

**1. Overview**

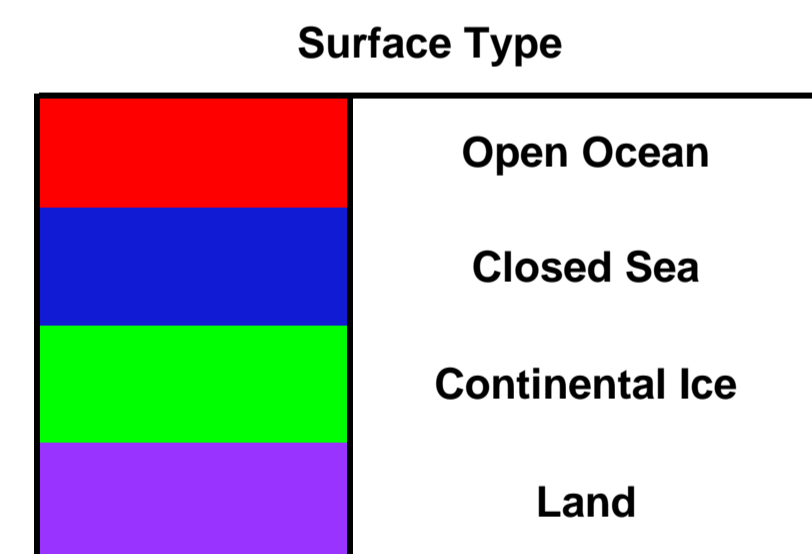
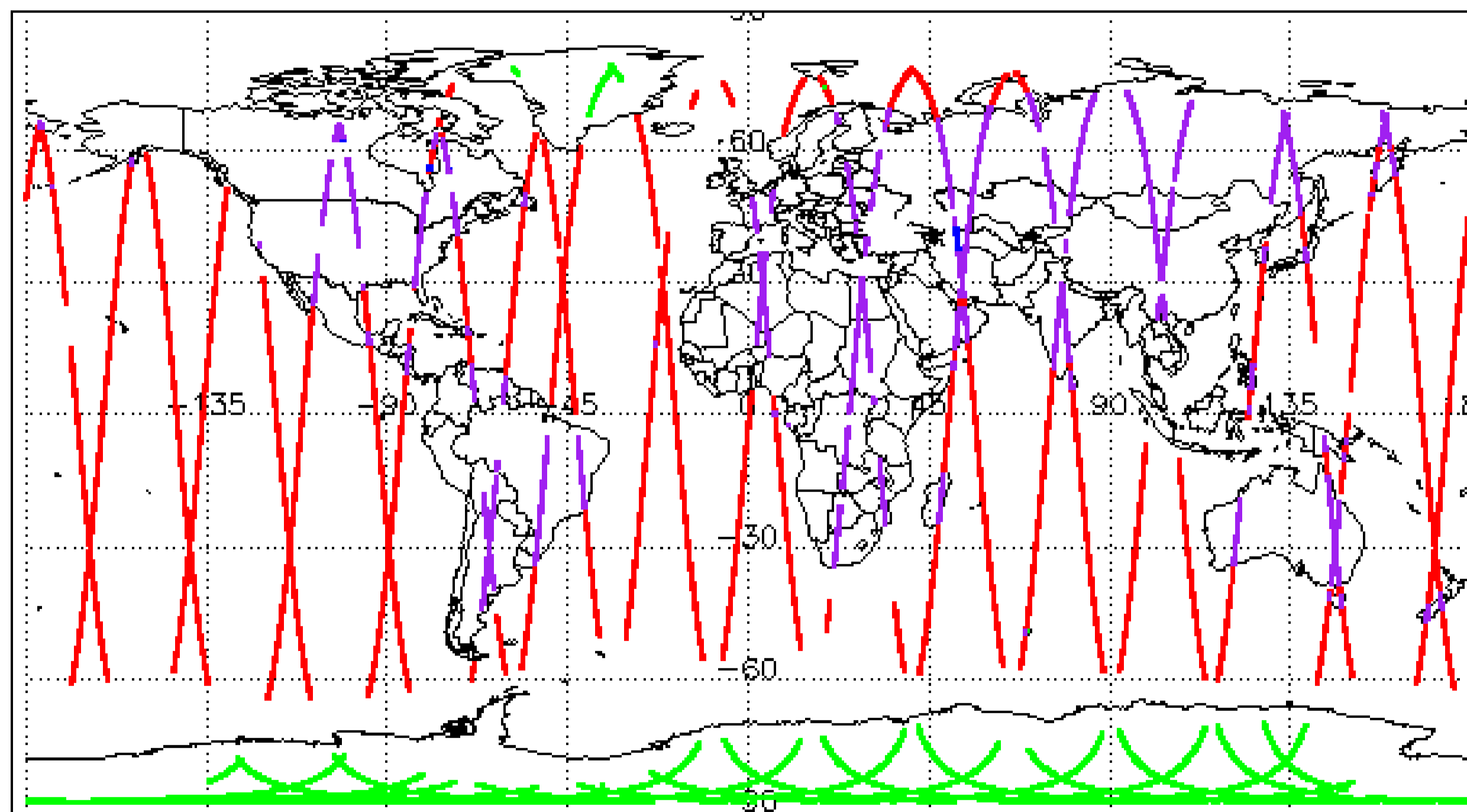
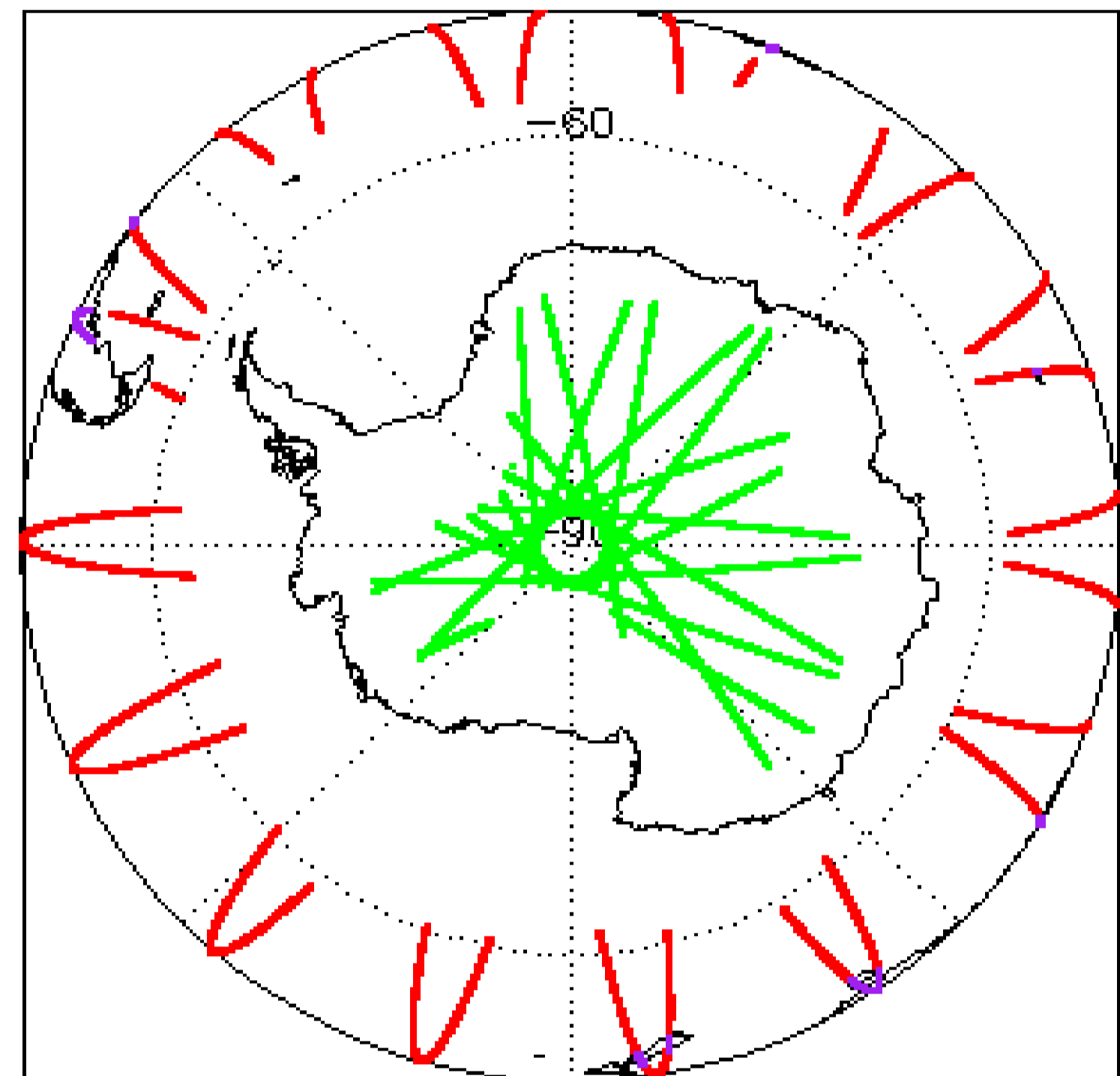
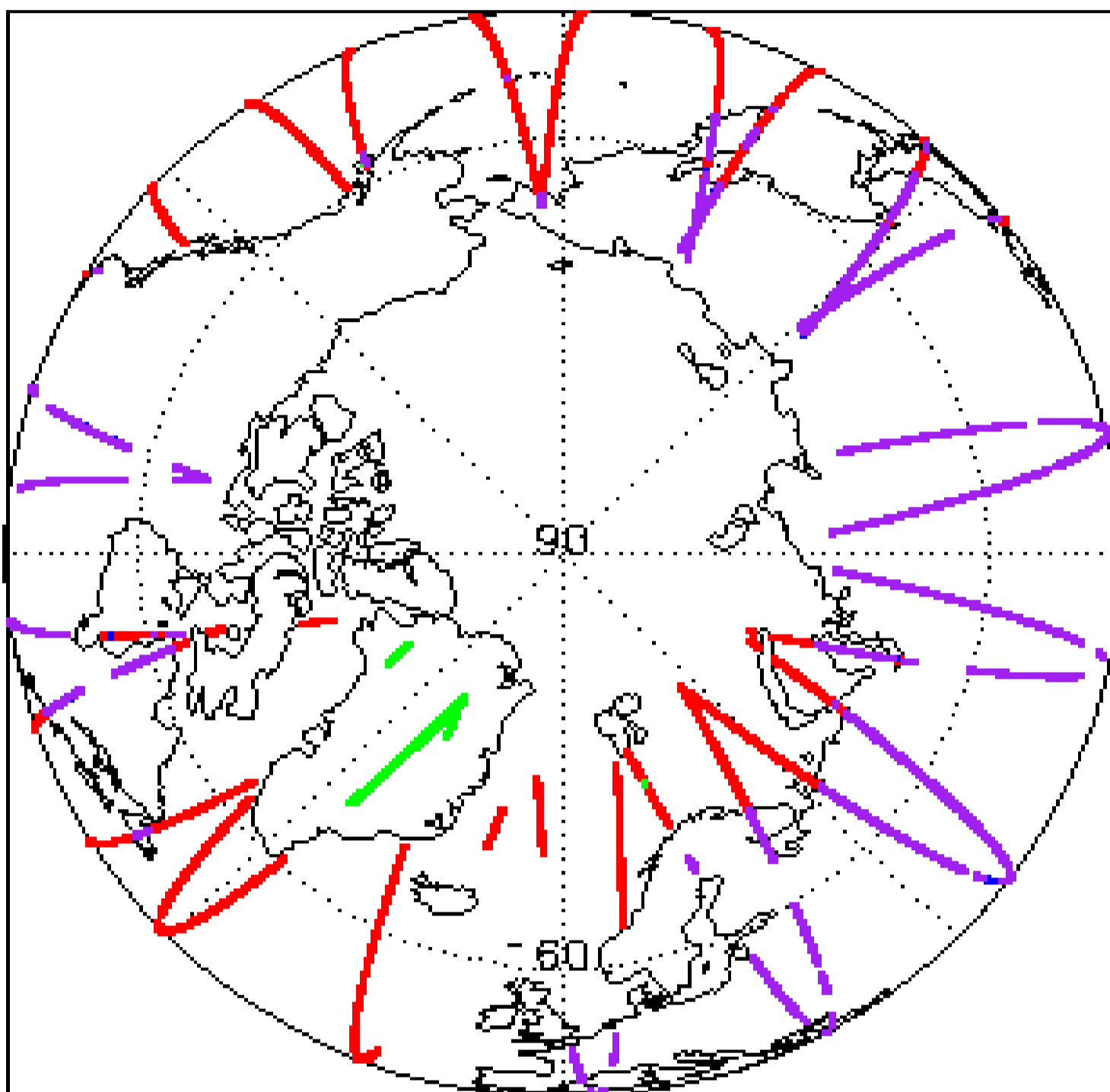
|                                |   |
|--------------------------------|---|
| <b>Report Production Date:</b> | 02-Oct-2020   |
| <b>Processor Used:</b>         | CryoSat Ice Processor                                 |
| <b>Data Used:</b>              | L1 and L2 Fast Delivery Marine (FDM) Mode and L0 Data |

