

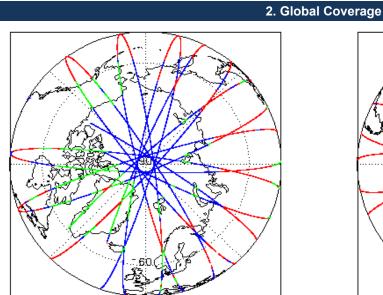
# **QA4EO Daily Report for IOP data:**

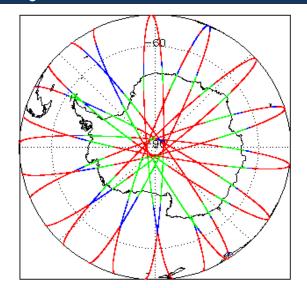
<u>13/04/2021</u>

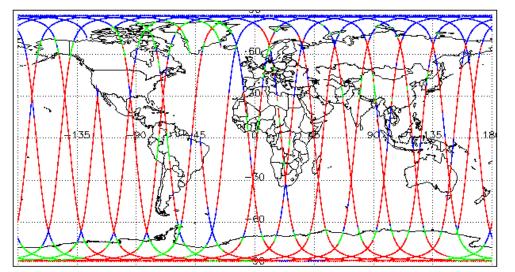
enert Dreduction.	16 4== 2021	Check	L1 & L2	P2P
Report Production:	16-Apr-2021	Server check: science-pds.cryosat.esa.int	Nominal	Nominal
Processor Used:	Cruce Cat Occar Drasses	Server check: calval-pds.cryosat.esa.int	Nominal	Nominal
Processor Usea:	CryoSat Ocean Processor	Product Software Check	Nominal	Nominal
Data Used:	Intermediate Ocean Products (IOP)	Product Format Check	Nominal	Nominal
Data Used:	L1B, L2 & P2P Science Data	Product Header Analysis	Nominal	Nominal
		Auxiliary Data File Usage Check	Nominal	Nominal
		Auxiliary Correction Error Check	See Section 5.4	See Section 6.4
		Measurement Confidence Data Check	See Section 4.5, 4.6 and 5.5	See Section 6.5
		Range, SWH & Backscatter Measurement Check	See Section 5.6	See Section 6.6
		Ocean Retracking Quality Check	See Section 5.7	See Section 6.7
		QCC Error/ Warning Check	See Section 7.1 and 7.2	See Section 7.1, 7.2

1. Overview

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











# 3. Instrument Configuration

SIRAL instrument(s) in use:

SIRAL - A

0

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

4. IOP Level 1B Data Quality Check

### 4.1 L1B Product Format Check

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

For all products, a series of pre-defined checks are perform	med on the MPH and	SPH in order to identify any inconsis	tencies and/or errors raised by the ground-segment processing chain.
L1B Processing Quality HR: The I1b_proc_flag_hr flag is OSARIn chains. A modification is required in the next relea		IOPR and IOPN products because t	he I1b_processing_quality_hr field is not correctly configured in the OSAR and
Number of products with errors: 0			
4.3 L1B Auxilary Data File Usage Checl	ĸ		
Each product is checked for missing Data Set Descriptors	with respect to a pre-	-determined baseline and also to che	ck the validity of Auxiliary Data Files is correct.
Number of products with errors: 0			
4.4 L1B Auxiliary Correction Error Che	ck		
CryoSat L1B data includes a correction error flag for each	measurement record	l. The bit value of this flag indicates a	ny problems when set.
Number of products with errors: 0			
4.5 L1B Measurement Confidence Data	Check		
CryoSat L1B data includes a measurement confidence fla	g for each measurem	ent record. The bit value of this flag i	ndicates any problems when set.
Attitude Correction Missing: This flag is currently set in	error for IOPR produc	cts due to a configuration issue. This	is being investigated and will be updated in the next SW update.
Number of products with errors: 1			
Product		Test Failed	Description
CS_OFFL_SIR_IOPM1B_20210413T211303_20210413T	211500_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 a	ny problems when set.
Loss of Echo Flag: This flag is currently set for products	over land, but this is t	to be expected.	
Number of products with errors: 14			
Product		Test Failed	Description
CS_OFFL_SIR_IOPM1B_20210413T141748_20210413T	143313_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPM1B_20210413T195145_20210413T	195326_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20210413T000057_20210413T	000327_C001	Loss of Echo	The tracking echo is missing for one or more records
	014042 C001		
CS_OFFL_SIR_IOPN1B_20210413T013803_20210413T		Loss of Echo	The tracking echo is missing for one or more records
	-	Loss of Echo Loss of Echo	The tracking echo is missing for one or more records The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20210413T014321_20210413T	_ 014433_C001		
CS_OFFL_SIR_IOPN1B_20210413T013803_20210413T CS_OFFL_SIR_IOPN1B_20210413T014321_20210413T CS_OFFL_SIR_IOPN1B_20210413T055745_20210413T CS_OFFL_SIR_IOPN1B_20210413T100501_20210413T	014433_C001 055927_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20210413T014321_20210413T CS_OFFL_SIR_IOPN1B_20210413T055745_20210413T CS_OFFL_SIR_IOPN1B_20210413T100501_20210413T	014433_C001 055927_C001 100605_C001	Loss of Echo Loss of Echo	The tracking echo is missing for one or more records The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20210413T014321_20210413T CS_OFFL_SIR_IOPN1B_20210413T055745_20210413T CS_OFFL_SIR_IOPN1B_20210413T100501_20210413T CS_OFFL_SIR_IOPN1B_20210413T114818_20210413T	014433_C001 055927_C001 100605_C001 114847_C001	Loss of Echo Loss of Echo Loss of Echo Loss of Echo	The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20210413T014321_20210413T CS_OFFL_SIR_IOPN1B_20210413T055745_20210413T CS_OFFL_SIR_IOPN1B_20210413T100501_20210413T CS_OFFL_SIR_IOPN1B_20210413T114818_20210413T CS_OFFL_SIR_IOPN1B_20210413T164104_20210413T	014433_C001 055927_C001 100605_C001 114847_C001 164606_C001	Loss of Echo Loss of Echo Loss of Echo	The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20210413T014321_20210413T CS_OFFL_SIR_IOPN1B_20210413T055745_20210413T CS_OFFL_SIR_IOPN1B_20210413T100501_20210413T CS_OFFL_SIR_IOPN1B_20210413T114818_20210413T CS_OFFL_SIR_IOPN1B_20210413T164104_20210413T CS_OFFL_SIR_IOPN1B_20210413T231204_20210413T	014433_C001 055927_C001 100605_C001 114847_C001 164606_C001 231453_C001	Loss of Echo Loss of Echo Loss of Echo Loss of Echo Loss of Echo Loss of Echo	The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20210413T014321_20210413T CS_OFFL_SIR_IOPN1B_20210413T055745_20210413T CS_OFFL_SIR_IOPN1B_20210413T100501_20210413T CS_OFFL_SIR_IOPN1B_20210413T114818_20210413T CS_OFFL_SIR_IOPN1B_20210413T164104_20210413T CS_OFFL_SIR_IOPN1B_20210413T231204_20210413T CS_OFFL_SIR_IOPN1B_20210413T131016_20210413T	014433_C001 055927_C001 100605_C001 114847_C001 164606_C001 231453_C001 131135_C001	Loss of Echo Loss of Echo	The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20210413T014321_20210413T CS_OFFL_SIR_IOPN1B_20210413T055745_20210413T	014433_C001 055927_C001 100605_C001 114847_C001 164606_C001 231453_C001 131135_C001 132120_C001	Loss of Echo Loss of Echo Loss of Echo Loss of Echo Loss of Echo Loss of Echo	The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records

