

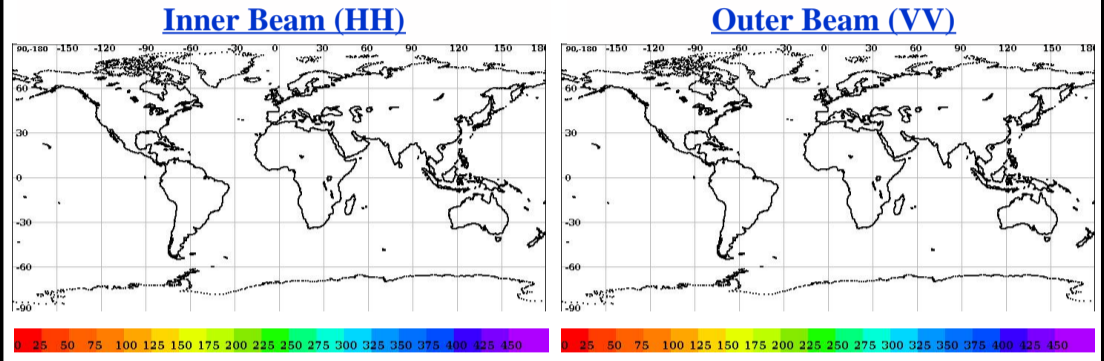
# SCATSAT-1 Scatterometer Level-1B Data Quality Evaluation Report

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<b>Satellite Id</b>	ScatSat-1	<b>Start Orbit</b>	12926	<b>Total Scans</b>	605
<b>Sensor Name</b>	Scatterometer	<b>End Orbit</b>	12927	<b>No of Inner FootPrints</b>	281
<b>Processor Version</b>	v1.1.3	<b>Rev. Number</b>	12926_12927	<b>No Of Outer FootPrints</b>	282
<b>Half Orbit Direction</b>	SN	<b>Data Production Date</b>	06-03-2019	<b>No. Of Inner Slices</b>	9
<b>Equator Crossing Date</b>	06-03-2019	<b>Equator Crossing Time</b>	17:20:16.000	<b>No Of Outer Slices</b>	15

## Brightness Temperature(k) Footprint trace



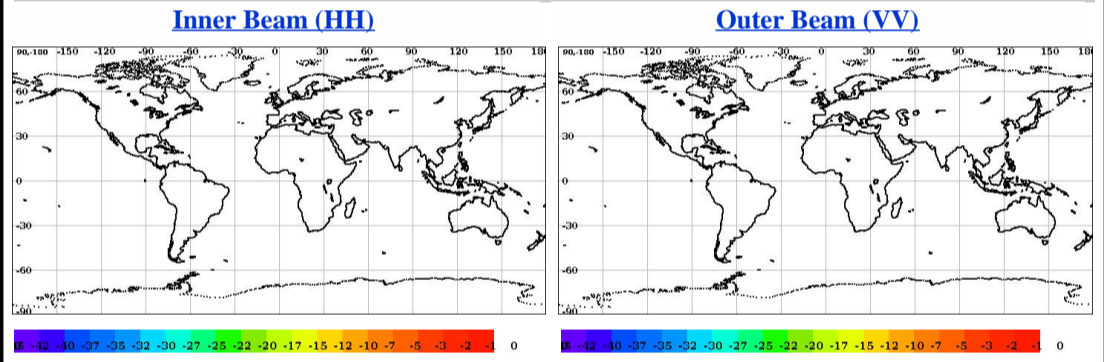
## Image Snapshot for Inner & Outer Beam

Inner (HH)

Outer (VV)



## Sigma0(dB) Footprint trace



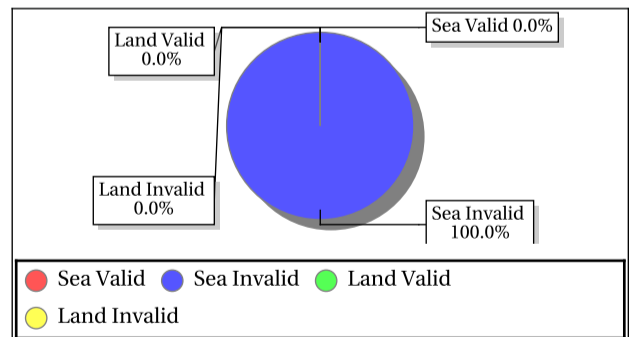
## Invalid and Poor Sigma-0 Quality Flag Statistics for Inner/Outer Slices\*

Sigma-0 Flags	Inner Beam	Outer Beam
Invalid Sigma0(%)	100.00	100.00
Data Not Available From Payload (%)	100.0	100.0
Slice not within sample array limits (%)	0.00	0.00
C(S+N) - C(N) < 0.1 (%)	0.00	0.00
Poor Sigma0(%)	0.00	0.00
Noise samples for blending Saturated	0.0	0.0
Count samp. for interpol. saturated (%)	0.00	0.00
Sigma0<lower bound (-96dB) (%)	0.0	0.0
Sigma0>upper bound (0 dB) (%)	0.00	0.00
SNR <-65 dB (%)	0.0	0.0

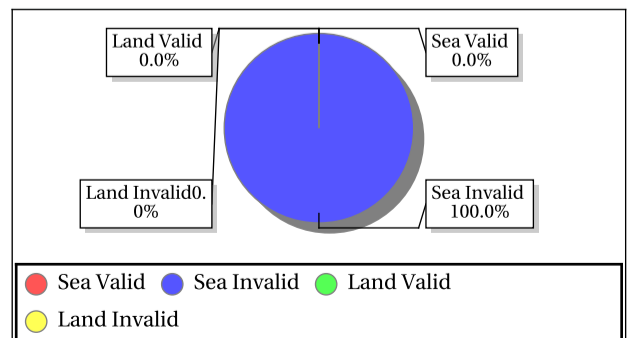
\*DP Format Document

## Sigma-0 Quality Flag Statistics for Inner/Outer Footprints

### Inner Beam (HH)



### Outer Beam (VV)



## Overall statistics for the Static Parameters (Footprint-wise)

Inner Beam (HH)																
	Sea Aft				Sea Fore				Land Aft				Land fore			
	Min	Max	Mean	Bad Occ. (%)	Min	Max	Mean	Bad Occ. (%)	Min	Max	Mean	Bad Occ. (%)	Min	Max	Mean	Bad Occ. (%)
<b>Kp</b>	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000
<b>Kpa</b>	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000
<b>Kpb</b>	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000
<b>Kpc</b>	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000
<b>SNR</b>	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000

Outer Beam (VV)																
	Sea Aft				Sea Fore				Land Aft				Land fore			
	Min	Max	Mean	Bad Occ. (%)	Min	Max	Mean	Bad Occ. (%)	Min	Max	Mean	Bad Occ. (%)	Min	Max	Mean	Bad Occ. (%)
<b>Kp</b>	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000
<b>Kpa</b>	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000
<b>Kpb</b>	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000
<b>Kpc</b>	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000
<b>SNR</b>	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000	10000 0.00	-10000 0.00	0.00	0.000

Parameter Specifications					
Parameter	Kp	Kpa	Kpb	Kpc	SNR
Min	0.00	0.00	0.00	0.00	-65.00
Max	1.00	1.00	1.00	1.00	22.00

- Normal
- Deviations
- Alarming
- High Errors

## Overall statistics for static parameter (Footprint-wise)

	Inner Beam (HH)				Outer Beam (VV)				Parameter Specifications		
	Min	Max	Mean	Bad Occ. (%)	Min	Max	Mean	Bad Occ. (%)	Parameter	Min	Max
<b>Incidence Angle (deg)</b>	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.000	Inci.(Inner)	47.10	49.90
<b>Azimuth Diff. (deg)</b>	0.0000	0.00	0.00	0.000	0.0000	0.00	0.00	0.000	Inci.(Outer)	57.30	58.90
<b>Range(Km)</b>	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.000	Azimuth Diff.	0.60	2.00
<b>X Factor(dbm)</b>	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.000	Range(Inner)	1025.00	1095.70
<b>Across Distance (Km)</b>	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.000	Range(Outer)	1210.00	1280.00
<b>Along Distance (Km)</b>	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.000	X-Factor	-100.00	-80.00
									Ac.Distance(Inner)	15.00	20.00
									Ac.Distance(Outer)	15.00	22.00
									Al.Distance(Inner)	15.00	30.00
									Al.Distance(Outer)	10.00	30.00

