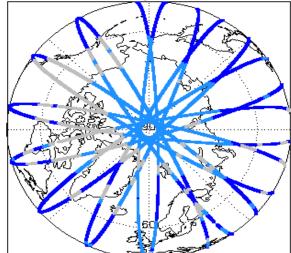
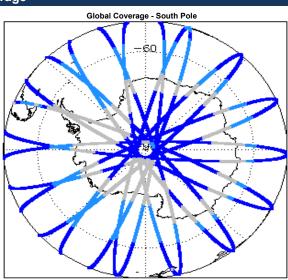


IDEAS+ Daily Report for OFFLINE data:

<u>05/11/2015</u>

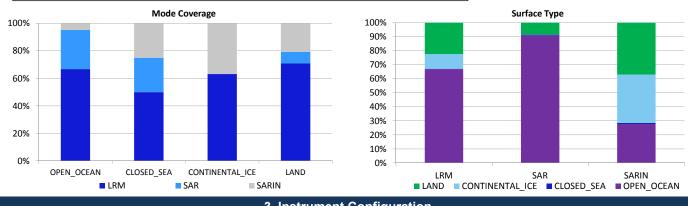
Report Production Date: 07-Dec-2015	07 Dec 2015	Check	Status
	07-Dec-2015	Server check: science-pds.cryosat.esa.int	Nominal
Processor Used:	CryoSat Ice Processor	Server check: calval-pds.cryosat.esa.int	Nominal
		Product Software Check	Nominal
Data Used:		Product Format Check	Nominal
Data Osed:	L1B and L2 OFFLINE Data	Product Header Analysis	See Section 4.2 and 5.2
		Star Tracker Usage Check	Nominal
		L1B Calibration Usage Check	Nominal
		L1B & L2 Auxiliary Data File Usage Check	Nominal
		L1B & L2 Auxiliary Correction Error Check	Nominal
		L1B & L2 Measurement Confidence Data Check	See Section 4.7 and 5.5
Iission / Instrument News 04-Nov-2015 None 05-Nov-2015 None 06-Nov-2015 Nothing planned			
		2. Global Coverage	
	Global Coverage - North Pole	Global Cover	rage - South Pole





Mode Coverage (%)		
	LRM	

LRM	67.0
SAR	21.1
SARIn	11.9



3. Instrument Configuration

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

SIRAL instrument(s) in use: SIRAL - A

4. 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 product file (.DBL)

Number of products with errors:

· · · · · · · · · · · · · · · · · · ·	
4.2 L1B Product Header Analysis	
For all products, a series of pre-defined checks are carried out on the MPH and SPH in order	er to identify any inconsistencies and/or errors raised by the ground-segment processing chain.
Number of products with errors: 1	
Product	Test Failed
CS_OFFL_SIR_SIN_1B_20151105T113221_20151105T113223_C001	Percentage of processing errors detected greater than minimum acceptable threshold.
4.3 Star Tracker Usage Check	
Each product is checked in order to ensure a valid star tracker file has been used in process	sing.
Number of products with errors: 0	

4.4 L1B Calibration Usage Check

Each product is checked in order to ensure that the necessary calibration files have been used in processing Number of products with errors:

4.5 L1B Auxilary 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:

4.6 L1B 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:

4.7 L1B 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.

Currently, there are several common error flags raised in the Level 1B products which are expected due to operational mode or surface type. All common flags are summarised in the list below, followed by a table of any additional issues arising from this test.

Block Degraded Flag: This flag is currently set for a number of individual records generally at the start or end of products (all modes), but this is to be expected

Phase Perturbation Flag: This flag is currently set for all L1B SARIn products, indicating that the ADC correction application is deactivated, but this is in line with the current configuration.

Number of products with errors:

5. Level 2 Data Quality Check

5.1 L2 Product Format Check

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

Number of products with errors:

5.2 L2 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: 1

Product	Test Failed
CS_OFFL_SIR_SIN_220151105T113221_20151105T113223_C001	Percentage of processing errors detected greater than minimum acceptable threshold.

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. 0

Number of products with errors:

5.4 L2 Auxiliary Correction Error Check

CryoSat L2 data includes a correction error flag (field 30) for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors:

5.5 L2 Measurement Quality Flag Check

CryoSat L2 data includes a quality flag (field 50) for each 20-Hz measurement record. The bit value of this flag indicates any problems when set.

Currently, there are several common error flags raised in the Level 2 products which are expected due to operational mode or surface type. All common flags are summarised in the list below, followed by a table of any additional issues arising from this test.

Freeboard error: This flag is correctly set in all L2 SAR products that are not discriminated as sea-ice, and for which freeboard cannot be calculated.