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:

#### 5.4 L2 Auxiliary Correction Error Check

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

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

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

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

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

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

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

Nation         Paint Internation         Paint Internation         Paint Internation         Paint Internation           0.1.0.1.0.1.0.0.0.001.1.0.001.2.001.001.			
Construction         Construction<	Product	Test Failed	Description
CB, OTT_BRU_DPAU_2 20210111100002_00010131100040_0001         East Mathin Day Pare d Deam Tele         ESS and in the sequence of the second and	CS_OFFL_SIR_IOPM_2_20210413T083412_20210413T083502_C001	Mean Dynamic Topography (1)	
Columna         And Sprant (1996) (2011)         and sprant (1996) (1)         and sprant (1996) (1)           Columna         Sprant (1996) (2010) (1996) (1)         Sprant (1996) (1)         and sprant (1996) (1)           Columna         Sprant (1996) (2010) (1996) (1)         Sprant (1996) (1)         Sprant (1996) (1)         Sprant (1996) (1)           Columna         Sprant (1996) (1)         Sprant (1996) (1) <td< td=""><td>CS_OFFL_SIR_IOPM_2_20210413T134707_20210413T140148_C001</td><td></td><td>FES) and the Non-equilibrium Long Period Ocean Tide height for one or</td></td<>	CS_OFFL_SIR_IOPM_2_20210413T134707_20210413T140148_C001		FES) and the Non-equilibrium Long Period Ocean Tide height for one or
G_QAPR_BR_UPU_Q_2001ALTTROOP_2011AD TROOP_2013       Incompany () 1, incl (decomproposed proposed	CS_OFFL_SIR_IOPM_2_20210413T191520_20210413T194415_C001	Mean Dynamic Topography (1)	
Sol DHIL SM (DHIL & Additional Joseph Case)     Tracegraphy (hight Costain 1)       CB, DHIL SM (DHIL & Additional Joseph Case)     Tracegraphy (hight Costain 1)       CB, DHIL SM (DHIL & Additional Joseph Case)     Trace and an unit of the MSS might (solution 1), the Mean Dynamic Tracegraphy (hight Costain 1), and Main Case)       CB, DHIL SM (DHIL & ZOZIAHISTI HEAD, DOZIAHISTI HEAD, D	CS_OFFL_SIR_IOPN_2_20210413T000057_20210413T000327_C001	Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period	
CPL_DRI_DRI_DRI_222104137015032_0201413701632_020       Integraphy (n) fail discontent Compared Formation	CS_OFFL_SIR_IOPN_2_20210413T000401_20210413T000523_C001		
Bit Display (1)         Invest Display (1)         Invest Display (1)         Invest Display (1)           Bit Display (1)         Hear Display (1)         Invest Display (1)         Invest Display (1)           Bit Display (1)         Hear Display (1)         Invest Display (1)         Invest Display (1)           Bit Display (1)         Hear Display (1)         Invest Display (1)         Invest Display (1)           Bit Display (1)         Hear Display (1)         Invest Display (1)         Invest Display (1)           Bit Display (1)         Invest Display (1)         Invest Display (1)         Invest Display (1)           Bit Display (1)         Invest Display (1)         Invest Display (1)         Invest Display (1)           Bit Display (1)         Invest Display (1)         Invest Display (1)         Invest Display (1)           Bit Display (1)         Invest Display (1)         Invest Display (1)         Invest Display (1)           Bit Display (1)         Invest Display (1)         Invest Display (1)         Invest Display (1)           Bit Display (1)         Invest Display (1)         Invest Display (1)         Invest Display (1)           Bit Display (1)         Invest Display (1)         Invest Display (1)         Invest Display (1)           Bit Display (1)         Invest Display (1)         Invest Display (1)         Invest	CS_OFFL_SIR_IOPN_2_20210413T013803_20210413T014042_C001	Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period	
S2_011_SB_UDM_2_20216413102215_20216413102250_001         Hom Suffact (1) Man Dynamic Topography (1)         Topography (1)         Topograp	CS_OFFL_SIR_IOPN_2_20210413T014046_20210413T014227_C001	Mean Dynamic Topography (1)	
SL_DH_SH_DH_C_20201413100204_2001161100286_2001         Topography (1)         The sum on with the Sharp tolekin (solution 1)           CB_DFFL_SIR_UON_2_20210413T03100_20210413T03200_001         Mean See Suffice (1), Mean Dynamic         Topography (exilian 1), but was Dynamic           CB_DFFL_SIR_UON_2_20210413T03100_20210413T03200_001         Mean See Suffice (1), Mean Dynamic         Topography (exilian 1), but was Dynamic           CB_DFFL_SIR_UON_2_20210413T04165_20210413T05052_0011         Mean See Suffice (1), Mean Dynamic         Topography (bit colution 1) and the Mean Dynamic           CB_DFFL_SIR_UON_2_20210413T05054_20210413T05052_0011         Mean See Suffice (1), Mean Dynamic         Topography (bit colution 1) and the Mean Dynamic           CB_DFFL_SIR_UON_2_20210413T05054_20210413T05052_0011         Mean Dynamic Topography (bit mean merce with the Mean Dynamic Topography height for one or more records           CB_DFFL_SIR_UON_2_20210413T05054_20210413T05052_0011         Mean Dynamic Topography (1)         There is an merc with the Mean Dynamic Topography height for one or more records           CB_DFFL_SIR_UON_2_20210413T05052_0011         Mean Dynamic Topography (1)         There is an merc with the Mean Dynamic Topography height for one or more records           CB_DFFL_SIR_UON_2_20210413T102052_0011         Mean Dynamic Topography (1)         There is an merc with the Mean Dynamic Topography height for one or more records           CB_DFFL_SIR_UON_2_20210413T102052_0011         Topography (1)         There is an merc with the MEan Dynamic Topography height for dote 1) </td <td>CS_OFFL_SIR_IOPN_2_20210413T014321_20210413T014433_C001</td> <td></td> <td></td>	CS_OFFL_SIR_IOPN_2_20210413T014321_20210413T014433_C001		
CE_OFFL_SIR_JOPL_2.202104137031901_20210413703230_C001         Tropography (1)         The diameter for own roots           CS_OFFL_SIR_JOPL_2.20210413704503_20210413704205_0001         Mean Sas Suface (1), Mean Dynamic Topography (1)         There is an error with the MSS height (culture 1) and the Mean Dynamic Topography (1)           CS_OFFL_SIR_JOPL_2.202104137050574_202104137005052_C001         Mean Sas Suface (1), Mean Dynamic Topography (1)         There is an error with the MSS height (culture 1) and the Mean Dynamic Topography (1)           CS_OFFL_SIR_JOPL_2.202104137005052_02104137005052_C001         Mean Dynamic Topography (1)         There is an error with the Mean Dynamic Topography height for one or more accods           CS_OFFL_SIR_JOPL_2.202104137100505_202104137100505_C001         Mean Dynamic Topography (1)         There is an error with the Mean Dynamic Topography height for one or more accods           CS_OFFL_SIR_JOPL_2.202104137100502_202104137105002_C001         Mean Dynamic Topography (1)         There is an error with the Mean Dynamic Topography height for one or more accods           CS_OFFL_SIR_JOPL_2.202104137100502_202104137105002_C001         Mean Sas Surface (1), Mean Dynamic Topography (1)         There is an error with the MSS height (culture 1) and the Mean Dynamic Topography (1)           CS_OFFL_SIR_JOPL_2.202104137105022_202104137105022_C001         Mean Sas Surface (1), Mean Dynamic Topography (1)         There is an error with the MSS height (culture 1) and the Mean Dynamic Topography (1)           CS_OFFL_SIR_JOPL_2.202104137105022_202104137105022_202104137105022_20104137102050_C001         Mea	CS_OFFL_SIR_IOPN_2_20210413T023725_20210413T023958_C001		
