

### 1. Overview

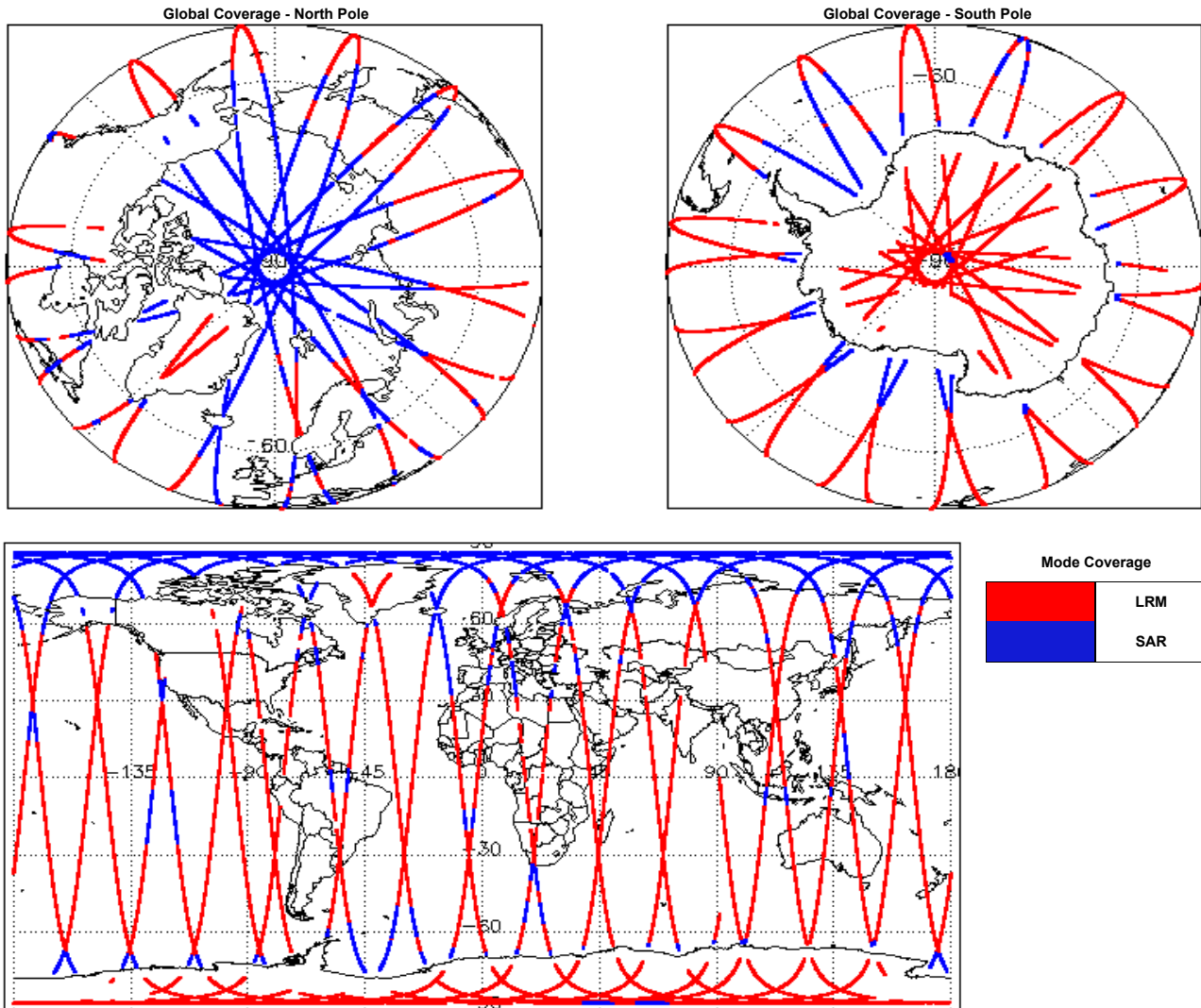
Report Production Date:	23-Mar-2016
Processor Used:	CryoSat Ocean Processor
Data Used:	Intermediate Ocean Products (IOP) L1B and L2 Science Data

Check	Status
Server check: science-pds.cryosat.esa.int	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal
Product Software Check	Nominal
Product Format Check	Nominal
Product Header Analysis	Nominal
Auxiliary Data File Usage Check	Nominal
Auxiliary Correction Error Check	See Section 5.4
Measurement Confidence Data Check	See Section 4.5, 4.6, 5.5, 5.6, 5.7 and 5.8

#### Mission / Instrument News

20-Mar-2016	None
21-Mar-2016	None
22-Mar-2016	SIRAL unavailability on 22-Mar-2016 from 03:27:23 to 05:16:50 due to a planned orbit manoeuvre.

### 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. IOP Level 1B Data Quality Check

#### 4.1 L1B Product Format Check

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

Number of products with errors: 0

#### 4.2 L1B Product Header Analysis

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

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 (field 60) 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 (field 12) for each 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_1B_20160321T172046_20160321T172154_B001	Power scaling error	There is an error in the scaling of the L1B waveform for one or more records
CS_OFFL_SIR_IOP_1B_20160321T223954_20160321T225534_B001	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 (field 65) 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: 7

Product	Test Failed	Description
CS_OFFL_SIR_IOP_1B_20160321T025438_20160321T032208_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20160321T073107_20160321T073859_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20160321T081903_20160321T082218_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20160321T110258_20160321T110417_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20160321T140915_20160321T141048_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20160321T211713_20160321T213302_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20160321T221716_20160321T221902_B001	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.