| Check                                     | Status                                 |
|---|--|
| Server check: science-pds.cryosat.esa.int | Nominal                                |
| Server check: calval-pds.cryosat.esa.int  | Nominal                                |
| Product Software Check                    | Nominal                                |
| Product Format Check                      | Nominal                                |
| Product Header Analysis                   | Nominal                                |
| Star Tracker Usage Check                  | See Section 5.3                        |
| Calibration Usage Check                   | Nominal                                |
| Auxiliary Data File Usage Check           | See Section 5.5 and 6.3                |
| Auxiliary Correction Error Check          | See Section 6.4                        |
| Measurement Confidence Data Check         | See Section 5.7, 6.5, 6.6, 6.7 and 6.8 |
| QCC Error/ Warning Check                  | See Section 7.1 and 7.2                |

**Mission / Instrument News**

|             |                 |
|-------------|-----------------|
| 30-Sep-2020 | None            |
| 01-Oct-2020 | None            |
| 02-Oct-2020 | Nothing planned |

**2. Global Coverage**



**3. Instrument Configuration**

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

|                                    |                |
|------------------------------------|----------------|
| <b>SIRAL instrument(s) in use:</b> | SIRAL - A      |
| <b>Star Tracker(s) in use:</b>     | Star Tracker 1 |

**4. Level 0 Data Quality Check**

**4.1 L0 Product Format Check**

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

Number of products with errors:

0

## 4.2 L0 Product Header Analysis

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

Number of products with errors: 5

| Product   | Test Failed   |
|---|---|
| CS_OPER_SIR1LRM_0__20201001T195900_20201001T200428_0001.DBL | Percentage of processing errors detected greater than minimum acceptable threshold. |
| CS_OPER_SIR1SAR_0__20201001T061709_20201001T061722_0001.HDR | Percentage of processing errors detected greater than minimum acceptable threshold. |
| CS_OPER_SIR1SAR_0__20201001T180113_20201001T180803_0001.HDR | Percentage of processing errors detected greater than minimum acceptable threshold. |
| CS_OPER_SIR1SIN_0__20201001T194721_20201001T194800_0001.HDR | Percentage of processing errors detected greater than minimum acceptable threshold. |
| CS_OPER_SIR2SIN_0__20201001T194721_20201001T194800_0001.HDR | Percentage of processing errors detected greater than minimum acceptable threshold. |