CS_DFL_SR_UPPL_2.201041310101590001013100000_0001         Topography (f)         Topography (f)         Topography (f)           CS_OFFL_SR_UPPL_2.20210413T065153_0001         Mest Ses Sufface (f), Mest Dynamic         There is an error with the Mest Dynamic Topography height for one or none records           CS_OFFL_SR_UPPL_2.20210413T06143_20210413T001660_0001         Mest Dynamic Topography (f)         There is an error with the Mean Dynamic Topography height for one or none records           CS_OFFL_SR_UPPL_2.20210413T100560_0001         Mest Dynamic Topography (f)         There is an error with the Mean Dynamic Topography height for one or none records           CS_OFFL_SR_UPPL_2.20210413T100560_0001         Mest Dynamic Topography (f)         There is an error with the Mean Dynamic Topography height for one or none records           CS_OFFL_SR_UPPL_2.20210413T105602_0001         Mest Ses Sufface (f), Mean Dynamic Topography (f)         There is an error with the Mean Dynamic Topography height for one or none records           CS_OFFL_SR_UPPL_2.20210413T105602_0001         Mest Ses Sufface (f), Mean Dynamic Topography (f)         There is an error with the MSS height (solution f) and the Mean Dynamic Topography (f) (f). Total Genomic Ocean Topography (f) (f). Total Genomic Ocean Topography (f). The Mean Dynamic Topography height for one or more records           CS_OFFL_SR_UPPL_2.20210413T142252_20210413T142255_0001         Mean Sea Sufface (f). Mean Dynamic Topography (f). The Mean Dynamic Topography height (foultion f).         There is an error	CS_OFFL_SIR_IOPN_2_20210413T031901_20210413T032330_C001	Topography (1), Total Geocentric Ocean	Topography (solution 1), the Total Geocentric Ocean Tide (solution 1:
Cell OFFL_SHL_UPFL_2_20210413T06504_20210413T065927_0001         Nean Dynamic Topography (1)         There is an error with the Man Dynamic Topography height for one or more records           CS_OFFL_SHL_OPN_2_20210413T06504_20210413T06592_0001         Mean Dynamic Topography (1)         There is an error with the Man Dynamic Topography height for one or more records           CS_OFFL_SHL_OPN_2_20210413T06000_20210413T000005_0001         Mean Dynamic Topography (1)         There is an error with the Man Dynamic Topography height for one or more records           CS_OFFL_SHL_OPN_2_20210413T100000_20210413T1000005_0001         Mean Dynamic Topography (1)         There is an error with the Man Dynamic Topography height for one or more records           CS_OFFL_SHL_OPN_2_20210413T100000_20210413T100000_0001         Mean Dynamic Topography (1)         There is an error with the MSh Displic (folduton 1) and the Man Dynamic Topography (1)           CS_OFFL_SHL_OPN_2_20210413T100200_0001         Mean Sea Surface (1) Mean Dynamic Topography (1)         There is an error with the MSS height (folduton 1) and the Mean Dynamic Topography (1)           CS_OFFL_SHL_OPN_2_20210413T102232_20210413T102535_0001         Mean Sea Surface (1) Mean Dynamic Topography (1)         There is an error with the MSS height (folduton 1) and the Mean Dynamic Topography (1)           CS_OFFL_SHL_OPN_2_20210413T164540_020101         Mean Sea Surface (1) Mean Dynamic Topography (1)         There is an error with the MSS height (folduton 1) and the Mean Dynamic Topography (1)           CS_OFFL_SHL_OPN_2_20210413T164640_020101         Mean Sea Surface (1) Mean Dynamic To	CS_OFFL_SIR_IOPN_2_20210413T041637_20210413T042005_C001		
Cold, DFL_SR_UOPN_2_202104131000143_202104131001666_C001         Mean Dynamic Topography (1)         There is an error with the Mean Dynamic Topography height for one or more records           CS_OFFL_SIR_UOPN_2_20210413100001_20210413100005_C001         Mean Dynamic Topography (1)         There is an error with the Mean Dynamic Topography height for one or more records           CS_OFFL_SIR_UOPN_2_202104131104629_202104131104743_C001         Mean Dynamic Topography (1)         There is an error with the MSN bright (colution 1) and the Mean Dynamic Topography height for one or more records           CS_OFFL_SIR_UOPN_2_202104131105429_202104131105429_C001         Mean Ses Surface (1). Mean Dynamic Topography height (colution 1) and the Mean Dynamic Topography height (colution 1) and the Mean Dynamic Topography (1)           CS_OFFL_SIR_UOPN_2_20210413110242_202104131122655_C001         Mean Ses Surface (1). Mean Dynamic Topography height (colution 1) and the Mean Dynamic Topography (1)           CS_OFFL_SIR_UOPN_2_20210413110242_20210413110233_C001         Mean Ses Surface (1). Mean Dynamic Topography height (colution 1). The Mean Dynamic Topography (1)           CS_OFFL_SIR_UOPN_2_202104131150615_202104131104050_C001         Mean Ses Surface (1). Mean Dynamic Topography height (colution 1).           CS_OFFL_SIR_UOPN_2_20210413116406_20210413116464_001         Mean Dynamic Topography (1)         There is an error with the MSS height (colution 1).           CS_OFFL_SIR_UOPN_2_20210413116406_20210413116464_001         Mean Dynamic Topography (1)         There is an error with the Mas Dynamic Topography height for one or more records	CS_OFFL_SIR_IOPN_2_20210413T045801_20210413T050153_C001		
Class         OPP (Last OPP (Last OUT 3 total	CS_OFFL_SIR_IOPN_2_20210413T055745_20210413T055927_C001	Mean Dynamic Topography (1)	
CS_OFFL_SIR_JOPN_2_20210413T10000_20210413T10000_2021         mean Dynamic Topography (1)         mean excerts           CS_OFFL_SIR_JOPN_2_20210413T10000_20210413T104743_0001         Mean Dynamic Topography (1)         There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)           CS_OFFL_SIR_JOPN_2_20210413T105242_20210413T102565_0001         Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography (1)         There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)           CS_OFFL_SIR_JOPN_2_20210413T122353_0001         Mean Sea Surface (1), Mean Dynamic Topography (solution 1), the Mean Dynamic Topography (1)         There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)           CS_OFFL_SIR_JOPN_2_20210413T13223S_0001         Mean Sea Surface (1), Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Topography height (solution 1) and the Mean Dynamic Topography (1)         There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)           CS_OFFL_SIR_JOPN_2_20210413T160613_0210413T150619_0001         Mean Dynamic Topography (1)         There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)           CS_OFFL_SIR_JOPN_2_20210413T16464_001         Mean Dynamic Topography (1)         There is an error with the MSS height (solution 1), the Mean Dynamic Topography (1)           CS_OFFL_SIR_JOPN_2_20210413T164104_20210413T16466_0001         Mean Sea Surface (1), Mean Dynamic Topography (1)         There is an error with the MSS height (solution 1), the Mean Dyn	CS_OFFL_SIR_IOPN_2_20210413T091343_20210413T091656_C001	Mean Dynamic Topography (1)	
CS_CFFL_SIR_IOPN_2_20210413T100462_00210413T10443_0001         Interl Dynamic Topography (1)         more records           CS_OFFL_SIR_IOPN_2_20210413T102242_00210413T1025602_C001         Mean Sea Surface (1). Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography height (solution 1)         There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)           CS_OFFL_SIR_IOPN_2_20210413T102232_00210413T102555_C001         Mean Sea Surface (1). Mean Dynamic Topography height (solution 1)         There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (20100001). The Total Geocentric Ocean Tde (solution 1) into (2007)           CS_OFFL_SIR_IOPN_2_20210413T140437_20210413T140850_C001         Mean Dynamic Topography (1)         There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)           CS_OFFL_SIR_IOPN_2_20210413T150450_20210413T16464_C001         Mean Dynamic Topography (1)         There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1).           CS_OFFL_SIR_IOPN_2_20210413T16464_2001         Mean Dynamic Topography (1)         There is an error with the MSS height (solution 1).           CS_OFFL_SIR_IOPN_2_20210413T16410_20210413T164666_C001         Mean Dynamic Topography (1)         There is an error with the MSS height (solution 1).           CS_OFFL_SIR_IOPN_2_20210413T16464_20210413T164666_C001         Mean Sea Surface (1). Mean Dynamic Topography (solution 1).         The fai an error with the MSS height (solution 1).           CS_OFFL_SIR_IOPN_2_2	CS_OFFL_SIR_IOPN_2_20210413T100501_20210413T100605_C001	Mean Dynamic Topography (1)	