**Wind Model File Usage:** This file is currently not included in all L2 products.

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 two 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.**

**Sea State Bias Error:** 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: 16

Product	Test Failed	Description
CS_OFFL_SIR_IOP_2_20160320T234627_20160321T000259_B001	GIM Ionospheric Correction	There is an error with the GIM Ionospheric correction for one or more records
CS_OFFL_SIR_IOP_2_20160321T005652_20160321T010530_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2_20160321T060612_20160321T060809_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2_20160321T060809_20160321T060854_B001	Total Geocentric Ocean Tide (FES)	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) for one or more records
CS_OFFL_SIR_IOP_2_20160321T073107_20160321T073859_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2_20160321T091035_20160321T091727_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2_20160321T092755_20160321T093950_B001	Total Geocentric Ocean Tide (FES)	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) for one or more records
CS_OFFL_SIR_IOP_2_20160321T093950_20160321T094204_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records

CS_OFFL_SIR_IOP_2__20160321T102918_20160321T104436_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2__20160321T124055_20160321T124141_B001	Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 1: GOT and solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2__20160321T124142_20160321T124338_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2__20160321T154439_20160321T154640_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2__20160321T172155_20160321T172320_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2__20160321T205440_20160321T205601_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2__20160321T221716_20160321T221902_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2__20160321T235048_20160321T235915_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records

## 5.5 L2 Measurement Confidence Data Check

CryoSat L2 data includes a measurement confidence flag (field 14) 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_2__20160321T172046_20160321T172154_B001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records
CS_OFFL_SIR_IOP_2__20160321T223954_20160321T225534_B001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records

## 5.6 L2 Range Measurement Check

CryoSat L2 data includes an Ocean (field 25) and Ice (field 30) Range Averaging Status flag for each measurement record. The bit value of this flag indicates any problems when set.

**Currently, there are two common status flags 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.**

**Ocean Range Averaging Status Flag:** This flag is currently set for products over land and sea ice, but this is to be expected.

**Ice Range Averaging Status Flag:** This flag is currently set for products over land, but this is to be expected.

**Number of products with errors:** 33

Product	Test Failed	Description
CS_OFFL_SIR_IOP_2__20160321T000523_20160321T001002_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T001024_20160321T001151_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T014425_20160321T014902_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T014923_20160321T015247_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T032336_20160321T032816_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T032820_20160321T033152_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T050321_20160321T050843_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T060044_20160321T060114_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T064309_20160321T064742_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T082454_20160321T082647_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T083002_20160321T083113_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T091849_20160321T092206_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T100342_20160321T100601_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T100637_20160321T101058_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T114131_20160321T115004_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T132040_20160321T132232_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T132327_20160321T132808_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T150246_20160321T150840_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T164153_20160321T164711_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T182040_20160321T182154_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T182155_20160321T182202_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T182202_20160321T182608_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T195543_20160321T200052_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T200053_20160321T200058_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T200059_20160321T200105_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T200105_20160321T200112_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T200112_20160321T200408_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.

CS_OFFL_SIR_IOP_2__20160321T204416_20160321T204746_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T213445_20160321T213950_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T214004_20160321T214009_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T214029_20160321T214154_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T231926_20160321T231935_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T231943_20160321T232046_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.

## 5.7 L2 SWH and Backscatter Measurement Check

CryoSat L2 data includes a SWH Averaging Status flag (field 49) and an Ocean (field 55) and Ice (field 61) Backscatter Averaging Status flag for each measurement record. The bit value of this flag indicates any problems when set.

Currently, there are three common status flags 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.

**SWH Averaging Status Flag:** This flag is currently set for products over land and sea ice, but this is to be expected.

**Ocean Backscatter Averaging Status Flag:** This flag is currently set for products over land and sea ice, but this is to be expected.

**Ice Backscatter Averaging Status Flag:** This flag is currently set for products over land, but this is to be expected.

**Number of products with errors:** 31

Product	Test Failed	Description
CS_OFFL_SIR_IOP_2__20160321T000523_20160321T001002_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T001024_20160321T001151_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T014425_20160321T014902_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T014923_20160321T015247_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T032336_20160321T032816_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T032820_20160321T033152_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T050321_20160321T050843_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T060044_20160321T060114_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T064309_20160321T064742_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T082454_20160321T082647_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T083002_20160321T083113_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T091849_20160321T092206_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T100342_20160321T100601_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T100637_20160321T101058_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T114131_20160321T115004_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T132040_20160321T132232_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T132327_20160321T132808_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T150246_20160321T150840_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T164153_20160321T164711_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T182040_20160321T182154_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T182155_20160321T182202_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T195543_20160321T200052_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T200053_20160321T200058_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T200059_20160321T200105_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T200105_20160321T200112_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T200112_20160321T200408_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T204416_20160321T204746_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T213445_20160321T213950_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T214004_20160321T214009_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T214029_20160321T214154_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20160321T231943_20160321T232046_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.

## 5.8 L2 Ocean Retracking Quality Check

CryoSat L2 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:** 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:** 161