## 5. Level 1B FDM Data Quality Check

### 5.1 L1B FDM Product Format Check

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

Number of products with errors: 0

### 5.2 L1B FDM Product Header Analysis

For all products, a series of pre-defined checks are carried out 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: 2

| Product   | Test Failed  |
|---|--|
| CS_OFFL_SIR_FDM_1B_20201001T093438_20201001T094127_C001.DBL | FOS Predicted Orbit (MPL_ORBPRES) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_1B_20201001T094127_20201001T094243_C001.DBL | FOS Predicted Orbit (MPL_ORBPRES) used instead of the DORIS Navigator Orbit (DOR_NAV). |

### 5.3 L1B FDM Star Tracker Usage Check

Each product is checked in order to ensure a valid star tracker file has been used in processing.

Number of products with errors: 1

| Product   | Test Failed   |
|---|---|
| CS_OFFL_SIR_FDM_1B_20201001T093438_20201001T094127_C001 | No Star Tracker file used in the processing of this product |

### 5.4 L1B FDM Calibration Usage Check

Each product is checked in order to ensure the necessary calibration files have been used in processing.

Number of products with errors: 0

### 5.5 L1B FDM Auxiliary Data File Usage Check

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

Number of products with errors: 0

### 5.6 L1B FDM Auxiliary Correction Error Check

CryoSat L1B data includes a correction error flag (field 54) for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors: 0

### 5.7 L1B FDM Measurement Confidence Data Check

CryoSat L1B data includes a measurement confidence flag (field 18) for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors: 4

| Product   | Test Failed                 | Description  |
|---|-----------------------------|--|
| CS_OFFL_SIR_FDM_1B_20201001T032043_20201001T032442_C001 | Echo error, TRK echo error  | The tracking echo has returned an error and the Rx1 Echo Error flag is set, indicating a degraded echo |
| CS_OFFL_SIR_FDM_1B_20201001T093438_20201001T094127_C001 | Attitude correction missing | The attitude has not been corrected  |
| CS_OFFL_SIR_FDM_1B_20201001T132450_20201001T132601_C001 | Echo error, TRK echo error  | The tracking echo has returned an error and the Rx1 Echo Error flag is set, indicating a degraded echo |
| CS_OFFL_SIR_FDM_1B_20201001T223636_20201001T223759_C001 | Echo error, TRK echo error  | The tracking echo has returned an error and the Rx1 Echo Error flag is set, indicating a degraded echo |

## 6. Level 2 FDM Data Quality Check

### 6.1 L2 FDM Product Format Check

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

Number of products with errors: 0

### 6.2 L2 FDM Product Header Analysis

For all products, a series of pre-defined checks are carried out 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: 21

| Product   | Test Failed  |
|---|--|
| CS_OFFL_SIR_FDM_2__20201001T002101_20201001T002131_C001.DBL | FOS Predicted Orbit (MPL_ORBPRES) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_2__20201001T023104_20201001T025513_C001.DBL | FOS Predicted Orbit (MPL_ORBPRES) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_2__20201001T030458_20201001T030801_C001.DBL | FOS Predicted Orbit (MPL_ORBPRES) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_2__20201001T032043_20201001T032442_C001.DBL | FOS Predicted Orbit (MPL_ORBPRES) used instead of the DORIS Navigator Orbit (DOR_NAV). |