CS_OFFL_SIR_IOPN_2_20210413T102642_0210413T102650_C001         Topography (1)         Topography (e)           CS_OFFL_SIR_IOPN_2_20210413T122219_20210413T122255_C001         Mean Sea Surface (1), Mean Dynamic Topography (1)         There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (2)           CS_OFFL_SIR_IOPN_2_20210413T132232_20210413T132235_C001         Mean Sea Surface (1), Mean Dynamic Topography (2)         Topography (3)           CS_OFFL_SIR_IOPN_2_20210413T132232_20210413T13253_C001         Mean Sea Surface (1), Mean Dynamic Topography (1)         There is an error with the MSS height (solution 1), the Mean Dynamic Topography (1)           CS_OFFL_SIR_IOPN_2_20210413T164612_20210413T150819_C001         Mean Sea Surface (1), Mean Dynamic Topography (1)         There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)           CS_OFFL_SIR_IOPN_2_20210413T154642_C001         Mean Dynamic Topography (1)         There is an error with the Mean Dynamic Topography height (solution 1), the Mean Dynamic Topography (1)           CS_OFFL_SIR_IOPN_2_20210413T164640_20210413T164606_C001         Mean Sea Surface (1), Mean Dynamic Topography (1)         There is an error with the MSS height (solution 1), the Mean Dynamic Topography (1)           CS_OFFL_SIR_IOPN_2_20210413T160648_20210413T164606_C001         Mean Sea Surface (1), Mean Dynamic Topography (1)         There is an error with the MSS height (solution 1), the Mean Dynamic Topography (1)           CS_OFFL_SIR_IOPN_2_20210413T20439_20210413T204580_C001         Mean Sea Surface (1), Mean Dynamic Topography (1)	CS_OFFL_SIR_IOPN_2_20210413T104629_20210413T104743_C001	Mean Dynamic Topography (1)	
CSPFT_SIR_IOPN_2_202104131122/19_00210413112295_0001         Topography (1)         Topography (2)           CS_OFFL_SIR_IOPN_2_20210413T132332_20210413T132333_0001         Mean Sea Surface (1), Mean Dynamic Topography (1)         There is an error with the MSS height (solution 1), the Yout GOT) for one or more records           CS_OFFL_SIR_IOPN_2_20210413T140437_20210413T140650_0001         Mean Sea Surface (1), Mean Dynamic Topography (1)         There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)           CS_OFFL_SIR_IOPN_2_20210413T150613_20210413T150619_0001         Mean Dynamic Topography (1)         There is an error with the Mean Dynamic Topography (a)           CS_OFFL_SIR_IOPN_2_20210413T154645_0001         Mean Dynamic Topography (1)         There is an error with the Mean Dynamic Topography height for one or more records           CS_OFFL_SIR_IOPN_2_20210413T164104_20210413T164606_0001         Topography (1)         There is an error with the Mean Dynamic Topography (1)           CS_OFFL_SIR_IOPN_2_20210413T164206_0001         Mean Sea Surface (1), Mean Dynamic Topography (1)         There is an error with the MSS height (solution 1), the Mean Dynamic Topography (1)           CS_OFFL_SIR_IOPN_2_20210413T164206_0001         Mean Sea Surface (1), Mean Dynamic Topography (1)         There is an error with the MSS height (solution 1), the Mean Dynamic Topography (1)           CS_OFFL_SIR_IOPN_2_20210413T190548_20210413T190750_C001         Mean Sea Surface (1), Mean Dynamic Topography (1)         There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)	CS_OFFL_SIR_IOPN_2_20210413T105242_20210413T105602_C001		
CS_OFFL_SIR_IOPN_2_20210413T132232_20210413T1322353_C001       Topography (1), Total Geocentric Ocean       Topography (colution 1), the Total Geocentric Ocean       Topography (colution 1), the Total Geocentric Ocean         CS_OFFL_SIR_IOPN_2_20210413T140437_20210413T140850_C001       Mean Sea Surface (1), Mean Dynamic       Topography (colution 1), the Total Geocentric Ocean       Topography height (solution 1)         CS_OFFL_SIR_IOPN_2_20210413T160613_20210413T150819_C001       Mean Dynamic Topography (1)       There is an error with the Mean Dynamic Topography height for one or more records         CS_OFFL_SIR_IOPN_2_20210413T164605_001       Mean Dynamic Topography (1)       There is an error with the MSS height (solution 1), the Mean Dynamic Topography (1), Total Geocentric Ocean         CS_OFFL_SIR_IOPN_2_20210413T164104_20210413T164606_C001       Mean Sea Surface (1), Mean Dynamic Topography (solution 1), the Mean Dynamic Topography (1), Total Geocentric Ocean         CS_OFFL_SIR_IOPN_2_20210413T190548_20210413T190750_C001       Mean Sea Surface (1), Mean Dynamic Topography (solution 1), the Mean Dynamic Topography (1), Total Geocentric Ocean         CS_OFFL_SIR_IOPN_2_20210413T204339_20210413T204569_C001       Mean Sea Surface (1), Mean Dynamic Topography (solution 1), and tidal corrections for one or more records         CS_OFFL_SIR_IOPN_2_20210413T205222_20210413T205300_C001       Mean Sea Surface (1), Mean Dynamic Topography hight (solution 1)         CS_OFFL_SIR_IOPN_2_20210413T222355_20210413T222355_C001       Mean Sea Surface (1), Mean Dynamic Topography hight (solution 1)         CS_OFFL_SIR_IOPN_2_	CS_OFFL_SIR_IOPN_2_20210413T122719_20210413T122955_C001		
CS_OFFL_SIR_IOPN_2_20210413T14043/_20210413T150819_C001         Topography (1)         Topography height (solution 1)           CS_OFFL_SIR_IOPN_2_20210413T150613_20210413T150819_C001         Mean Dynamic Topography (1)         There is an error with the Mean Dynamic Topography height for one or more records           CS_OFFL_SIR_IOPN_2_20210413T154640_20210413T154644_C001         Mean Dynamic Topography (1)         There is an error with the Mean Dynamic Topography height for one or more records           CS_OFFL_SIR_IOPN_2_20210413T164104_20210413T164606_C001         Mean Sea Surface (1), Mean Dynamic Topography (1), the Total Geocentric Ocean Tide (SOT) for one or more records           CS_OFFL_SIR_IOPN_2_20210413T190548_20210413T190750_C001         Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (SOT) for one or more records           CS_OFFL_SIR_IOPN_2_20210413T204339_20210413T204659_C001         Mean Sea Surface (1), Mean Dynamic Topography (1), and Idda corrections for one or more records           CS_OFFL_SIR_IOPN_2_20210413T204339_20210413T204659_C001         Mean Sea Surface (1), Mean Dynamic Topography (1)         There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)           CS_OFFL_SIR_IOPN_2_20210413T202322_20210413T205340_C001         Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)           CS_OFFL_SIR_IOPN_2_20210413T22235_20210413T223240_C001         Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)           CS_OFFL_SIR_IOPN_2_20210413T22316_20210413T22345_C001         Mean Sea Surface (1), Mean Dynamic Topography heigh	CS_OFFL_SIR_IOPN_2_20210413T132232_20210413T132353_C001	Topography (1), Total Geocentric Ocean	Topography (solution 1), the Total Geocentric Ocean Tide (solution 1:
CS_OFFL_SIR_IOPN_2_202104131150613_202104131150619_C001       Mean Dynamic Topography (1)       more records         CS_OFFL_SIR_IOPN_2_202104131154450_202104131154644_C001       Mean Dynamic Topography (1)       There is an error with the MSS height (solution 1), the Mean Dynamic Topography (1)         CS_OFFL_SIR_IOPN_2_202104131164104_202104131164606_C001       Mean Sea Surface (1), Mean Dynamic Topography (1)       There is an error with the MSS height (solution 1), the Mean Dynamic Topography (1) Total Geocentric Ocean Tide (SOUT)         CS_OFFL_SIR_IOPN_2_202104131190548_202104131190750_C001       Mean Sea Surface (1), Mean Dynamic Topography (solution 1), and the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records         CS_OFFL_SIR_IOPN_2_202104131204339_202104131204659_C001       Mean Sea Surface (1), Mean Dynamic Topography (solution 1), and tidal corrections for one or more records         CS_OFFL_SIR_IOPN_2_202104131205222_202104131205340_C001       Mean Dynamic Topography (1)       There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)         CS_OFFL_SIR_IOPN_2_202104131222355_202104131222555_C001       Mean Dynamic Topography (1)       There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)         CS_OFFL_SIR_IOPN_2_202104131223116_202104131223240_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_202104131223166_20210413122340_C001       Mean Dynamic Topography (1)       There is an error with the MSS height (solution 1) a	CS_OFFL_SIR_IOPN_2_20210413T140437_20210413T140850_C001		
CS_OFFL_SIR_IOPN_2_202104131154450_202104131154644_C001       Mean Dynamic Topography (1)       more records         CS_OFFL_SIR_IOPN_2_20210413T164104_20210413T164606_C001       Mean Sea Surface (1), Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (GOT)       There is an error with the MSS height (solution 1), the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)         CS_OFFL_SIR_IOPN_2_20210413T190548_20210413T190750_C001       Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide (FES), Non-Equilibrium Long Period       There is an error with the MSS height (solution 1), the Mean Dynamic Topography (1)         CS_OFFL_SIR_IOPN_2_20210413T204339_20210413T204659_C001       Mean Sea Surface (1), Mean Dynamic Topography (solution 1), and the Mean Dynamic Topography (1)         CS_OFFL_SIR_IOPN_2_20210413T205222_0210413T20540_C001       Mean Sea Surface (1), Mean Dynamic Topography (1)       There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)         CS_OFFL_SIR_IOPN_2_20210413T22255_C001       Mean Sea Surface (1), Mean Dynamic Topography (1)       There is an error with the Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography (1)         CS_OFFL_SIR_IOPN_2_20210413T22316_20210413T22355_C001       Mean Sea Surface (1), Mean Dynamic Topography (1)       There is an error with the Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography (1)         CS_OFFL_SIR_IOPN_2_20210413T22316_20210413T223240_C001       Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)       There is an	CS_OFFL_SIR_IOPN_2_20210413T150613_20210413T150819_C001	Mean Dynamic Topography (1)	, , , , , , , , , , , , , , , , , , , ,
