GOP_2__20190513T203804_20190513T212739_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) for one or more records
CS_OFFL_SIR_GOP_2__20190513T212739_20190513T221718_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1) and all Tidal corrections for one or more products

CS_OFFL_SIR_GOP_2__20190513T221718_20190513T230653_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) for one or more records
CS_OFFL_SIR_GOP_2__20190513T230653_20190513T235631_C001	GPD Wet Tropospheric Correction, Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the GPD Wet Tropospheric Correction, the MSS height (solution 1) and the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOP_2__20190513T235631_20190514T004606_C001	GPD Wet Tropospheric Correction, Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the GPD Wet Tropospheric Correction, the MSS height (solution 1), the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide (solution 1: GOT)

## 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: 0

## 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: 29

### 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: 29

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

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

Number of products with errors: 30

## 6.8 P2P Ocean Retracking Quality Check

### P2P Retracking Flags (20Hz)

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

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

Number of products with errors: 28

### 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 GOPR and GOPN products over sea ice, but this is to be expected.

Number of products with errors: 30