|   |  |  |
|---|--|--|
| CS_OFFL_SIR_FDM_2__20201001T150311_20201001T152341_C001 | Sea State Bias Correction, Altimetric Wind Speed | There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records |
| CS_OFFL_SIR_FDM_2__20201001T152348_20201001T152709_C001 | Sea State Bias Correction, Altimetric Wind Speed | There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records |
| CS_OFFL_SIR_FDM_2__20201001T154312_20201001T160932_C001 | Sea State Bias Correction                        | There is an error with the Sea State Bias Correction for one or more records                           |
| CS_OFFL_SIR_FDM_2__20201001T162950_20201001T164033_C001 | Sea State Bias Correction, Altimetric Wind Speed | There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records |
| CS_OFFL_SIR_FDM_2__20201001T164036_20201001T170645_C001 | Sea State Bias Correction, Altimetric Wind Speed | There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records |
| CS_OFFL_SIR_FDM_2__20201001T172330_20201001T175635_C001 | Sea State Bias Correction, Altimetric Wind Speed | There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records |
| CS_OFFL_SIR_FDM_2__20201001T180804_20201001T181201_C001 | Sea State Bias Correction, Altimetric Wind Speed | There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records |
| CS_OFFL_SIR_FDM_2__20201001T190249_20201001T192338_C001 | Sea State Bias Correction                        | There is an error with the Sea State Bias Correction for one or more records                           |
| CS_OFFL_SIR_FDM_2__20201001T192624_20201001T193747_C001 | Sea State Bias Correction, Altimetric Wind Speed | There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records |
| CS_OFFL_SIR_FDM_2__20201001T194800_20201001T195130_C001 | Sea State Bias Correction, Altimetric Wind Speed | There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records |
| CS_OFFL_SIR_FDM_2__20201001T204132_20201001T211407_C001 | Sea State Bias Correction, Altimetric Wind Speed | There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records |
| CS_OFFL_SIR_FDM_2__20201001T211411_20201001T211742_C001 | Sea State Bias Correction, Altimetric Wind Speed | There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records |
| CS_OFFL_SIR_FDM_2__20201001T212808_20201001T212900_C001 | Sea State Bias Correction, Altimetric Wind Speed | There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records |
| CS_OFFL_SIR_FDM_2__20201001T213658_20201001T220211_C001 | Sea State Bias Correction                        | There is an error with the Sea State Bias Correction for one or more records                           |
| CS_OFFL_SIR_FDM_2__20201001T222140_20201001T223633_C001 | Sea State Bias Correction, Altimetric Wind Speed | There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records |
| CS_OFFL_SIR_FDM_2__20201001T224241_20201001T225035_C001 | Sea State Bias Correction                        | There is an error with the Sea State Bias Correction for one or more records                           |
| CS_OFFL_SIR_FDM_2__20201001T225048_20201001T225653_C001 | Sea State Bias Correction, Altimetric Wind Speed | There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records |
| CS_OFFL_SIR_FDM_2__20201001T232858_20201001T234325_C001 | Sea State Bias Correction, Altimetric Wind Speed | There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records |

## 6.5 L2 FDM Measurement Confidence Data Check

CryoSat L2 data includes a measurement confidence flag (field 8) for each 20-Hz measurement record. The bit value of this flag indicates any problems when set.

**Number of products with errors:** 3

| Product   | Test Failed                 | Description  |
|---|-----------------------------|--|
| CS_OFFL_SIR_FDM_2__20201001T032043_20201001T032442_C001 | Echo error                  | The Echo Rx1 Error flag is set, indicating a degraded raw echo |
| CS_OFFL_SIR_FDM_2__20201001T093438_20201001T094127_C001 | Attitude correction missing | The attitude has not been corrected                            |
| CS_OFFL_SIR_FDM_2__20201001T132450_20201001T132601_C001 | Echo error                  | The Echo Rx1 Error flag is set, indicating a degraded raw echo |

## 6.6 L2 FDM Range Measurement Check

CryoSat L2 data includes a CFI (field 17) and OCOG (field 22) Range Averaging Status flag for each measurement record. The bit value of this flag indicates any problems when set.