CS_OFFL_SIR_IOPN_2_20210413T164104_20210413T164606_C001       Topography (1), Total Geocentric Ocean Tide (GOT)       Topography (solution 1), the Total Geocentric Ocean Tide (GOT)         CS_OFFL_SIR_IOPN_2_20210413T190548_20210413T190750_C001       Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide       There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records         CS_OFFL_SIR_IOPN_2_20210413T204339_20210413T204659_C001       Mean Sea Surface (1), Mean Dynamic Topography (1)       There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)         CS_OFFL_SIR_IOPN_2_20210413T205222_20210413T205340_C001       Mean Dynamic Topography (1)       There is an error with the Mean Dynamic Topography height for one or more records         CS_OFFL_SIR_IOPN_2_20210413T22235_20210413T222555_C001       Mean Sea Surface (1), Mean Dynamic Topography (1)       There is an error with the Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography (1)         CS_OFFL_SIR_IOPN_2_20210413T22316_20210413T223240_C001       Mean Dynamic Topography (1)       There is an error with the Mean Dynamic Topography height (solution 1), the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)         CS_OFFL_SIR_IOPN_2_20210413T231204_20210413T231453_C001       Mean Dynamic Topography (1)       There is an error with the Mean Dynamic Topography height for one or more records         CS_OFFL_SIR_IOPN_2_20210413T231204_20210413T231453_C001       Mean Dynamic Topography (1), Total Geocentric O	CS_OFFL_SIR_IOPN_2_20210413T154450_20210413T154644_C001	Mean Dynamic Topography (1)	more records
CS_OFFL_SIR_IOPN_2_20210413T190548_20210413T190750_C001       Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (COT), Total Geocentric Ocean Tide (SOL), Non-Equilibrium Long Period Ocean Tide       There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records         CS_OFFL_SIR_IOPN_2_20210413T204339_20210413T204659_C001       Mean Sea Surface (1), Mean Dynamic Topography (esplicition 1)       There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (esplicition 1)         CS_OFFL_SIR_IOPN_2_20210413T205222_20210413T205340_C001       Mean Sea Surface (1), Mean Dynamic Topography (esplicition 1)       There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)         CS_OFFL_SIR_IOPN_2_20210413T22235_20210413T222555_C001       Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)       There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)         CS_OFFL_SIR_IOPN_2_20210413T22316_20210413T223240_C001       Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)       There is an error with the Mean Dynamic Topography height for one or more records         CS_OFFL_SIR_IOPN_2_20210413T231204_20210413T231453_C001       Mean Sea Surface (1), Mean Dynamic Topography (1)       There is an error with the MSS height (solution 1), the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (solution 1), the Total Geocentric Ocean Tide (solution 1) (GOT) for one or more records         CS_OFFL_SIR_IOPN_2_20210413T231204_20210413T231453_C001       Mean Dynamic Topography (1),	CS_OFFL_SIR_IOPN_2_20210413T164104_20210413T164606_C001	Topography (1), Total Geocentric Ocean	Topography (solution 1), the Total Geocentric Ocean Tide (solution 1:
CS_OFFL_SIR_IOPN_2_202104131205222_202104131205340_C001       Topography (1)       Topography height (solution 1)         CS_OFFL_SIR_IOPN_2_20210413T205222_20210413T205340_C001       Mean Dynamic Topography (1)       There is an error with the Mean Dynamic Topography height for one or more records         CS_OFFL_SIR_IOPN_2_20210413T22235_20210413T222555_C001       Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)       There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)         CS_OFFL_SIR_IOPN_2_20210413T223116_20210413T223240_C001       Mean Dynamic Topography (1)       There is an error with the Mean Dynamic Topography height for one or more records         CS_OFFL_SIR_IOPN_2_20210413T22316_20210413T223240_C001       Mean Sea Surface (1), Mean Dynamic Topography (1)       There is an error with the Mean Dynamic Topography height for one or more records         CS_OFFL_SIR_IOPN_2_20210413T231204_20210413T231453_C001       Mean Sea Surface (1), Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records         CS_OFFL_SIR_IOPN_2_20210413T235906_20210414T000105_C001       Mean Dynamic Topography (1)       There is an error with the Mean Dynamic Topography height for one or more records	CS_OFFL_SIR_IOPN_2_20210413T190548_20210413T190750_C001	Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period	
CS_OFFL_SIR_IOPN_2_202104131222235_202104131223555_C001       Mean Sea Surface (1), Mean Dynamic Topography (1)       There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)         CS_OFFL_SIR_IOPN_2_20210413T223116_20210413T223240_C001       Mean Dynamic Topography (1)       There is an error with the Mean Dynamic Topography height (solution 1)         CS_OFFL_SIR_IOPN_2_20210413T223116_20210413T223240_C001       Mean Sea Surface (1), Mean Dynamic Topography (1)       There is an error with the Mean Dynamic Topography height (solution 1)         CS_OFFL_SIR_IOPN_2_20210413T231204_20210413T231453_C001       Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)       There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (SOT)         CS_OFFL_SIR_IOPN_2_20210413T235906_20210414T000105_C001       Mean Dynamic Topography (1)       There is an error with the Mean Dynamic Topography height for one or	CS_OFFL_SIR_IOPN_2_20210413T204339_20210413T204659_C001		
CS_OFFL_SIR_IOPN_2_2021041312233_0210413122339_0001       Topography (1)       Topography height (solution 1)         CS_OFFL_SIR_IOPN_2_20210413T223116_20210413T223240_C001       Mean Dynamic Topography (1)       There is an error with the Mean Dynamic Topography height for one or more records         CS_OFFL_SIR_IOPN_2_20210413T231204_20210413T231453_C001       Mean Sea Surface (1), Mean Dynamic Topography (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: Tide (GOT)       There is an error with the Mean Dynamic Topography height for one or more records         CS_OFFL_SIR_IOPN_2_20210413T235906_20210414T000105_C001       Mean Dynamic Topography (1)       There is an error with the Mean Dynamic Topography height for one or more records	CS_OFFL_SIR_IOPN_2_20210413T205222_20210413T205340_C001	Mean Dynamic Topography (1)	
CS_OFFL_SIR_IOPN_2_20210413122316_202104131223240_0001       mean Dynamic Topography (1)       more records         CS_OFFL_SIR_IOPN_2_202104131231204_202104131231453_C001       Mean Sea Surface (1), Mean Dynamic Topography (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: 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_20210413T231204_20210413T231453_C001       Mean Dynamic Topography (1), Total Geocentric Ocean Tide (solution 1): Topography (solution 1), the Total Geocentric Ocean Tide (solution 1): GOT) for one or more records         CS_OFFL_SIR_IOPN_2_20210413T235906_20210414T000105_C001       Mean Dynamic Topography (1)       There is an error with the Mean Dynamic Topography height for one or	CS_OFFL_SIR_IOPN_2_20210413T222235_20210413T222555_C001		
CS_OFFL_SIR_IOPN_2_20210413T231204_20210413T231453_C001 Topography (1), Total Geocentric Ocean Topography (solution 1), the Total Geocentric Ocean Total Geocentric Oc	CS_OFFL_SIR_IOPN_2_20210413T223116_20210413T223240_C001	Mean Dynamic Topography (1)	
	CS_OFFL_SIR_IOPN_2_20210413T231204_20210413T231453_C001	Topography (1), Total Geocentric Ocean	Topography (solution 1), the Total Geocentric Ocean Tide (solution 1:
	CS_OFFL_SIR_IOPN_2_20210413T235906_20210414T000105_C001	Mean Dynamic Topography (1)	

