

**1. Overview**

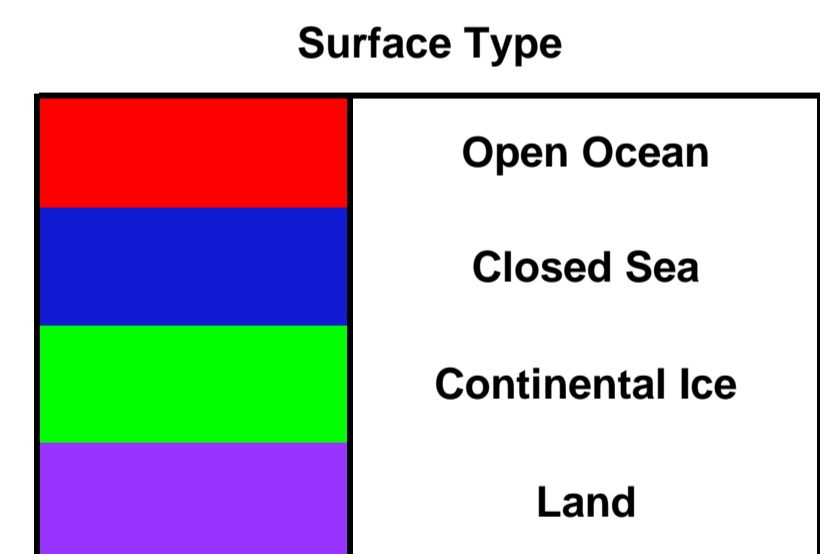
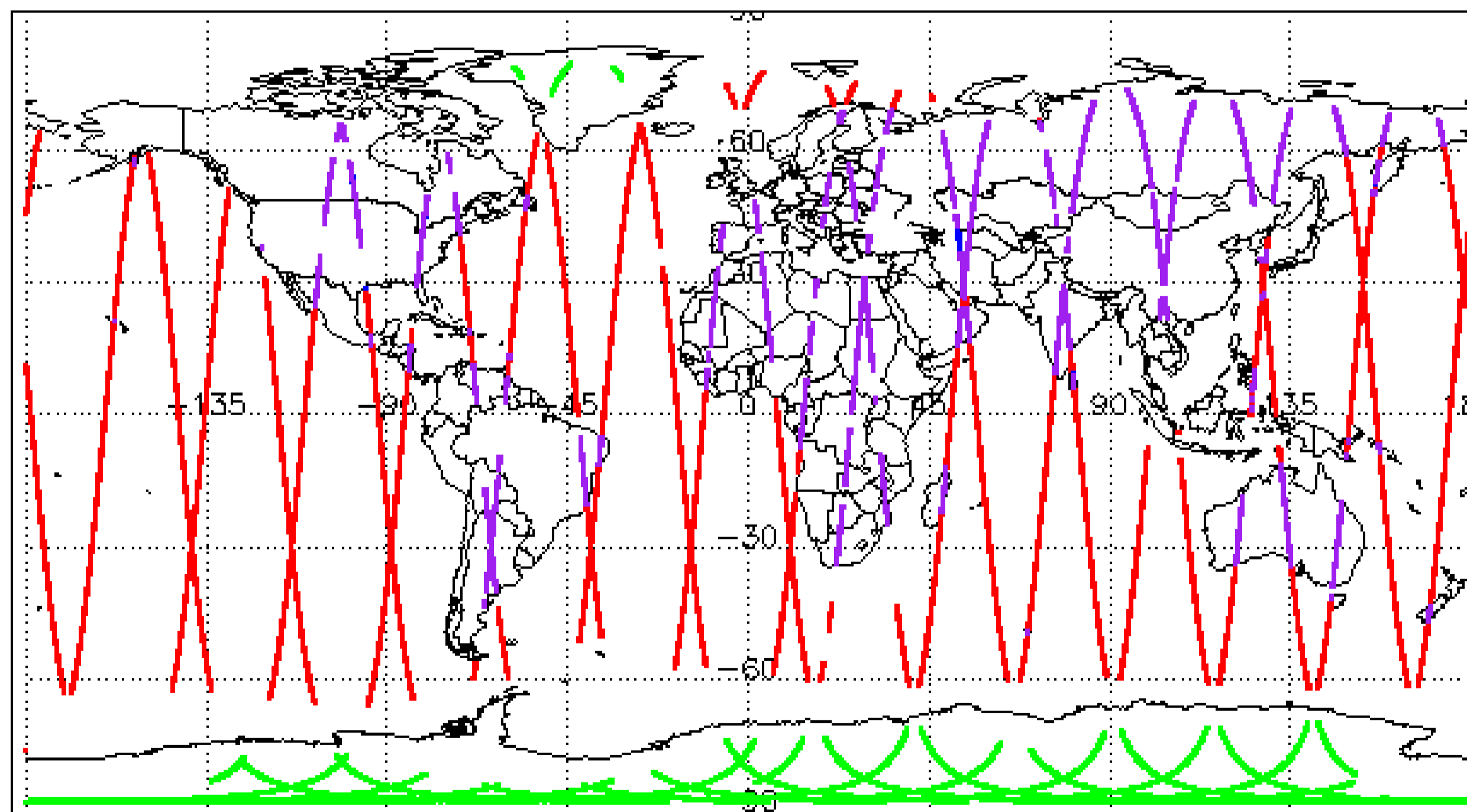
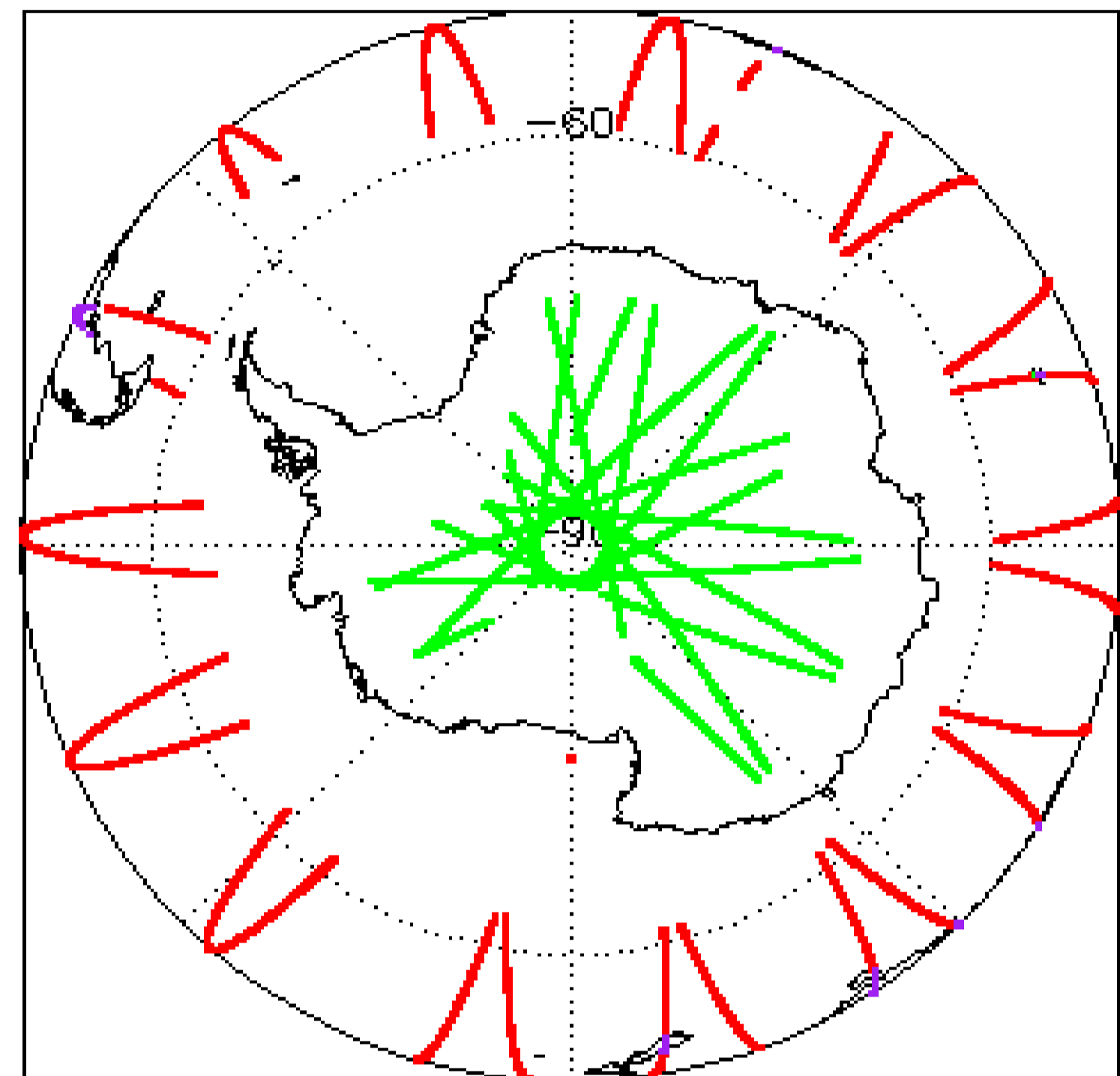
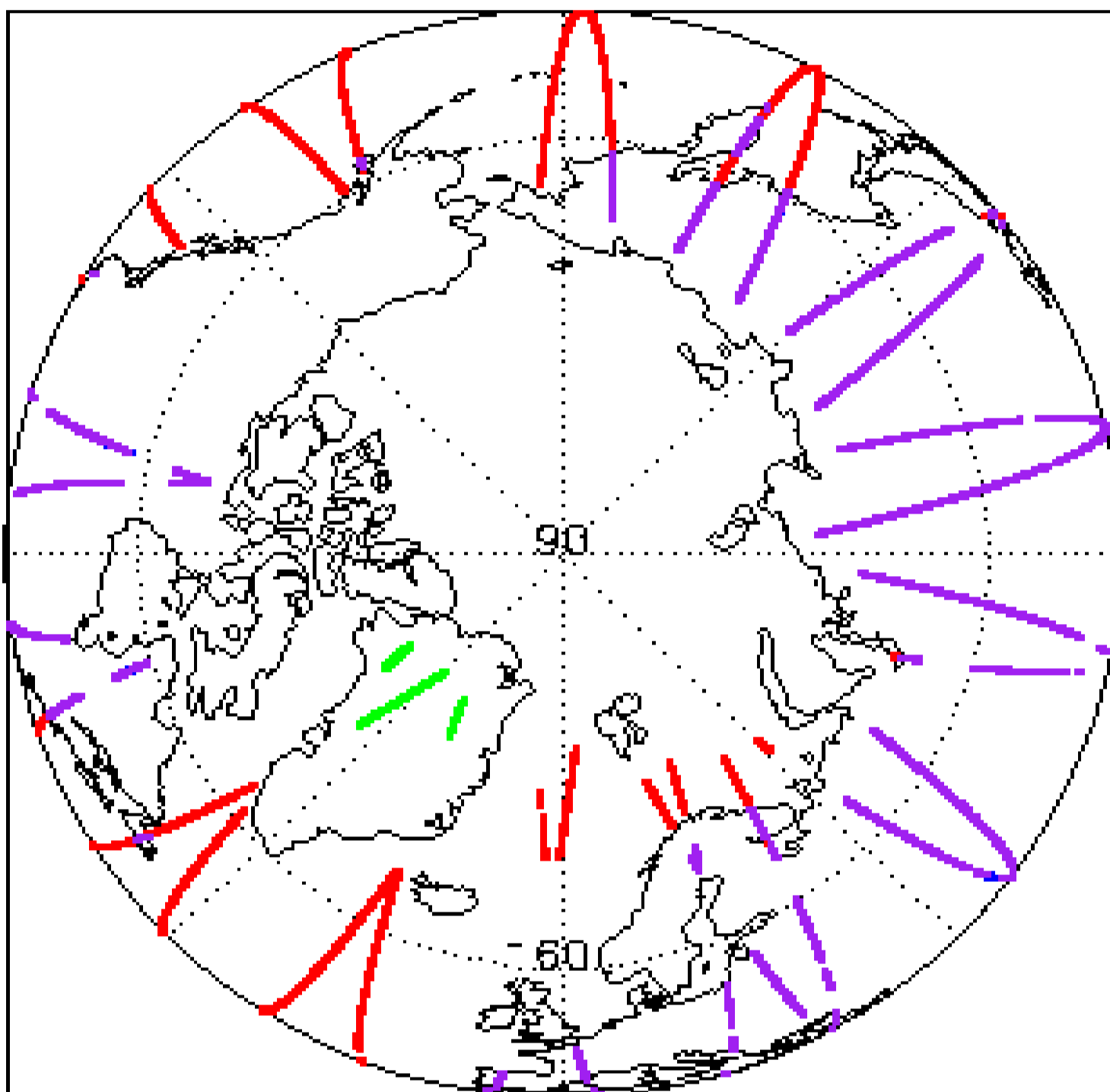
|                                |   |
|--------------------------------|---|
| <b>Report Production Date:</b> | 22-Jun-2020   |
| <b>Processor Used:</b>         | CryoSat Ice Processor                                 |
| <b>Data Used:</b>              | L1 and L2 Fast Delivery Marine (FDM) Mode and 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                   | See Section 4.2, 5.2 and 6.2           |
| Star Tracker Usage Check                  | See Section 5.3                        |
| Calibration Usage Check                   | Nominal                                |
| Auxiliary Data File Usage Check           | Nominal                                |
| 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**