**Number of products with errors:** 32

| Product   | Test Failed              | Description   |
|---|--------------------------|---|
| CS_OFFL_SIR_FDM_2__20201001T000033_20201001T001719_C001 | CFI Retracked Range Flag | The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records. |
| CS_OFFL_SIR_FDM_2__20201001T013951_20201001T014213_C001 | CFI Retracked Range Flag | The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records. |
| CS_OFFL_SIR_FDM_2__20201001T014336_20201001T014925_C001 | CFI Retracked Range Flag | The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records. |
| CS_OFFL_SIR_FDM_2__20201001T015210_20201001T021456_C001 | CFI Retracked Range Flag | The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records. |
| CS_OFFL_SIR_FDM_2__20201001T023104_20201001T025513_C001 | CFI Retracked Range Flag | The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records. |
| CS_OFFL_SIR_FDM_2__20201001T030458_20201001T030801_C001 | CFI Retracked Range Flag | The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records. |
| CS_OFFL_SIR_FDM_2__20201001T041031_20201001T043559_C001 | CFI Retracked Range Flag | The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records. |
| CS_OFFL_SIR_FDM_2__20201001T043918_20201001T044806_C001 | CFI Retracked Range Flag | The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records. |
| CS_OFFL_SIR_FDM_2__20201001T063906_20201001T071149_C001 | CFI Retracked Range Flag | The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records. |
| CS_OFFL_SIR_FDM_2__20201001T084633_20201001T085108_C001 | CFI Retracked Range Flag | The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records. |
| CS_OFFL_SIR_FDM_2__20201001T090850_20201001T093307_C001 | CFI Retracked Range Flag | The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records. |
| CS_OFFL_SIR_FDM_2__20201001T095448_20201001T100047_C001 | CFI Retracked Range Flag | The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records. |
| CS_OFFL_SIR_FDM_2__20201001T101337_20201001T101613_C001 | CFI Retracked Range Flag | The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records. |
| CS_OFFL_SIR_FDM_2__20201001T101901_20201001T102411_C001 | CFI Retracked Range Flag | The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records. |
| CS_OFFL_SIR_FDM_2__20201001T102433_20201001T103024_C001 | CFI Retracked Range Flag | The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records. |





|  |                               |  |
|--|-------------------------------|--|
| CS_OFFL_SIR_FDM_2_20201001T102433_20201001T103024_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records. |
| CS_OFFL_SIR_FDM_2_20201001T104927_20201001T110029_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records. |
| CS_OFFL_SIR_FDM_2_20201001T114211_20201001T115255_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records. |
| CS_OFFL_SIR_FDM_2_20201001T124341_20201001T125619_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records. |
| CS_OFFL_SIR_FDM_2_20201001T125743_20201001T130002_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records. |
| CS_OFFL_SIR_FDM_2_20201001T140427_20201001T142620_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records. |
| CS_OFFL_SIR_FDM_2_20201001T142622_20201001T142952_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records. |
| CS_OFFL_SIR_FDM_2_20201001T150311_20201001T152341_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records. |
| CS_OFFL_SIR_FDM_2_20201001T152348_20201001T152709_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records. |
| CS_OFFL_SIR_FDM_2_20201001T154312_20201001T160932_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records. |
| CS_OFFL_SIR_FDM_2_20201001T162950_20201001T164033_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records. |
| CS_OFFL_SIR_FDM_2_20201001T164036_20201001T170645_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records. |
| CS_OFFL_SIR_FDM_2_20201001T172330_20201001T175635_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records. |
| CS_OFFL_SIR_FDM_2_20201001T180804_20201001T181201_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records. |
| CS_OFFL_SIR_FDM_2_20201001T190249_20201001T192338_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records. |
| CS_OFFL_SIR_FDM_2_20201001T192624_20201001T193747_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records. |
| CS_OFFL_SIR_FDM_2_20201001T194800_20201001T195130_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records. |
| CS_OFFL_SIR_FDM_2_20201001T204132_20201001T211407_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records. |
| CS_OFFL_SIR_FDM_2_20201001T211411_20201001T211742_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records. |
| CS_OFFL_SIR_FDM_2_20201001T213658_20201001T220211_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records. |
| CS_OFFL_SIR_FDM_2_20201001T222140_20201001T223633_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records. |
| CS_OFFL_SIR_FDM_2_20201001T224241_20201001T225035_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records. |
| CS_OFFL_SIR_FDM_2_20201001T225048_20201001T225653_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records. |
| CS_OFFL_SIR_FDM_2_20201001T231049_20201001T232644_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records. |
| CS_OFFL_SIR_FDM_2_20201001T232858_20201001T234325_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records. |