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

### 5.5 L2 Measurement Confidence Data Check

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

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

# 5.6 L2 Measurement Quality Flag Check

#### L2 Quality Flags (20Hz)

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

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

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

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

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

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

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

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

# L2 Quality Flags (20Hz PLRM)

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

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

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

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

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

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

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

CS_OFFL_SIR_IOPR_2_20210413T204046_20	210413T204339_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20210413T210016_20	210413T210305_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20210413T212047_20	210413T212435_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20210413T212658_20	210413T212917_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20210413T213403_20	210413T214229_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20210413T222010_20	210413T222235_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20210413T231453_20	210413T232239_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20210413T232406_20	210413T232500_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
L2 Quality Flags (1 Hz & 1Hz PLRM)			
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Currently, there are several common flags rai > 1Hz and 1Hz Ocean SSHA Quality Flags: Th	ised in the Level 2 products nese flags are currently set for		L.
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Currently, there are several common flags rai > 1Hz and 1Hz Ocean SSHA Quality Flags: Th	ised in the Level 2 products nese flags are currently set for 206		l.
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Currently, there are several common flags rai > 1Hz and 1Hz Ocean SSHA Quality Flags: Th Number of products with errors: 5.8 L2 Ocean Retracking Quality L2 Retracking Flags (20Hz) CryoSat L2 data includes an ocean retracking qu Ocean Retracking Quality Flag: This flag is cur Number of products with errors: L2 Retracking Flags (20Hz, PLRM) CryoSat L2 data includes an ocean retracking qu Ocean Retracking Flags (20Hz, PLRM) CryoSat L2 data includes an ocean retracking qu Ocean Retracking Quality Flag (PLRM): This fl Number of products with errors: 6.1 P2P Product Format Check Each product, retrieved and unpacked from the s Number of products with errors: 6.2 P2P Product Header Analysis	ised in the Level 2 products have flags are currently set for 206 Check uality flag for each 20-Hz mea rrently set for products over la 61 uality flag for each 20-Hz PLR lag is currently set for product 156 6. IOP L2 science server, is checked to 0	products over sea ice, which is to be expected surement record. The bit value of this flag indic and and sea ice, but this is to be expected. The M measurement record. The bit value of this fla is IOPR and IOPN products over sea ice, but th <b>2 Pole-to-Pole Data Quality</b> ensure it consists of both an XML header file (.1	eates any problems when set. number of products with this error flag set is given below. ag indicates any problems when set. its is to be expected. Check HDR) and a NetCDF product file (.nc).
Currently, there are several common flags rai > 1Hz and 1Hz Ocean SSHA Quality Flags: Th Number of products with errors: 5.8 L2 Ocean Retracking Quality L2 Retracking Flags (20Hz) CryoSat L2 data includes an ocean retracking qu Ocean Retracking Quality Flag: This flag is cur Number of products with errors: L2 Retracking Flags (20Hz, PLRM) CryoSat L2 data includes an ocean retracking qu Ocean Retracking Quality Flag (PLRM): This flag Number of products with errors: 6.1 P2P Product Format Check Each product, retrieved and unpacked from the s Number of products with errors: 6.2 P2P Product Header Analysis For all products, a series of pre-defined checks a	ised in the Level 2 products lese flags are currently set for 206 Check Lality flag for each 20-Hz mea rrently set for products over la 61 Lality flag for each 20-Hz PLR lag is currently set for product 156 6. IOP L2 science server, is checked to 0 S are performed on the MPH an 0	products over sea ice, which is to be expected surement record. The bit value of this flag indic and and sea ice, but this is to be expected. The M measurement record. The bit value of this fla is IOPR and IOPN products over sea ice, but th <b>2 Pole-to-Pole Data Quality</b> ensure it consists of both an XML header file (.1	eates any problems when set. number of products with this error flag set is given below. ag indicates any problems when set. its is to be expected. Check HDR) and a NetCDF product file (.nc).
Currently, there are several common flags rai > 1Hz and 1Hz Ocean SSHA Quality Flags: Th Number of products with errors: 5.8 L2 Ocean Retracking Quality L2 Retracking Flags (20Hz) CryoSat L2 data includes an ocean retracking qu Ocean Retracking Quality Flag: This flag is cur Number of products with errors: L2 Retracking Flags (20Hz, PLRM) CryoSat L2 data includes an ocean retracking qu Ocean Retracking Guality Flag (PLRM): This flag Number of products with errors: 6.1 P2P Product Format Check Each product, retrieved and unpacked from the s Number of products with errors: 6.2 P2P Product Header Analysis For all products, a series of pre-defined checks a Number of products with errors:	ised in the Level 2 products lese flags are currently set for 206 Check Juality flag for each 20-Hz mea rrently set for products over la 61 Juality flag for each 20-Hz PLR lag is currently set for product 156 6. IOP L2 science server, is checked to 0 0 same performed on the MPH an 0 e Check	products over sea ice, which is to be expected surement record. The bit value of this flag indic and and sea ice, but this is to be expected. The M measurement record. The bit value of this fla is IOPR and IOPN products over sea ice, but th <b>2 Pole-to-Pole Data Quality</b> ensure it consists of both an XML header file (.1 d SPH in order to identify any inconsistencies a	ates any problems when set. number of products with this error flag set is given below. ag indicates any problems when set. is is to be expected. Check HDR) and a NetCDF product file (.nc). and/or errors raised by the ground-segment processing chain.