- Normal
- Deviations
- Alarming
- High Errors





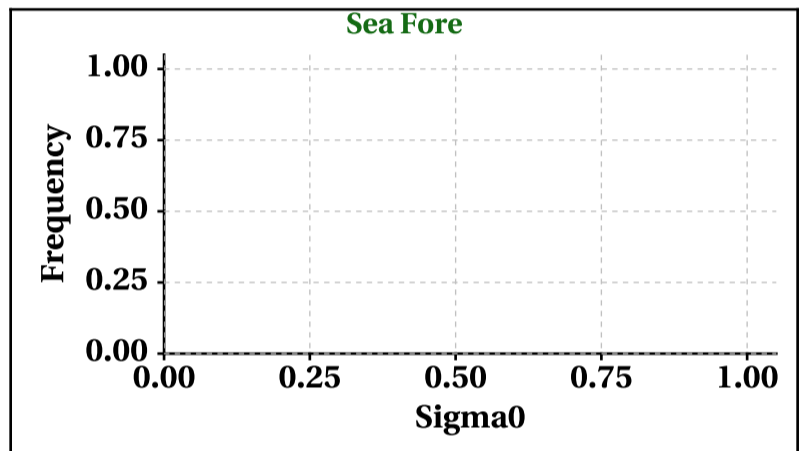
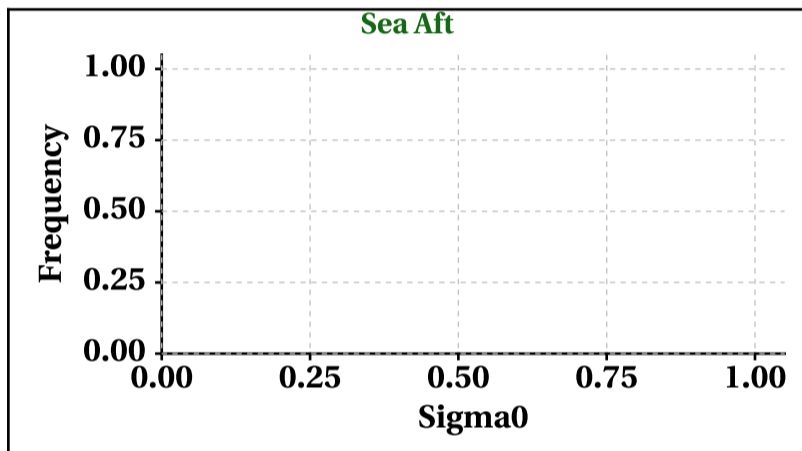
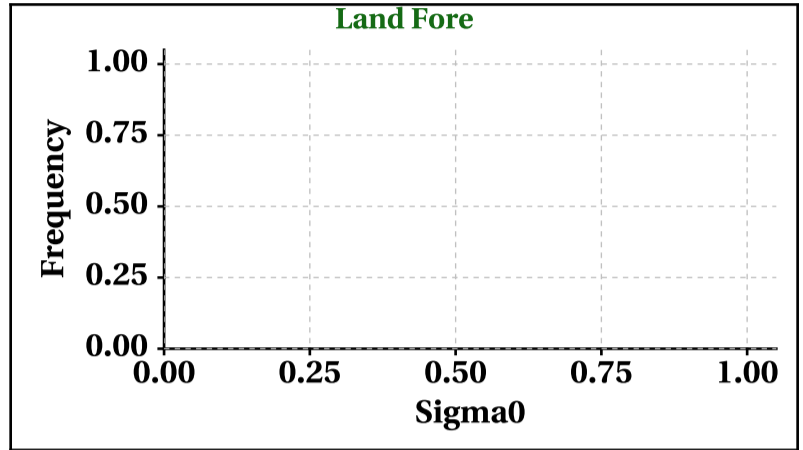
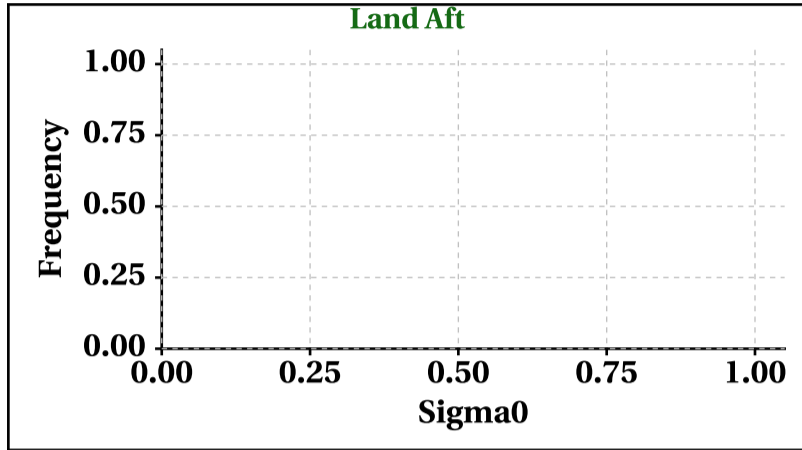


# Dynamic Range (Data Histograms)

## Sigma0(db)

Inner Beam (HH)				
	Land Aft	Land Fore	Sea Aft	Sea Fore
Min	0	0	0	0
Max	0	0	0	0

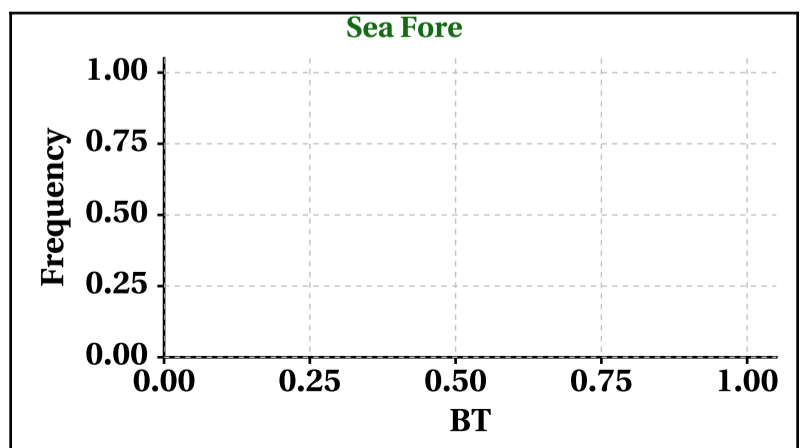
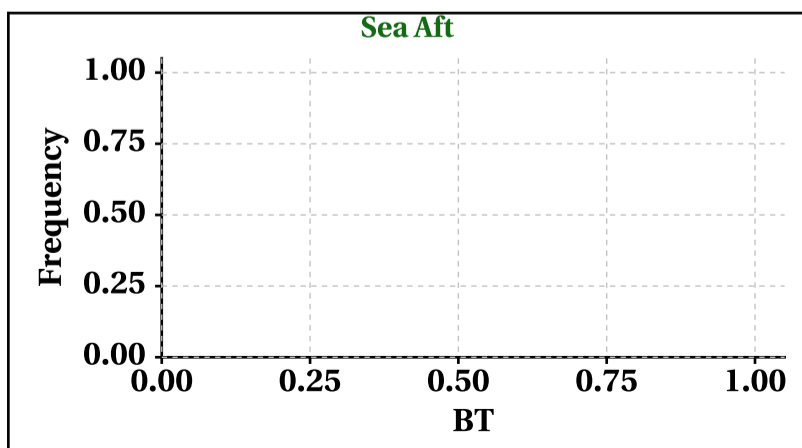
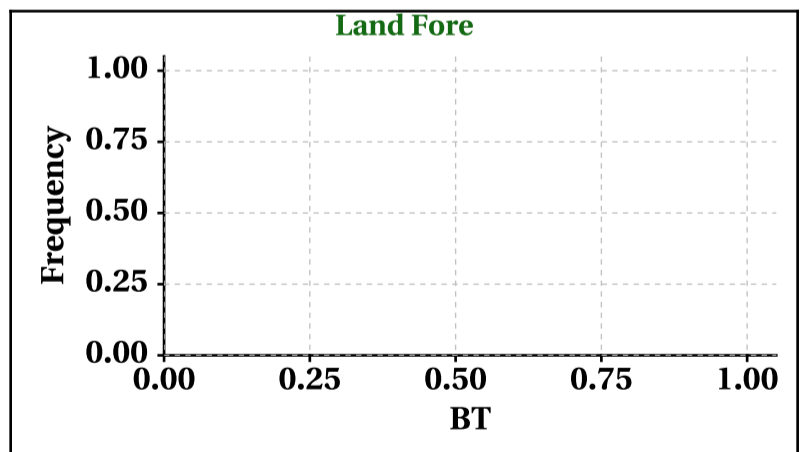
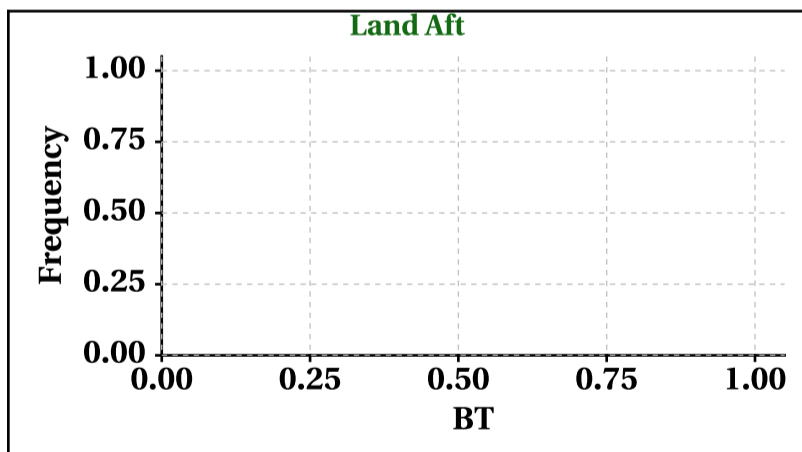
Outer Beam (VV)				
	Land Aft	Land Fore	Sea Aft	Sea Fore
Min	0	0	0	0
Max	0	0	0	0