|             |                 |
|-------------|-----------------|
| 18-Jun-2020 | None            |
| 19-Jun-2020 | None            |
| 20-Jun-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:** 4

| Product   | Test Failed   |
|---|---|
| CS_OPER_SIR1SAR_0__20200619T031658_20200619T032126_0001.HDR | Percentage of processing errors detected greater than minimum acceptable threshold. |
| CS_OPER_SIR1SAR_0__20200619T131412_20200619T132312_0001.HDR | Percentage of processing errors detected greater than minimum acceptable threshold. |
| CS_OPER_SIR1SIN_0__20200619T144915_20200619T145138_0001.HDR | Percentage of processing errors detected greater than minimum acceptable threshold. |
| CS_OPER_SIR1SIN_0__20200619T222504_20200619T222635_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:** 8

| Product   | Test Failed  |
|---|--|
| CS_OFFL_SIR_FDM_1B_20200619T081133_20200619T081201_C001.DBL | FOS Predicted Orbit (MPL_ORBPRES) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_1B_20200619T081201_20200619T081209_C001.DBL | FOS Predicted Orbit (MPL_ORBPRES) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_1B_20200619T094552_20200619T094807_C001.DBL | FOS Predicted Orbit (MPL_ORBPRES) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_1B_20200619T094807_20200619T095038_C001.DBL | FOS Predicted Orbit (MPL_ORBPRES) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_1B_20200619T112426_20200619T112553_C001.DBL | FOS Predicted Orbit (MPL_ORBPRES) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_1B_20200619T112553_20200619T112748_C001.DBL | FOS Predicted Orbit (MPL_ORBPRES) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_1B_20200619T144108_20200619T144752_C001.DBL | FOS Predicted Orbit (MPL_ORBPRES) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_1B_20200619T144752_20200619T144837_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:** 4

| Product   | Test Failed   |
|---|---|
| CS_OFFL_SIR_FDM_1B_20200619T081133_20200619T081201_C001 | No Star Tracker file used in the processing of this product |
| CS_OFFL_SIR_FDM_1B_20200619T094552_20200619T094807_C001 | No Star Tracker file used in the processing of this product |
| CS_OFFL_SIR_FDM_1B_20200619T112426_20200619T112553_C001 | No Star Tracker file used in the processing of this product |
| CS_OFFL_SIR_FDM_1B_20200619T144108_20200619T144752_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:** 5