## 7. 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 | Nb. Products | Nb. QCC Reports | Nb. Valid | Nb. Warnings | Nb. Errors |
|--------------|--------------|-----------------|-----------|--------------|------------|
| SIR1LRM_0_   | 158          | 158             | 158       | 0            | 0          |
| SIR1SAR_0_   | 104          | 104             | 103       | 1            | 0          |
| SIR1SIN_0_   | 103          | 103             | 102       | 1            | 0          |
| SIR2SIN_0_   | 110          | 110             | 109       | 1            | 0          |
| SIR_FDM_1B   | 155          | 155             | 1         | 0            | 154        |
| SIR_FDM_2_   | 151          | 151             | 91        | 60           | 0          |

### 7.1 QCC Errors

Number of QCC reports with errors: 154

Total number of occurrences of each error

| Product Type | UVOB | - | - | - | - | - | - | - | - | - |
|--------------|------|---|---|---|---|---|---|---|---|---|
| SIR_FDM_1B   | 154  |   |   |   |   |   |   |   |   |   |

#### Test Description Key:

| Abbreviation | Test name           | Details  |
|--------------|---------------------|--|
| UVOB         | UnitVectorOrBlank_6 | The three array elements should form a unit vector (using a scale factor of 10 <sup>-6</sup> ) |

### 7.2 QCC Warnings

Number of QCC reports with warnings: 211

Total number of occurrences of each warning

| Product Type | MVSIO | MVSIOFD | QF | RAGCOFOFD | RBSZO | RBSZOFD | RSSBCO | - | - | - | - |
|--------------|-------|---------|----|-----------|-------|---------|--------|---|---|---|---|
| SIR1SAR_0_   | 0     | 0       | 1  | 0         | 0     | 0       | 0      |   |   |   |   |
| SIR1SIN_0_   | 0     | 0       | 1  | 0         | 0     | 0       | 0      |   |   |   |   |
| SIR2SIN_0_   | 0     | 0       | 1  | 0         | 0     | 0       | 0      |   |   |   |   |
| SIR_FDM_1B   | 0     | 0       | 0  | 1         | 0     | 0       | 0      |   |   |   |   |
| SIR_FDM_2_   | 49    | 45      | 0  | 0         | 44    | 55      | 14     |   |   |   |   |

#### Test Description Key:

| Abbreviation | Test name                         | Details   |
|--------------|-----------------------------------|---|
| MVSIO        | MissingValueShortIntOcean         | The value should not be a 'missing value' for surface type 0 only   |
| MVSIOFD      | MissingValueShortIntOceanFD2      | The value should not be a 'missing value' for surface type 0 only   |
| QF           | QualityFlag                       | This quality flag should be 0   |
| RAGCOFOFD    | RangeAGCOrFlaggedOceanFD3         | The AGC should be between 0 and 6200 or the AGC_Inconsistency flag should be set for surface type = ocean |
| RBSZO        | RangeBackscatterSigmaZeroOcean    | The backscatter sigma zero should be between 700 and 3000 (or missing) for surface type = ocean           |
| RBSZOFD      | RangeBackscatterSigmaZeroOceanFD2 | The backscatter sigma zero should be between 700 and 3000 (or missing) for surface type = ocean           |
| RSSBCO       | RangeSeaStateBiasCorrectionOcean  | The sea state bias correction should be between -500mm and 0mm (or missing) for surface type = ocean      |

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## 7.3 Missing QCC Reports

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Number of products with missing QCC reports: 0

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