## Brightness Temperature(K)

Inner Beam(HH)				
	Land Aft	Land Fore	Sea Aft	Sea Fore
Min	0	0	0	0
Max	0	0	0	0

Outer Beam(VV)				
	Land Aft	Land Fore	Sea Aft	Sea Fore
Min	0	0	0	0
Max	0	0	0	0

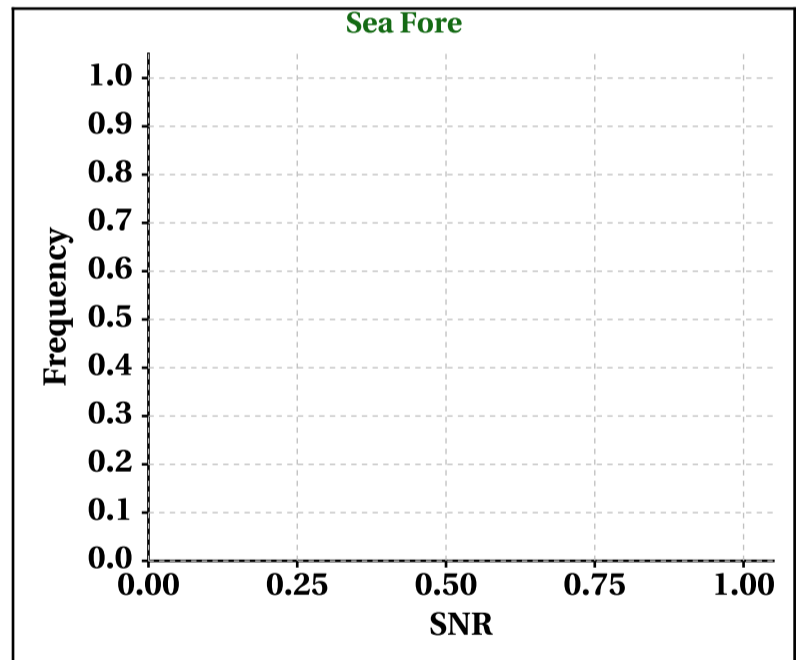
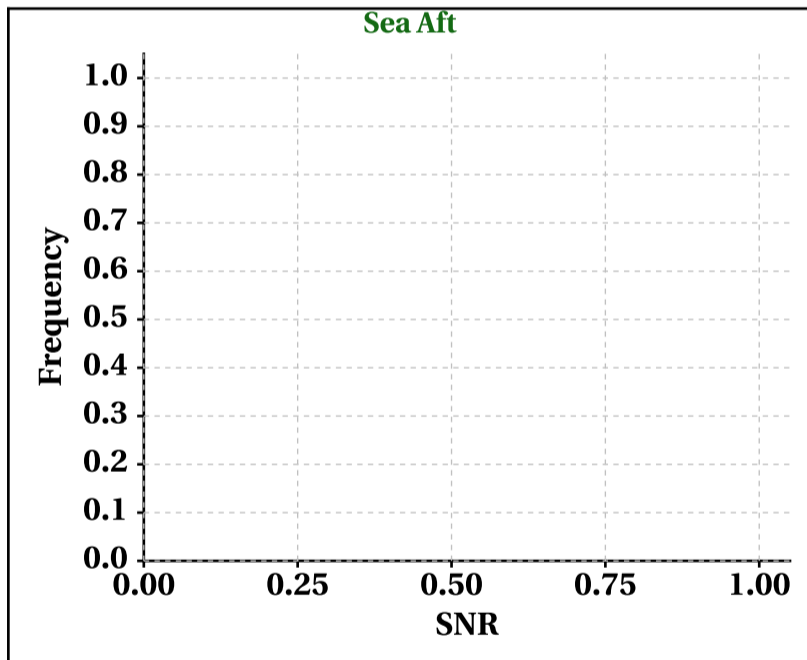
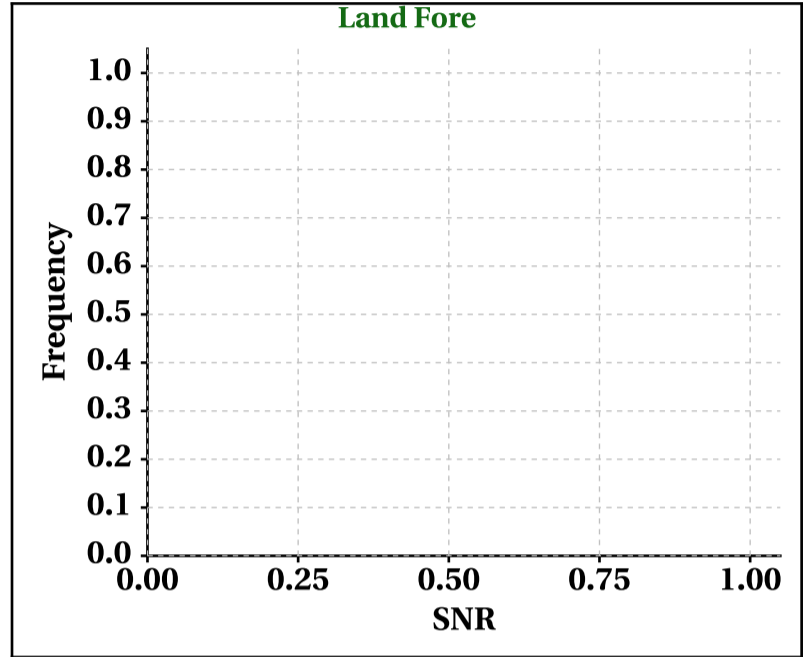
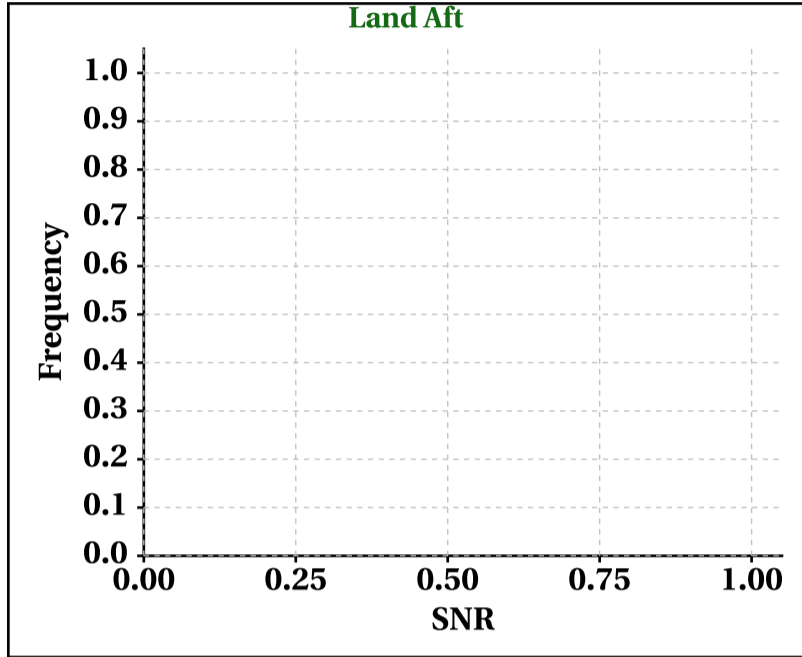