Number of products with errors:

### 6.4 P2P Auxiliary Correction Error Check

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

0

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

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

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

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

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

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

Product	Test Failed	Description
CS_OFFL_SIR_IOP_220210412T231711_20210413T000648_C002	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records

CS_OFFL_SIR_IOP_2_20210413T000648_20210413T005625_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
CS_OFFL_SIR_IOP_220210413T005625_20210413T014603_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records
CS_OFFL_SIR_IOP_220210413T014603_20210413T023540_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
CS_OFFL_SIR_IOP_220210413T023540_20210413T032517_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records
CS_OFFL_SIR_IOP_220210413T032517_20210413T041455_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
CS_OFFL_SIR_IOP_220210413T041455_20210413T050432_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
CS_OFFL_SIR_IOP_220210413T050432_20210413T055409_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
CS_OFFL_SIR_IOP_220210413T055409_20210413T064347_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
CS_OFFL_SIR_IOP_220210413T064347_20210413T073324_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
CS_OFFL_SIR_IOP_220210413T073324_20210413T082301_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
CS_OFFL_SIR_IOP_220210413T082301_20210413T091239_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
CS_OFFL_SIR_IOP_220210413T091239_20210413T100216_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
CS_OFFL_SIR_IOP_220210413T100216_20210413T105153_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
CS_OFFL_SIR_IOP_220210413T105153_20210413T114131_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
CS_OFFL_SIR_IOP_220210413T114131_20210413T123108_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
CS_OFFL_SIR_IOP_220210413T123108_20210413T132045_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
CS_OFFL_SIR_IOP_220210413T132045_20210413T141023_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records
CS_OFFL_SIR_IOP_220210413T141023_20210413T150000_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
CS_OFFL_SIR_IOP_220210413T150000_20210413T154937_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
CS_OFFL_SIR_IOP_220210413T154937_20210413T163915_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
CS_OFFL_SIR_IOP_220210413T163915_20210413T172852_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records
CS_OFFL_SIR_IOP_220210413T172852_20210413T181830_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
CS_OFFL_SIR_IOP_220210413T181830_20210413T190807_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records
CS_OFFL_SIR_IOP_220210413T190807_20210413T195744_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
CS_OFFL_SIR_IOP_2_20210413T195744_20210413T204722_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
CS_OFFL_SIR_IOP_220210413T204722_20210413T213659_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
CS_OFFL_SIR_IOP_220210413T213659_20210413T222636_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
CS_OFFL_SIR_IOP_220210413T222636_20210413T231614_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records
CS_OFFL_SIR_IOP_220210413T231614_20210414T000551_C002	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)

# 6.5 P2P Measurement Confidence Data Check

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

Number of products with errors:	1		
Product		Test Failed	Description
CS_OFFL_SIR_IOP_220210413T204722_	_20210413T213659_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more recor
6.6 P2P Measurement Quality	Flag Check		
P2P Quality Flags (20Hz)			
CryoSat P2P data includes Quality Flags for e	each 20 Hz, 20 Hz PLRM and 1 I	Hz measurement record, copied fror	n the corresponding L2 products.
Since the P2P Quality Flags are copied dir	ectly from the L2 Quality Flags	, please see Section 5.6 for the fu	Il list of products affected.
Number of products with errors:	30		
P2P Quality Flags (20Hz PLRM)			
Since the P2P Quality Flags are copied dir	ectly from the L2 Quality Flags	, please see Section 5.6 for the fu	Il list of products affected.
Number of products with errors:	28		
P2P Quality Flags (1 Hz & 1Hz PL	RM)		
Since the P2P Quality Flags are copied dir	ectly from the L2 Quality Flags	, please see Section 5.6 for the fu	Il list of products affected.
Number of products with errors:	30		
6.8 P2P Ocean Retracking Qua	lity Check		
P2P Retracking Flags (20Hz) Cryosat P2P data includes an ocean retracking	ng 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): Th			
Number of products with errors:	29	·	•
P2P Retracking Flags PLRM			
CryoSat L2 data includes an ocean retracking	quality flag for each 20-Hz PLR	M measurement record. The bit value	e of this flag indicates any problems when set.
Ocean Retracking Quality Flag (PLRM): Th	is flag is currently set for product	s IOPR and IOPN products over se	a ice, but this is to be expected.
Number of products with errors:	30		

# 7. IOP QCC Report Analysis

The Quality Control for CryoSat (QCC) facility performs a primary survey of data products immediately after production by the PDS and LTA processing facilities. A list of the tests which raised errors or warnings is provided below.

Product type	No. Products	No. QCC Reports	No. Valid	No. Warnings	No. Errors
SIR_IOPM1B	170	170	1	169	0
SIR_IOPR1B	139	98	2	96	0
SIR_IOPN1B	98	139	0	139	0
SIR_IOPM_2	170	170	115	55	0
SIR_IOPR_2	139	98	38	60	0
SIR_IOPN_2	98	139	45	89	5
SIR_IOP_P2P	29	29	0	24	5

# 7.1 QCC Errors

Number of	OCC repor	ts with errors
Number of	QCC repor	is with errors.