| Product   | Test Failed                 | Description  |
|---|-----------------------------|--|
| CS_OFFL_SIR_FDM_1B_20200619T081133_20200619T081201_C001 | Attitude correction missing | The attitude has not been corrected  |
| CS_OFFL_SIR_FDM_1B_20200619T082718_20200619T083120_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_20200619T094552_20200619T094807_C001 | Attitude correction missing | The attitude has not been corrected  |
| CS_OFFL_SIR_FDM_1B_20200619T112426_20200619T112553_C001 | Attitude correction missing | The attitude has not been corrected  |
| CS_OFFL_SIR_FDM_1B_20200619T144108_20200619T144752_C001 | Attitude correction missing | The attitude has not been corrected  |

## 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: 9

| Product   | Test Failed  |
|---|--|
| CS_OFFL_SIR_FDM_2__20200619T062303_20200619T062412_C001.DBL | FOS Predicted Orbit (MPL_ORBPRES) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_2__20200619T081133_20200619T081201_C001.DBL | FOS Predicted Orbit (MPL_ORBPRES) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_2__20200619T081201_20200619T081209_C001.DBL | FOS Predicted Orbit (MPL_ORBPRES) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_2__20200619T094552_20200619T094807_C001.DBL | FOS Predicted Orbit (MPL_ORBPRES) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_2__20200619T094807_20200619T095038_C001.DBL | FOS Predicted Orbit (MPL_ORBPRES) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_2__20200619T112426_20200619T112553_C001.DBL | FOS Predicted Orbit (MPL_ORBPRES) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_2__20200619T112553_20200619T112748_C001.DBL | FOS Predicted Orbit (MPL_ORBPRES) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_2__20200619T144108_20200619T144752_C001.DBL | FOS Predicted Orbit (MPL_ORBPRES) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_2__20200619T144752_20200619T144837_C001.DBL | FOS Predicted Orbit (MPL_ORBPRES) used instead of the DORIS Navigator Orbit (DOR_NAV). |

### 6.3 L2 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

### 6.4 L2 FDM Auxiliary Correction Error Check

Each product is checked to detect auxiliary corrections flagged by the ground-station processing chain as missing or containing errors.

Number of products with errors: 37

| Product   | Test Failed                                      | Description  |
|---|--|--|
| CS_OFFL_SIR_FDM_2__20200619T000620_20200619T000728_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__20200619T005915_20200619T012051_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__20200619T023901_20200619T031514_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__20200619T032727_20200619T034637_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__20200619T034654_20200619T035941_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__20200619T041804_20200619T043311_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__20200619T043514_20200619T044458_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__20200619T050716_20200619T052355_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__20200619T055737_20200619T061139_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__20200619T061318_20200619T061325_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__20200619T065845_20200619T072207_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__20200619T073715_20200619T080142_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__20200619T081133_20200619T081201_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__20200619T081201_20200619T081209_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__20200619T083529_20200619T090059_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__20200619T091611_20200619T094238_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__20200619T095237_20200619T095301_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__20200619T100822_20200619T103936_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__20200619T114535_20200619T121902_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__20200619T131039_20200619T131127_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__20200619T131140_20200619T131158_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__20200619T132312_20200619T135250_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__20200619T135300_20200619T135750_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__20200619T144108_20200619T144752_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__20200619T150118_20200619T150733_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__20200619T150741_20200619T151953_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__20200619T152007_20200619T152245_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__20200619T160946_20200619T162641_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__20200619T164818_20200619T165924_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__20200619T170424_20200619T171604_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__20200619T173229_20200619T173652_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__20200619T175009_20200619T180247_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__20200619T184033_20200619T185503_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__20200619T191029_20200619T193255_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__20200619T203030_20200619T203427_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__20200619T214704_20200619T221357_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__20200619T231603_20200619T231831_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:** 5