# Dynamic Range (Data Histograms)

## SNR(dBm)

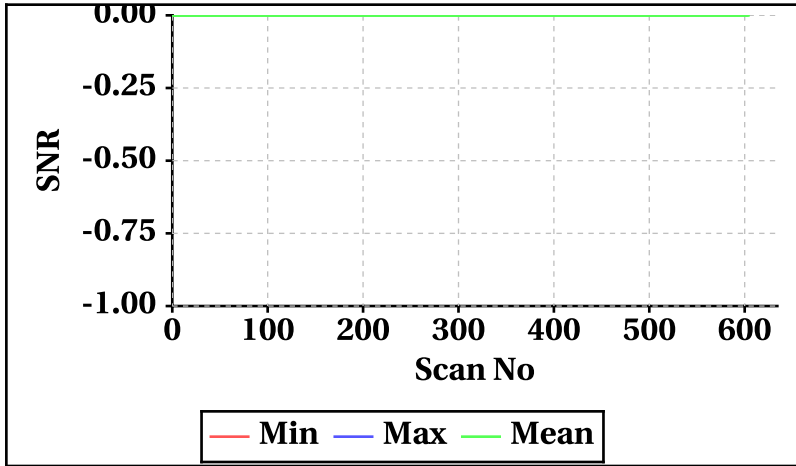
Inner Beam (HH)				
	Land Aft	Land Fore	Sea Aft	Sea Fore
Min	0	0	0	0
Max	0	0	0	0