Height and Backscatter errors: These flags are currently set for products over land, but this is to be expected. Retracker 1 Height and Backscatter error flags are also set for products over sea-ice, but this is to be expected.

Peakiness error: This flag is currently set for products over sea-ice, but this is to be expected.

SARIN X-Track Angle Error: This flag is set when the difference between the computed surface elevation and the DEM is >50 m. The DEM is only available over Greenland and Antarctica and as a result this flag is set for L2 SARIn products in all other locations as expected.

SSHA interpolation error: This flag is currently set for a number of SAR products occurring at surface type boundaries, but this is to be expected

	-	
Product	Test Failed Height Error (Retracker 2), Height Error	Description
CS_OFFL_SIR_LRM_220151104T234800_20151105T002044_C001	(Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220151105T003824_20151105T010249_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220151105T011232_20151105T011255_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220151105T012528_20151105T015927_C001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220151105T020502_20151105T020737_C001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220151105T020744_20151105T021154_C001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220151105T021650_20151105T024250_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2) Height Error (Retracker 2), Backscatter	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220151105T030504_20151105T031716_C001	Error (Retracker 2) Height Error (Retracker 2), Backscatter	There is a height and backscatter error for Retracker 2 for one or more records There is a height and backscatter error for Retracker 2 for one or more
CS_OFFL_SIR_LRM_220151105T032157_20151105T033858_C001	Error (Retracker 2) Height Error (Retracker 2), Backscatter	records There is a height and backscatter error for Retracker 2 for one or more
CS_OFFL_SIR_LRM_220151105T035735_20151105T041013_C001	Error (Retracker 2) Height Error (Retracker 2), Height Error	records
CS_OFFL_SIR_LRM_220151105T041227_20151105T043024_C001	(Retracker 3), Backscatter Error (Retracker 2) Height Error (Retracker 2), Height Error	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220151105T045146_20151105T050119_C001	(Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220151105T050355_20151105T051746_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220151105T055323_20151105T055605_C001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220151105T055728_20151105T060118_C001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220151105T060127_20151105T060440_C001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220151105T060603_20151105T060734_C001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_2_20151105T064050_20151105T065644_C001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220151105T070525_20151105T070702_C001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220151105T071208_20151105T072312_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220151105T072842_20151105T073454_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220151105T081450_20151105T083545_C001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220151105T084423_20151105T084748_C001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220151105T085148_20151105T090226_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2) Height Error (Retracker 2), Backscatter	There is a height and backscatter error for Retracker 2 for one or more records There is a height and backscatter error for Retracker 2 for one or more
CS_OFFL_SIR_LRM_220151105T090756_20151105T092306_C001	Error (Retracker 2) Height Error (Retracker 2), Backscatter	records There is a height and backscatter error for Retracker 2 for one or more There is a height and backscatter error for Retracker 2 for one or more
CS_OFFL_SIR_LRM_2_20151105T094644_20151105T101454_C001	Error (Retracker 2)	records
CS_OFFL_SIR_LRM_220151105T101844_20151105T102654_C001	Surface Model Unavailable Height Error (Retracker 2), Height Error	No DEM or Slope Model was used for the location of one or more records There is a height and backscatter error for Retracker 2 and a height error
CS_OFFL_SIR_LRM_220151105T103218_20151105T110432_C001	(Retracker 3), Backscatter Error (Retracker 2)	for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220151105T111845_20151105T112013_C001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220151105T112846_20151105T113046_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220151105T114602_20151105T114706_C001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220151105T115824_20151105T120343_C001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220151105T121034_20151105T123154_C001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220151105T123441_20151105T124454_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220151105T125552_20151105T130016_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220151105T130731_20151105T131238_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2) Height Error (Retracker 2), Backscatter	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220151105T131245_20151105T132048_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2) Height Error (Retracker 2), Backscatter	There is a height and backscatter error for Retracker 2 for one or more records There is a height and backscatter error for Retracker 2 for one or more
CS_OFFL_SIR_LRM_2_20151105T132235_20151105T133245_C001	Error (Retracker 2)	records
CS_OFFL_SIR_LRM_2_20151105T133917_20151105T134243_C001	Surface Model Unavailable Height Error (Retracker 2), Height Error	No DEM or Slope Model was used for the location of one or more records There is a height and backscatter error for Retracker 2 and a height error
CS_OFFL_SIR_LRM_2_20151105T135449_20151105T142408_C001	(Retracker 3), Backscatter Error (Retracker 2) Height Error (Retracker 2), Backscatter	for Retracker 3 for one or more records There is a height and backscatter error for Retracker 2 for one or more
CS_OFFL_SIR_LRM_220151105T143906_20151105T144606_C001 CS_OFFL_SIR_LRM_220151105T144629_20151105T151022_C001	Error (Retracker 2) Height Error (Retracker 2), Backscatter	records There is a height and backscatter error for Retracker 2 for one or more
CS_OFFL_SIR_LRM_2201511051144629_201511051151022_C001 CS_OFFL_SIR_LRM_220151105T152918_20151105T154511_C001	Error (Retracker 2) Height Error (Retracker 2), Backscatter	records There is a height and backscatter error for Retracker 2 for one or more
	Error (Retracker 2) Height Error (Retracker 2), Height Error	records There is a height and backscatter error for Retracker 2 and a height error
CS_OFFL_SIR_LRM_220151105T154515_20151105T154613_C001	(Retracker 3), Backscatter Error (Retracker 2)	for Retracker 3 for one or more records