Number of QCC	reports with e	rrors:	18								
					Total number	of occurrences	of each error				
Product Type	RLOBOPNCDF	RL	RL	RLOBOPNCDF	RL	RL	-	-	-	-	-
SIR_IOPR_2	5	1	5	5	1	5					
Product Type	RLOBOPNCDF	RL	RLOBOPNCDF	RL	-	-	-	-	-	-	-
SIR_IOP_2_	5	5	5	5							

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

### 7.2 QCC Warnings

mber of QCC repo	rts with warnings	2263					
				ber of occurrences of ea			
Product Type	BCSHNCDF	IOHHMOOR	MVIOEPFDNCDF	MVIOEPNCDF	MVIONCDF	RBSZOPOEPFDNCDF	RBSZOPOEPFDPLRMNC
SIR_IOPM1B	169	0	0	0	0	0	0
SIR_IOPM_2	0	0	42	45	1	38	0
SIR_IOPN1B	96	0	0	0	0	0	0
SIR_IOPN_2	0	0	12	31	7	27	27
SIR_IOPR1B	138	0	0	0	0	0	0
SIR_IOPR_2	0	5	28	53	0	28	25
		÷			·		÷
Product Type	RBSZOPOEPNCDF	RNELPOTONCDF	RPEPOPFDLRMNCDF	RPEPOPFDPLRMSARNCI	RPEPOPFDPLRMSINNCD	RPEPOPFDSARNCDF	RPEPOPFDSINNCDF
SIR_IOPM1B	0	0	0	0	0	0	0
SIR_IOPM_2	32	0	35	0	0	0	0
SIR_IOPN1B	0	0	0	0	0	0	0
SIR_IOPN_2	20	0	0	0	25	0	29
SIR_IOPR1B	0	0	0	0	0	0	0
SIR_IOPR_2	14	1	0	51	0	59	0
	÷	÷					
Product Type	RPEPOPLRMNCDF	RPEPOPSARNCDF	RPEPOPSINNCDF	RSSBCONCDF	RSSHAOFDNCDF	RSSHAOFDPLRMNCDF	RSSHAONCDF
SIR_IOPM1B	0	0	0	0	0	0	0
SIR_IOPM_2	30	0	0	6	31	0	5
SIR_IOPN1B	0	0	0	0	0	0	0
SIR IOPN 2	0	0	25	19	42	49	33

SIR IOPR1B	0	0	0	0	0	0	0
SIR_IOPR_2	0	51	0	0	68	39	10
Product Type	RSWHOEPFDNCDF	RSWHOEPFDPLRMNCDF	RSWHOEPNCDF	SPHRTASCNSNCDF	SOOHHIFHD	SCSTODHRNCDF	SCSTODNCDF
SIR_IOPM1B	0	0	0	1	0	0	0
SIR_IOPM_2	42	0	0	1	0	0	0
SIR_IOPN1B	0	0	0	0	0	48	3
SIR_IOPN_2	26	29	15	0	1	0	0
SIR_IOPR1B	0	0	0	0	0	139	11
SIR_IOPR_2	39	49	2	0	12	0	0
Product Type	IOHHMOOR	MVIOEPFDNCDF	MVIOEPNCDF	MVIONCDF	RBSZOPOEPFDNCDF	RBSZOPOEPFDPLRMNC	RBSZOPOEPNCDF
SIR_IOP_2_	18	29	29	6	29	17	28
Product Type							
Froduct Type	RNELPOTONCDF	RPEPOPFDPLRMSINNCD	IRPEPOPFDSINNCDF	RPEPOPSINNCDF	RSSBCONCDF	RSSHAOFDNCDF	RSSHAOFDPLRMNCDF
SIR_IOP_2_	1	RPEPOPFDPLRMSINNCD           16		20	RSSBCONCDF 19		RSSHAOFDPLRMNCDF
	1						
	1 RSSHAONCDF			20	19 SPHLPQWNCDF		
SIR_IOP_2_	1	16	27	20	19		
SIR_IOP_2_ Product Type	1 RSSHAONCDF	16 RSWHOEPFDNCDF	27 RSWHOEPFDPLRMNCDF	20 RSWHOEPNCDF	19 SPHLPQWNCDF		
SIR_IOP_2_ Product Type	1 RSSHAONCDF	16 RSWHOEPFDNCDF	27 RSWHOEPFDPLRMNCDF	20 RSWHOEPNCDF	19 SPHLPQWNCDF		

Test Description Key:		
Abbreviation	Test name	Details
BCSHNCDF	BurstCounterStep20HzNetCDF	The burst counter should be one higher with regard to the previous burst counter
IOHHMOOR	IndexOf1Hzin20HzMappingOutOfRange	The mapping of 20 Hz to 1 Hz measurements should be in the range 0 to (number of 1 Hz samples - 1)
MVIOEPFDNCDF	MissingValueIntOceanExcludingPolarFD2NetCDF	The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees
MVIOEPNCDF	MissingValueIntOceanExcludingPolarNetCDF	The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees
MVIONCDF	MissingValueIntOceanNetCDF	The value should not be a 'missing value' for surface type 0 only
RBSZOPOEPFDNCDF	RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2NetCDF	The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitud between -70 and 70 degrees
RBSZOPOEPFDPLRM NCDF	RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2PLRMNetCDF	The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitud between -70 and 70 degrees
RBSZOPOEPNCDF	RangeBackscatterSigmaZeroOPOceanExcludingPolarNetCDF	The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitud between -70 and 70 degrees
RNELPOTONCDF	RangeNELPOceanTideOceanNetCDF	The Non-equilibrium long period ocean loading tide height should be between -40mm and 40mm (or missing) surface type = ocean
RPEPOPFDLRMNCDF	RangePeakinessExcludingPolarOPFD2LRMNetCDF	The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RPEPOPFDPLRMSAR NCDF	RangePeakinessExcludingPolarOPFD2PLRMSARNetCDF	The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -7 and 70 degrees
	RangePeakinessExcludingPolarOPFD2PLRMSINNetCDF	The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -7 and 70 degrees
RPEPOPFDSARNCDF	RangePeakinessExcludingPolarOPFD2SARNetCDF	The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -7 and 70 degrees
RPEPOPFDSINNCDF	RangePeakinessExcludingPolarOPFD2SINNetCDF	The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -7 and 70 decrees
RPEPOPLRMNCDF	RangePeakinessExcludingPolarOPLRMNetCDF	The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70 and 70 decrees
RPEPOPSARNCDF	RangePeakinessExcludingPolarOPSARNetCDF	The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -7 and 70 degrees
RPEPOPSINNCDF	RangePeakinessExcludingPolarOPSINNetCDF	The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -7 and 70 degrees
RSSBCONCDF	RangeSeaStateBiasCorrectionOceanNetCDF	The sea state bias correction should be between -500mm and 0mm (or missing) for surface type = ocean
RSSHAOFDNCDF	RangeSeaSurfaceHeightAnomalyOceanFD3NetCDF	The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean
RSSHAOFDPLRMNCD	RangeSeaSurfaceHeightAnomalyOceanFD3PLRMNetCDF	The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean
RSSHAONCDF	RangeSeaSurfaceHeightAnomalyOceanNetCDF	The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean
RSWHOEPFDNCDF	RangeSignificantWaveHeightOceanExcludingPolarFD2NetCDF	The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RSWHOEPFDPLRMN(	RangeSignificantWaveHeightOceanExcludingPolarFD2PLRMNetCDF	The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RSWHOEPNCDF	RangeSignificantWaveHeightOceanExcludingPolarNetCDF	The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
SPHRTASCNSNCDF	SPH_Rel_Time_ASC_Node_Start_v2_NetCDF	Rel_Time_ASC_Node_Start mismatch (DBL ASC, rounded up to 0.1)
SOOHHIFHD	SameOrOneHigher1HzIndexFor20HzData	The 1 Hz index of a 20 Hz sample should be the same or 1 higher than its previous sample
SCSTODHRNCDF	SequenceCounterStepTODHRNetCDF	The sequence counter should be modulo 4 higher with regard to the previous sequence counter
SCSTODNCDF	SequenceCounterStepTODNetCDF	The sequence counter should be one higher (modulo 16384) with regard to the previous sequence counter

7.3 Missing QCC Reports

Number of products with missing QCC reports:

0