Outer Beam (VV)				
	Land Aft	Land Fore	Sea Aft	Sea Fore
Min	0	0	0	0
Max	0	0	0	0

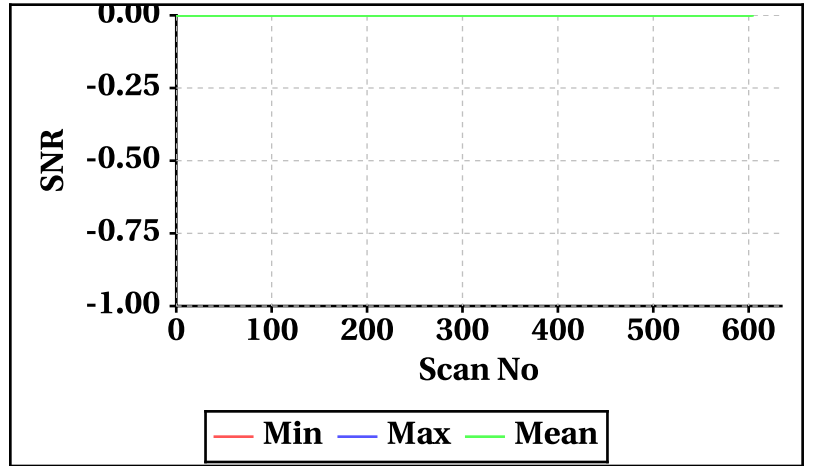


## Orbit-wise behaviour of SNR

**Inner Beam (HH)**

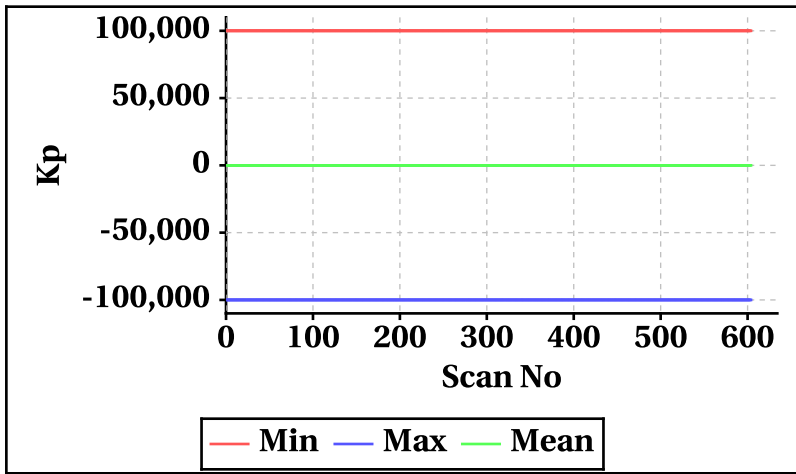


**Outer Beam(VV)**

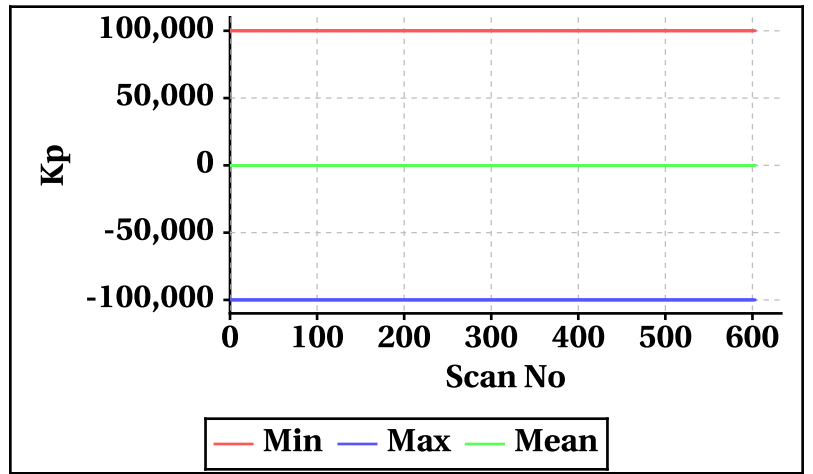


## Orbit-wise behaviour of Kp,Kpa,Kpb,Kpc

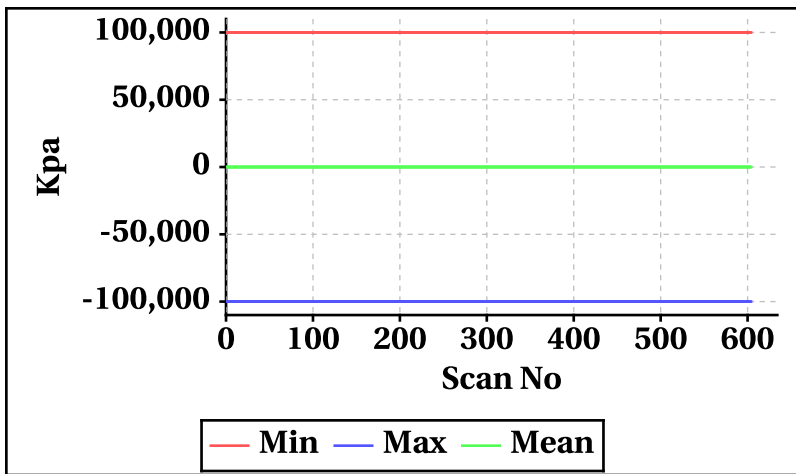
**Inner Beam(HH)**



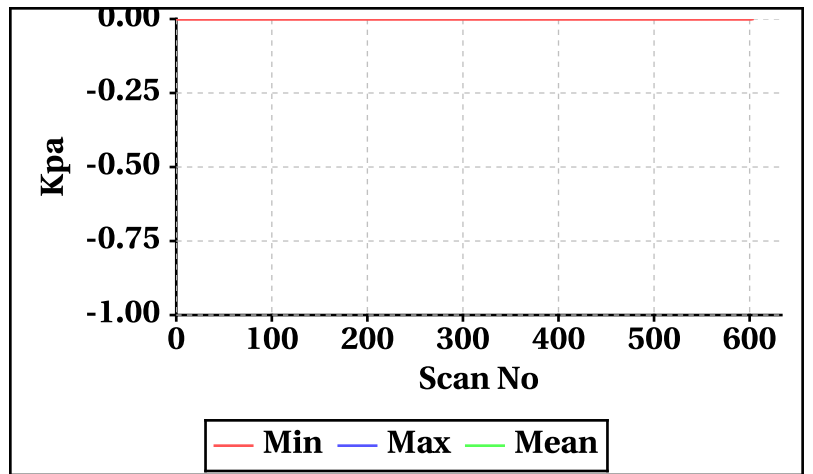
**Outer Beam(VV)**



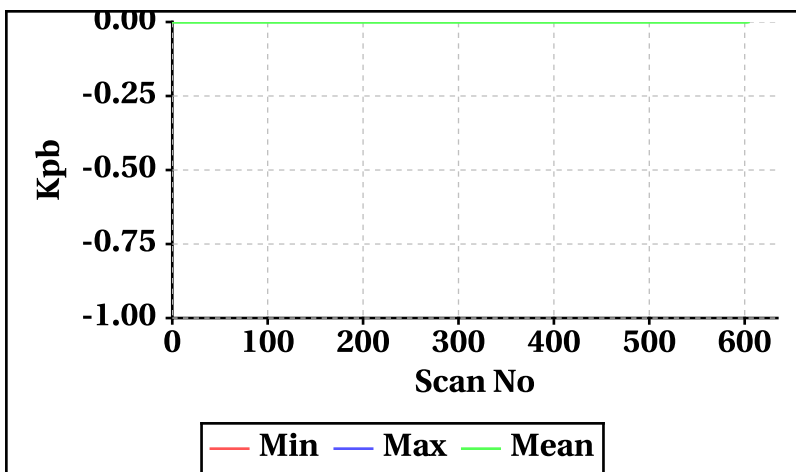
**Inner Beam(HH)**



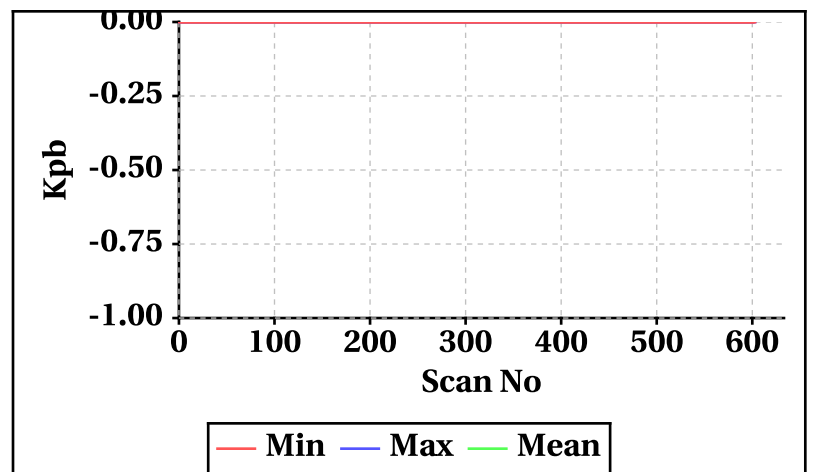
**Outer Beam(VV)**



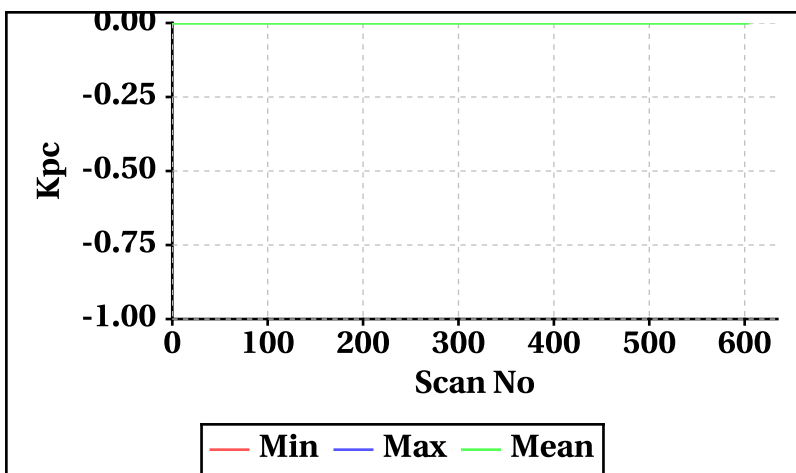
**Inner Beam(HH)**



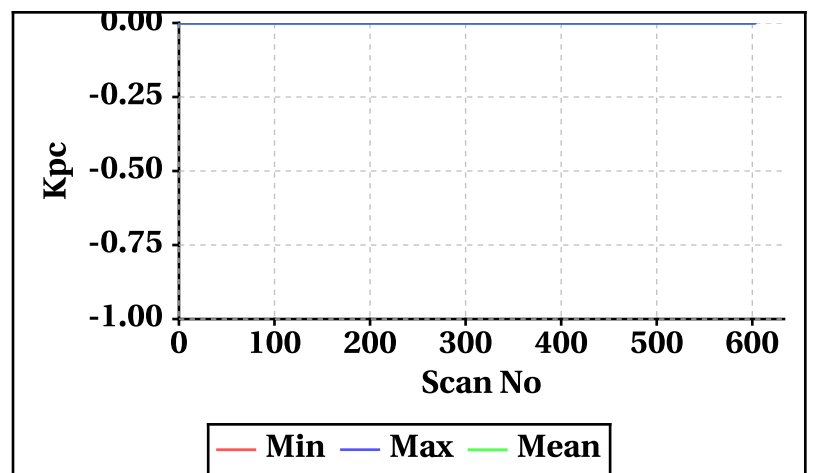
**Outer Beam(VV)**



**Inner Beam(HH)**

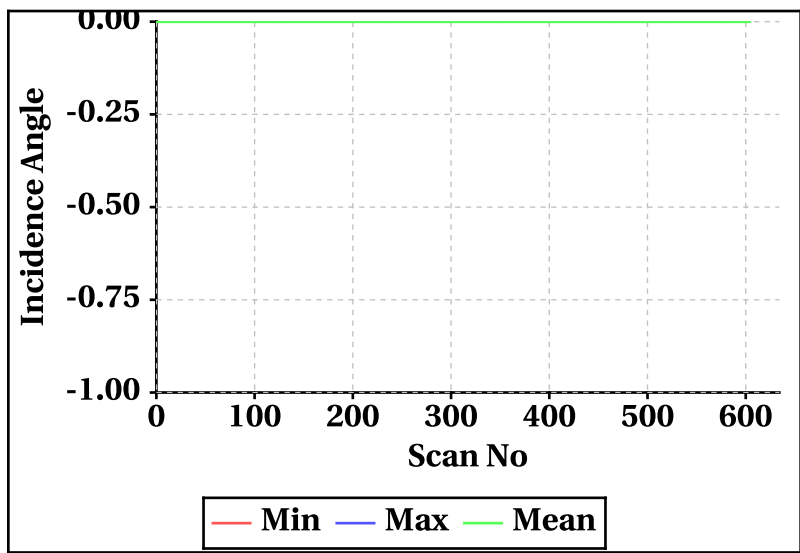


**Outer Beam(VV)**

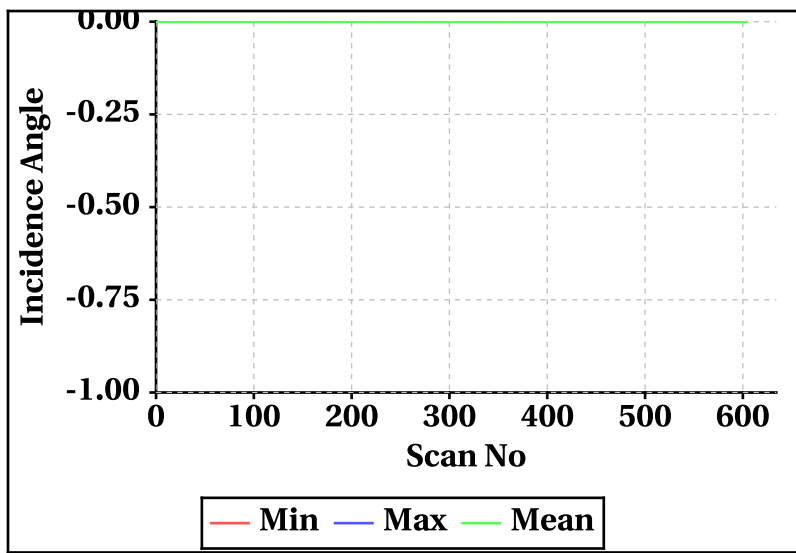


Orbit-wise behaviour of Incidence,Azimuth,Range,X-Factor

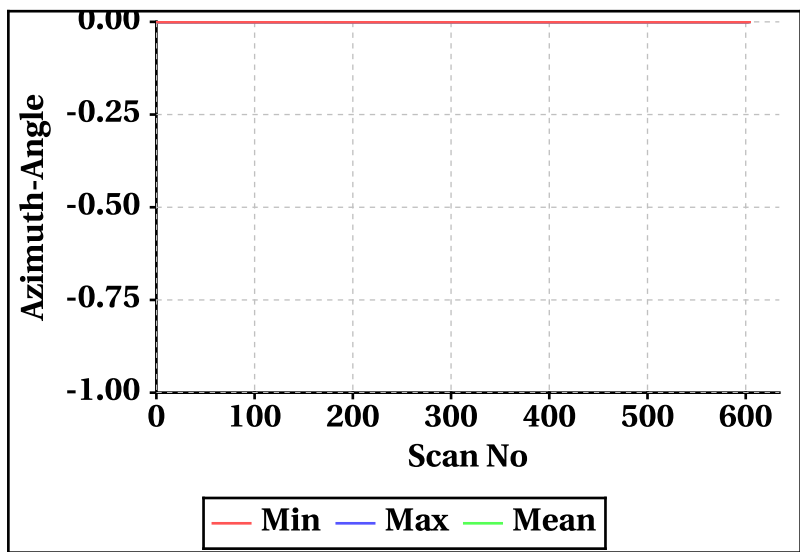
Inner Beam (HH)