CS OFFL SIR LRM 2 20151105T155027 20151105T160113 C001 CS_OFFL_SIR_LRM_2__20151105T161919_20151105T163455_C001 CS OFFL SIR LRM 2 20151105T164115 20151105T165247 C001 CS_OFFL_SIR_LRM_2_20151105T165840_20151105T170103_C001 CS_OFFL_SIR_LRM_2__20151105T170817_20151105T172240_C001 CS OFFL SIR LRM 2 20151105T172420 20151105T173917 C001 CS OFFL SIR LRM 2 20151105T175754 20151105T175952 C001 CS_OFFL_SIR_LRM_2__20151105T180114_20151105T180823_C001 CS_OFFL_SIR_LRM_2__20151105T180946_20151105T181433_C001 CS OFFL SIR LRM 2 20151105T181715 20151105T183255 C001 CS_OFFL_SIR_LRM_2__20151105T183626_20151105T184507_C001 CS_OFFL_SIR_LRM_2_20151105T184808_20151105T191002_C001 CS OFFL SIR LRM 2 20151105T193824 20151105T195535 C001 CS_OFFL_SIR_LRM_2__20151105T200104_20151105T201143_C001 CS_OFFL_SIR_LRM_2__20151105T202748_20151105T205543_C001 CS_OFFL_SIR_LRM_2__20151105T212211_20151105T213448_C001 CS OFFL SIR LRM 2 20151105T214017 20151105T214939 C001 CS OFFL SIR LRM 2 20151105T220702 20151105T223427 C001 CS OFFL SIR LRM 2 20151105T224244 20151105T224349 C001 CS_OFFL_SIR_LRM_2_20151105T225610_20151105T232942_C001 CS OFFL SIR LRM 2 20151105T235317 20151106T000056 C001 CS OFFL SIR SIN 2 20151105T002419 20151105T002738 C001 CS_OFFL_SIR_SIN_2__20151105T003250_20151105T003415_C001 CS_OFFL_SIR_SIN_2__20151105T011508_20151105T011619_C001 CS OFFL SIR SIN 2 20151105T020132 20151105T020502 C001 CS_OFFL_SIR_SIN_2__20151105T021154_20151105T021302_C001 CS_OFFL_SIR_SIN_2_20151105T025056 20151105T025210 C001 CS_OFFL_SIR_SIN_2__20151105T025422_20151105T025533_C001 CS_OFFL_SIR_SIN_2__20151105T033938_20151105T034117_C001 CS OFFL SIR SIN 2 20151105T034857 20151105T035046 C001 CS_OFFL_SIR_SIN_2__20151105T043205_20151105T043447_C001 CS_OFFL_SIR_SIN_2__20151105T051857_20151105T052042_C001 CS OFFL SIR SIN 2 20151105T052605 20151105T052611 C001 CS OFFL SIR SIN 2 20151105T052727 20151105T053257 C001 CS_OFFL_SIR_SIN_2__20151105T053300_20151105T053331_C001 CS OFFL SIR SIN 2 20151105T060908 20151105T061330 C001 CS_OFFL_SIR_SIN_2__20151105T065801_20151105T070039_C001 CS OFFL SIR SIN 2 20151105T070503 20151105T070509 C001 CS OFFL SIR SIN 2 20151105T070518 20151105T070524 C001 CS OFFL SIR SIN 2 20151105T070702 20151105T071012 C001 CS_OFFL_SIR_SIN_2__20151105T083741_20151105T083856_C001 CS_OFFL_SIR_SIN_2__20151105T084748_20151105T084905_C001 CS_OFFL_SIR_SIN_2__20151105T093753_20151105T093842_C001 CS OFFL SIR SIN 2 20151105T101720 20151105T101844 C001 CS_OFFL_SIR_SIN_2__20151105T102654_20151105T102808_C001 CS_OFFL_SIR_SIN_2__20151105T115658_20151105T115823_C001 CS OFFL SIR SIN 2 20151105T120343 20151105T120651 C001 CS_OFFL_SIR_SIN_2__20151105T125516_20151105T125546_C001 CS_OFFL_SIR_SIN_2__20151105T133641_20151105T133916_C001

Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2) Height Error (Retracker 2), Backscatter Error (Retracker 2) Height Error (Retracker 2), Backscatter Error (Retracker 2) Surface Model Unavailable Height Error (Retracker 2), Backscatter Error (Retracker 2) Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2) Height Error (Retracker 2), Backscatter Error (Retracker 2) Surface Model Unavailable Height Error (Retracker 2), Backscatter Error (Retracker 2) Height Error (Retracker 2), Backscatter Error (Retracker 2) Height Error (Retracker 2), Backscatter Error (Retracker 2) Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2) Height Error (Retracker 2), Backscatter Error (Retracker 2) Height Error (Retracker 2), Backscatter Error (Retracker 2) Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2) Height Error (Retracker 2), Backscatter Error (Retracker 2) Height Error (Retracker 2), Backscatter Error (Retracker 2) Height Error (Retracker 2), Backscatter Error (Retracker 2) SARIn X-track Angle Error SARIn X-track Angle Error, Surface Model Unavailable SARIn X-track Angle Error SARIn X-track Angle Error SARIn X-track Angle Error SARIn X-track Angle Error SARIn X-track Angle Error, Surface Model Unavailable SARIn X-track Angle Error SARIn X-track Angle Error, Surface Model Unavailable SARIn X-track Angle Error SARIn X-track Angle Error SARIn X-track Angle Error SARIn X-track Angle Error SARIn X-track Angle Error, Surface Model Unavailable SARIn X-track Angle Error

There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records There is a height and backscatter error for Retracker 2 for one or more records There is a height and backscatter error for Retracker 2 for one or more ecords No DEM or Slope Model was used for the location of one or more records There is a height and backscatter error for Retracker 2 for one or more records There is a height and backscatter error for Retracker 2 for one or more records There is a height and backscatter error for Retracker 2 for one or more records There is a height and backscatter error for Retracker 2 for one or more ecords There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records There is a height and backscatter error for Retracker 2 for one or more records No DEM or Slope Model was used for the location of one or more records There is a height and backscatter error for Retracker 2 for one or more records There is a height and backscatter error for Retracker 2 for one or more records There is a height and backscatter error for Retracker 2 for one or more records There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records There is a height and backscatter error for Retracker 2 for one or more records There is a height and backscatter error for Retracker 2 for one or more ecords There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records There is a height and backscatter error for Retracker 2 for one or more records There is a height and backscatter error for Retracker 2 for one or more records There is a height and backscatter error for Retracker 2 for one or more records An ambiguous angle was detected for SARIn mode for one or more records An ambiguous angle was detected for SARIn mode for one or more records An ambiguous angle was detected for SARIn mode for one or more records An ambiguous angle was detected for SARIn mode for one or more records An ambiguous angle was detected for SARIn mode for one or more records An ambiguous angle was detected for SARIn mode for one or more records An ambiguous angle was detected for SARIn mode for one or more records An ambiguous angle was detected for SARIn mode for one or more records An ambiguous angle was detected for SARIn mode for one or more records An ambiguous angle was detected for SARIn mode and no DEM or Slope Model was used for one or more records An ambiguous angle was detected for SARIn mode for one or more records An ambiguous angle was detected for SARIn mode for one or more records An ambiguous angle was detected for SARIn mode for one or more records An ambiguous angle was detected for SARIn mode for one or more records An ambiguous angle was detected for SARIn mode and no DEM or Slope Model was used for one or more records An ambiguous angle was detected for SARIn mode for one or more records An ambiguous angle was detected for SARIn mode for one or more records An ambiguous angle was detected for SARIn mode for one or more records An ambiguous angle was detected for SARIn mode for one or more records An ambiguous angle was detected for SARIn mode for one or more records An ambiguous angle was detected for SARIn mode for one or more records An ambiguous angle was detected for SARIn mode and no DEM or Slope Model was used for one or more records An ambiguous angle was detected for SARIn mode for one or more records An ambiguous angle was detected for SARIn mode for one or more records An ambiguous angle was detected for SARIn mode for one or more records An ambiguous angle was detected for SARIn mode for one or more records An ambiguous angle was detected for SARIn mode and no DEM or Slope Model was used for one or more records An ambiguous angle was detected for SARIn mode for one or more records

CS_OFFL_SIR_SIN_220151105T134243_20151105T134616_C001		An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_220151105T151721_20151105T151955_C001	ISARIN X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_220151105T152149_20151105T152436_C001	SARID X-TRACK ADDIE ETTOR	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_220151105T152625_20151105T152813_C001	SARIN X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_220151105T161231_20151105T161352_C001	SARIN X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records