| Product   | Test Failed                 | Description  |
|---|-----------------------------|--|
| CS_OFFL_SIR_FDM_2__20200619T081133_20200619T081201_C001 | Attitude correction missing | The attitude has not been corrected                            |
| CS_OFFL_SIR_FDM_2__20200619T082718_20200619T083120_C001 | Echo error                  | The Echo Rx1 Error flag is set, indicating a degraded raw echo |
| CS_OFFL_SIR_FDM_2__20200619T094552_20200619T094807_C001 | Attitude correction missing | The attitude has not been corrected                            |
| CS_OFFL_SIR_FDM_2__20200619T112426_20200619T112553_C001 | Attitude correction missing | The attitude has not been corrected                            |
| CS_OFFL_SIR_FDM_2__20200619T144108_20200619T144752_C001 | Attitude correction missing | The attitude has not been corrected                            |

## 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:** 20

| Product   | Test Failed              | Description   |
|---|--------------------------|---|
| CS_OFFL_SIR_FDM_2__20200619T023901_20200619T031514_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__20200619T032727_20200619T034637_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__20200619T034654_20200619T035941_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__20200619T041804_20200619T043311_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__20200619T043514_20200619T044458_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__20200619T050716_20200619T052355_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__20200619T081133_20200619T081201_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__20200619T083529_20200619T090059_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__20200619T091611_20200619T094238_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__20200619T100822_20200619T103936_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__20200619T114535_20200619T121902_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__20200619T132312_20200619T135250_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__20200619T150118_20200619T150733_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__20200619T152007_20200619T152245_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__20200619T164818_20200619T165924_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__20200619T173229_20200619T173652_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__20200619T175009_20200619T180247_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__20200619T203030_20200619T203427_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__20200619T214704_20200619T221357_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__20200619T231603_20200619T231831_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_20200619T073715_20200619T080142_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_20200619T081133_20200619T081201_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_20200619T083529_20200619T090059_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_20200619T091611_20200619T094238_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_20200619T100822_20200619T103936_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_20200619T114535_20200619T121902_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_20200619T123444_20200619T125215_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_20200619T132312_20200619T135250_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_20200619T135300_20200619T135750_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_20200619T150118_20200619T150733_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_20200619T150741_20200619T151953_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_20200619T152007_20200619T152245_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_20200619T153122_20200619T153707_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_20200619T155556_20200619T160822_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_20200619T164818_20200619T165924_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_20200619T170424_20200619T171604_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_20200619T173229_20200619T173652_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_20200619T175009_20200619T180247_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_20200619T191029_20200619T193255_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_20200619T193257_20200619T193612_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_20200619T200943_20200619T203007_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_20200619T203030_20200619T203427_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_20200619T214704_20200619T221357_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_20200619T222925_20200619T230302_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_20200619T231603_20200619T231831_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_   | 159          | 159             | 159       | 0            | 0          |
| SIR1SAR_0_   | 122          | 122             | 122       | 0            | 0          |
| SIR1SIN_0_   | 110          | 110             | 110       | 0            | 0          |
| SIR2SIN_0_   | 114          | 114             | 114       | 0            | 0          |
| SIR_FDM_1B   | 159          | 159             | 4         | 0            | 155        |
| SIR_FDM_2_   | 157          | 157             | 105       | 52           | 0          |

### 7.1 QCC Errors

Number of QCC reports with errors: 155

Total number of occurrences of each error

| Product Type | UVOB | - | - | - | - | - | - | - | - | - |
|--------------|------|---|---|---|---|---|---|---|---|---|
| SIR_FDM_1B   | 155  |   |   |   |   |   |   |   |   |   |

#### 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: 165

Total number of occurrences of each warning

| Product Type | MVSIO | MVSIOFD | RAGCOFOFD | RBSZO | RBSZOFD | RSSBCO | - | - | - | - |
|--------------|-------|---------|-----------|-------|---------|--------|---|---|---|---|
| SIR_FDM_1B   | 0     | 0       | 1         | 0     | 0       | 0      |   |   |   |   |
| SIR_FDM_2_   | 37.00 | 38.00   | 0.00      | 36.00 | 43.00   | 10.00  |   |   |   |   |

#### 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   |
| 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      |

### 7.3 Missing QCC Reports

Number of products with missing QCC reports: 0