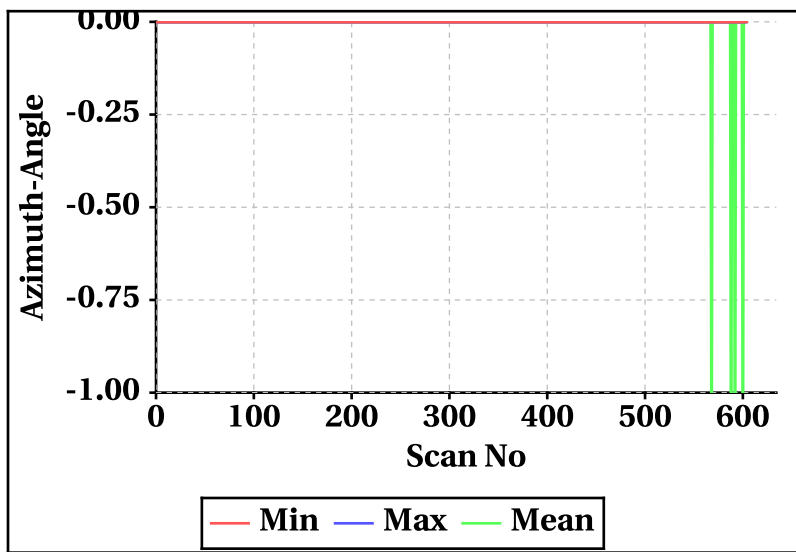
Outer Beam(VV)



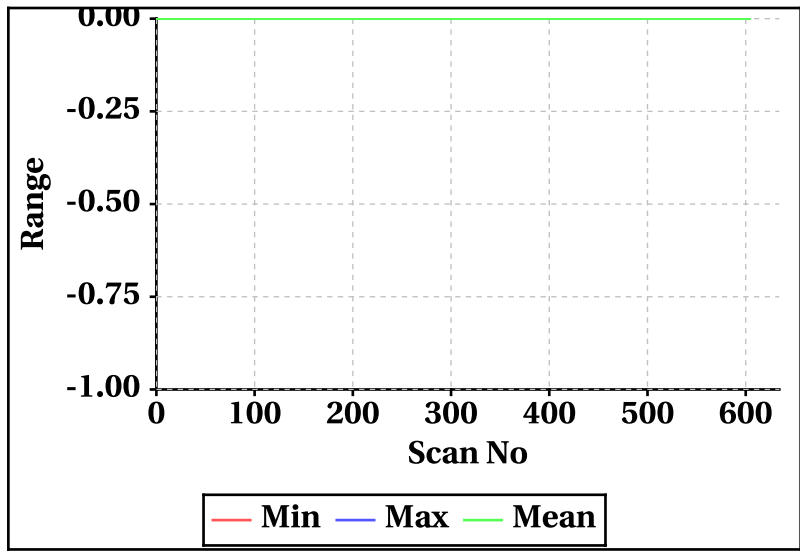
Inner Beam (HH)



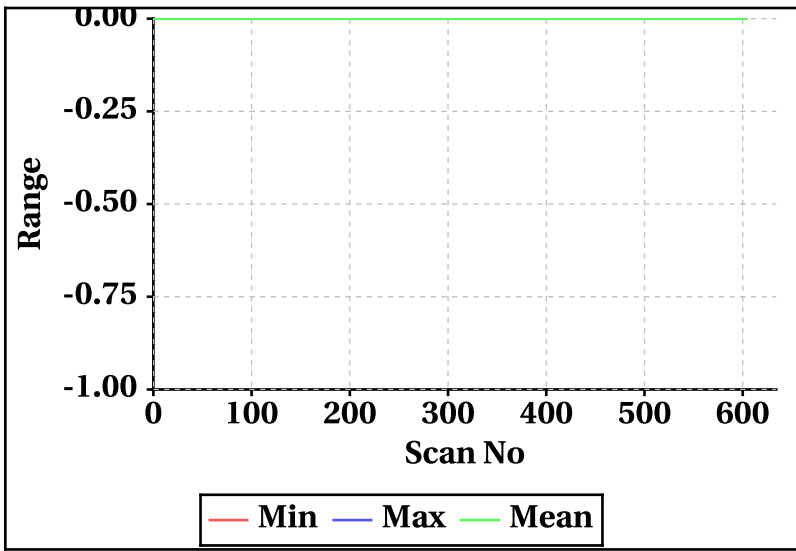
Outer Beam(VV)



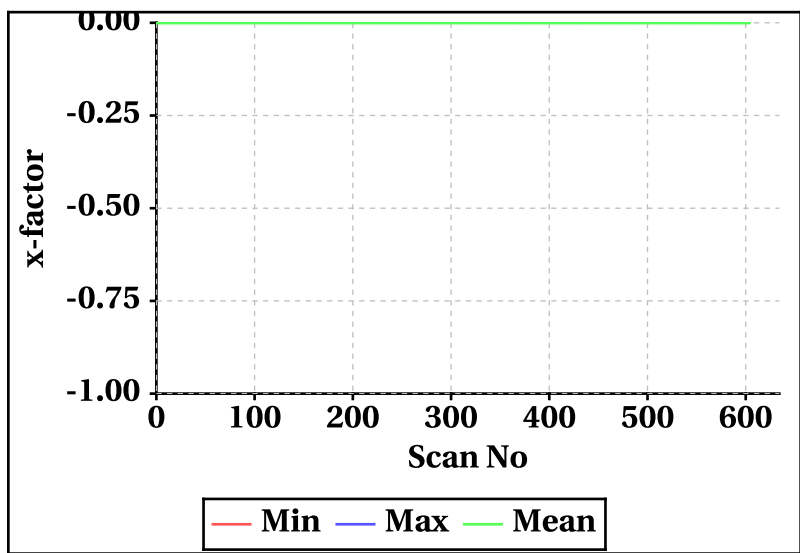
Inner Beam (HH)



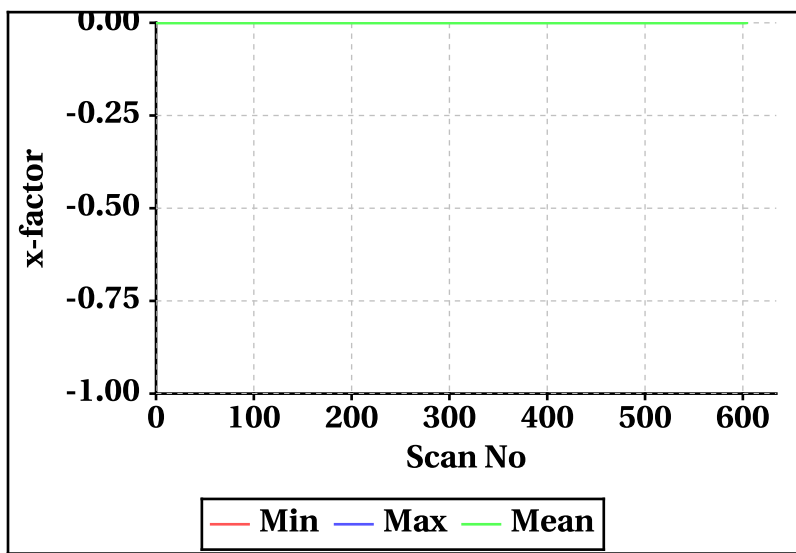
Outer Beam(VV)



Inner Beam (HH)



Outer Beam(VV)



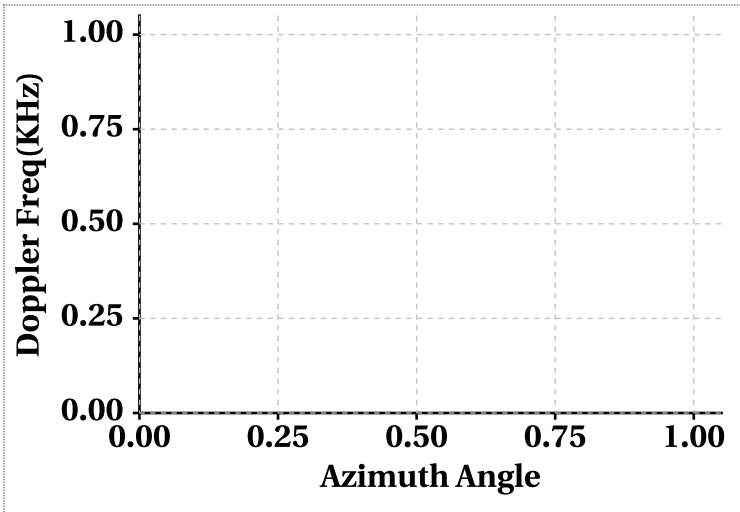


# Doppler Frequency Variation

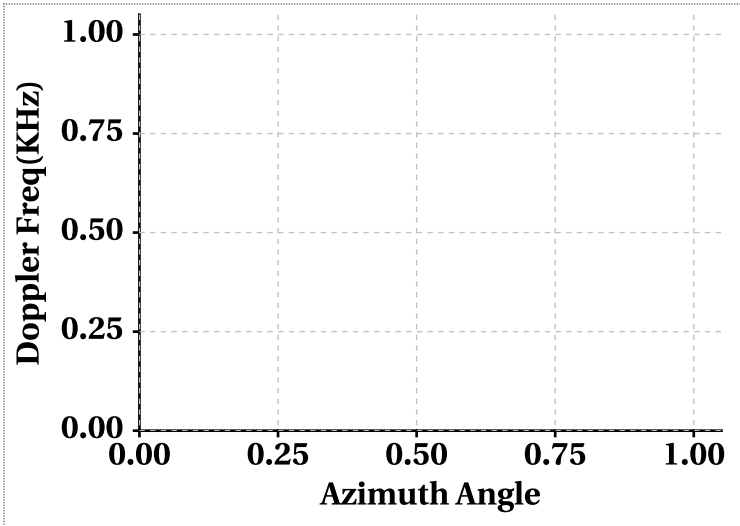
**Doppler Frequency(KHz) variation statistics Over the half Orbit**

	Inner Beam (HH)	Outer Beam (VV)
<b>Min</b>	10000000.00	0.00
<b>Max</b>	-10000000.00	0.00

**Footprint wise Doppler frequency variation Inner Beam (HH)**



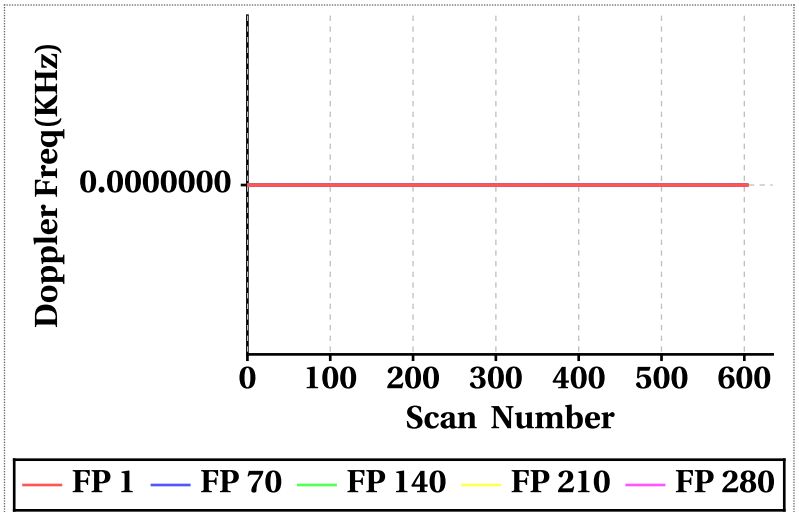
**Footprint wise Doppler frequency variation Outer Beam (VV)**



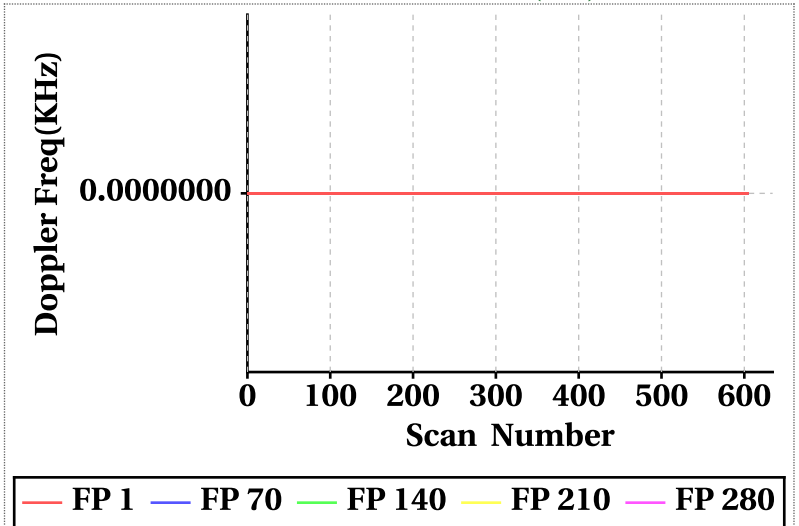
**Doppler Frequency(KHz) variation**

Doppler_FP	Inner Beam (HH)			Outer Beam (VV)		
	Min	Max	Mean	Min	Max	Mean
Doppler_1	0.00	0.00	0.00	0.00	0.00	0.00
Doppler_70	0.00	0.00	0.00	0.00	0.00	0.00
Doppler_140	0.00	0.00	0.00	0.00	0.00	0.00
Doppler_210	0.00	0.00	0.00	0.00	0.00	0.00
Doppler_280	0.00	0.00	0.00	0.00	0.00	0.00

**Doppler frequency variation at footprints: 1, 70, 140, 210 & 280 Inner Beam (HH)**

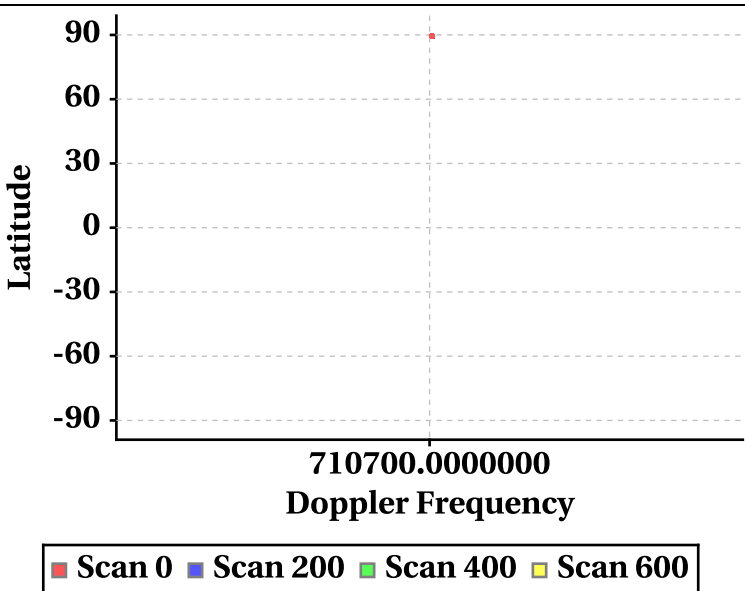


**Doppler frequency variation at footprints: 1, 70, 140, 210 & 280 Outer Beam (VV)**

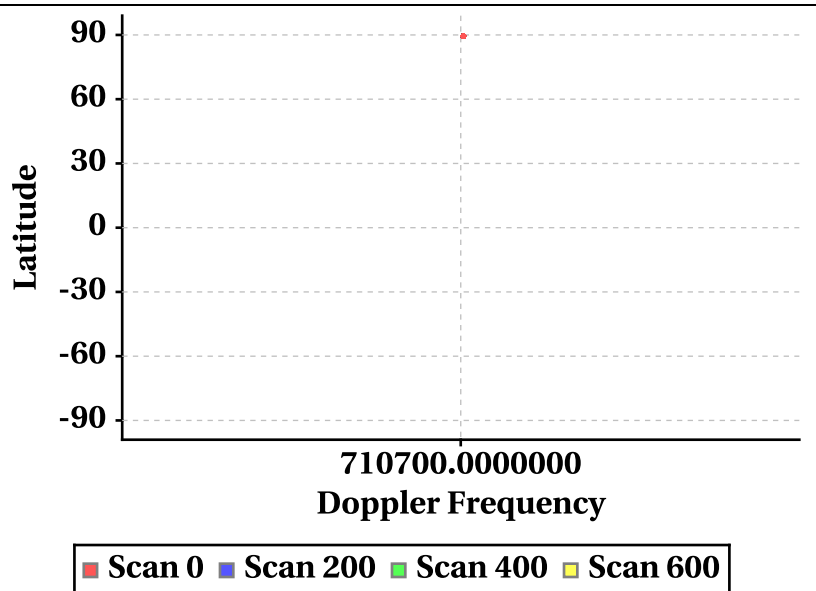


# Latitude Vs Doppler Frequency

**Doppler Frequency at Scan Interval of 200 [Inner Beam(HH)]**



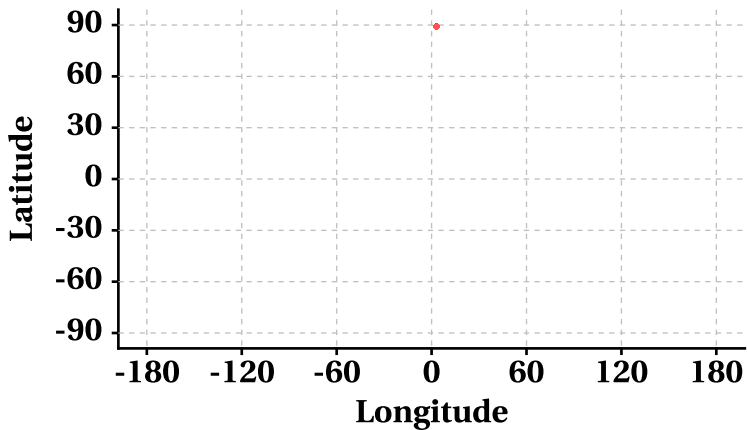
**Doppler Frequency at Scan Interval of 200 [Outer Beam(VV)]**



# Parameter as a function of Latitude

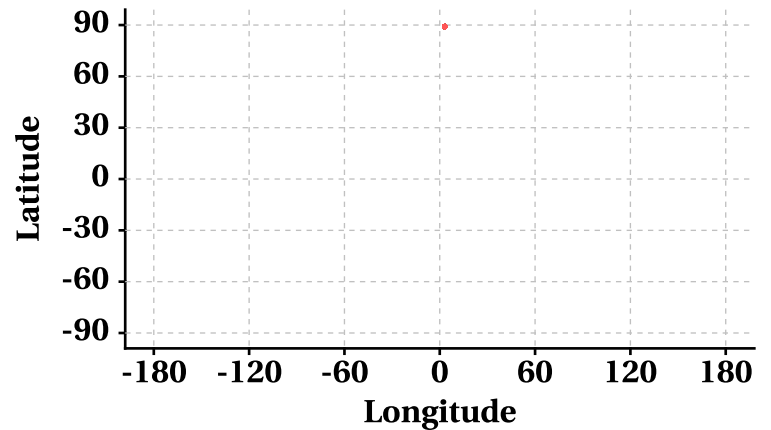
## Latitude Vs Longitude

### Scan Trace [Inner Beam(HH)]



■ Scan 0 ■ Scan 200 ■ Scan 400 ■ Scan 600

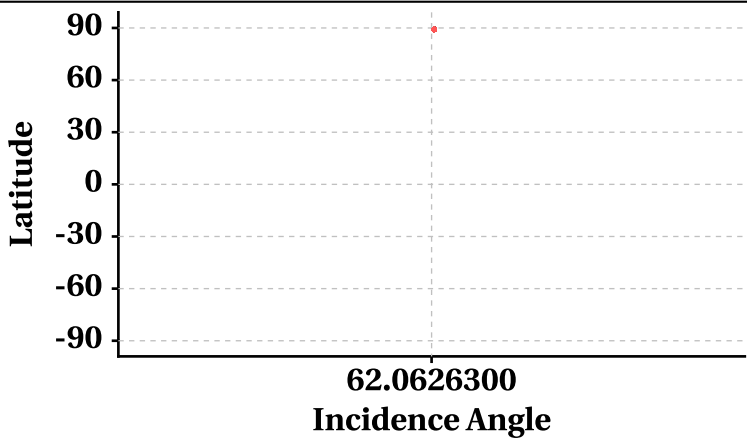
### Scan Trace [Outer Beam (VV)]



■ Scan 0 ■ Scan 200 ■ Scan 400 ■ Scan 600

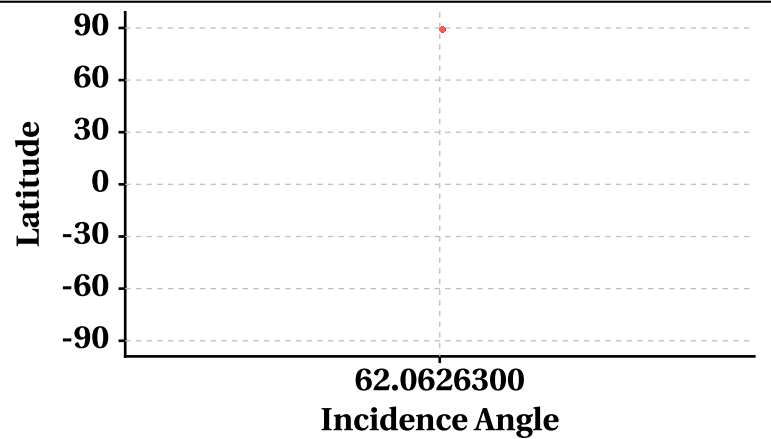
## Latitude Vs Incidence Angle

### Incidence Angle at Scan Interval of 200 [Inner Beam(HH)]



■ Scan 0 ■ Scan 200 ■ Scan 400 ■ Scan 600

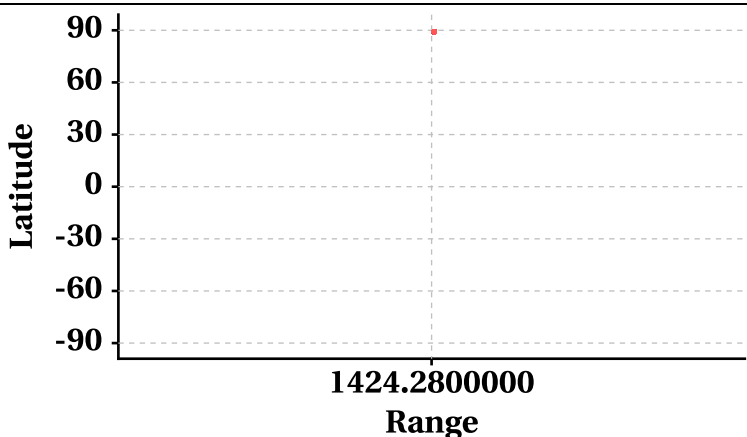
### Incidence Angle at Scan Interval of 200 [Outer Beam (VV)]



■ Scan 0 ■ Scan 200 ■ Scan 400 ■ Scan 600

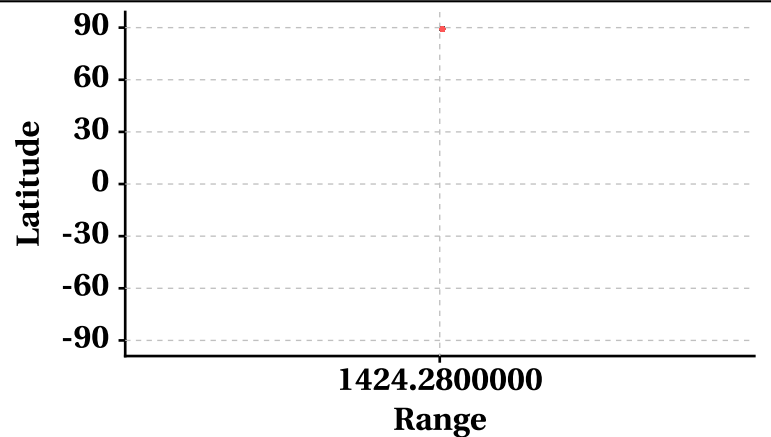
## Latitude Vs Range

### Range at Scan Interval of 200 [Inner Beam(HH)]



■ Scan 0 ■ Scan 200 ■ Scan 400 ■ Scan 600

### Range at Scan Interval of 200 [Outer Beam(VV)]



■ Scan 0 ■ Scan 200 ■ Scan 400 ■ Scan 600



# Variation in Orbit and Attitude Parameters

