

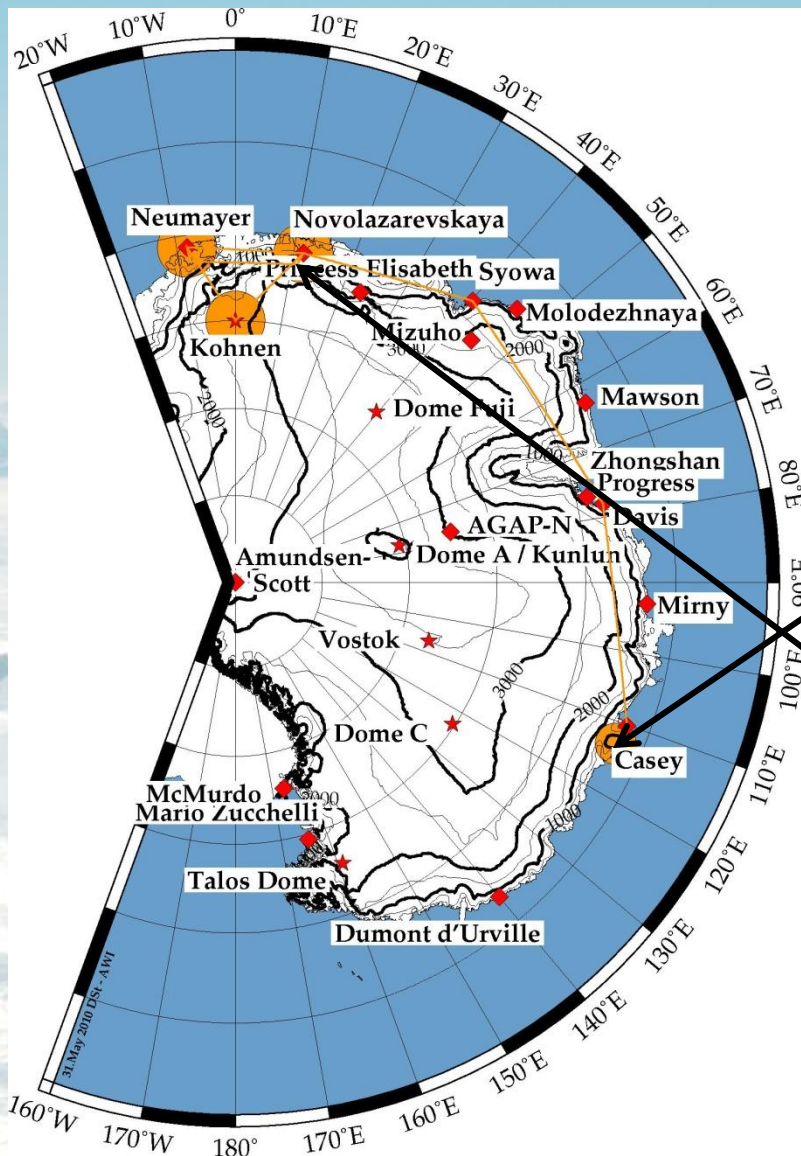
CryoVExANT 2011

Data Acquisition Report

ESA-ESRIN, Frascati, January 20th 2011

V. Helm, D. Steinhage

Alfred Wegener Institute



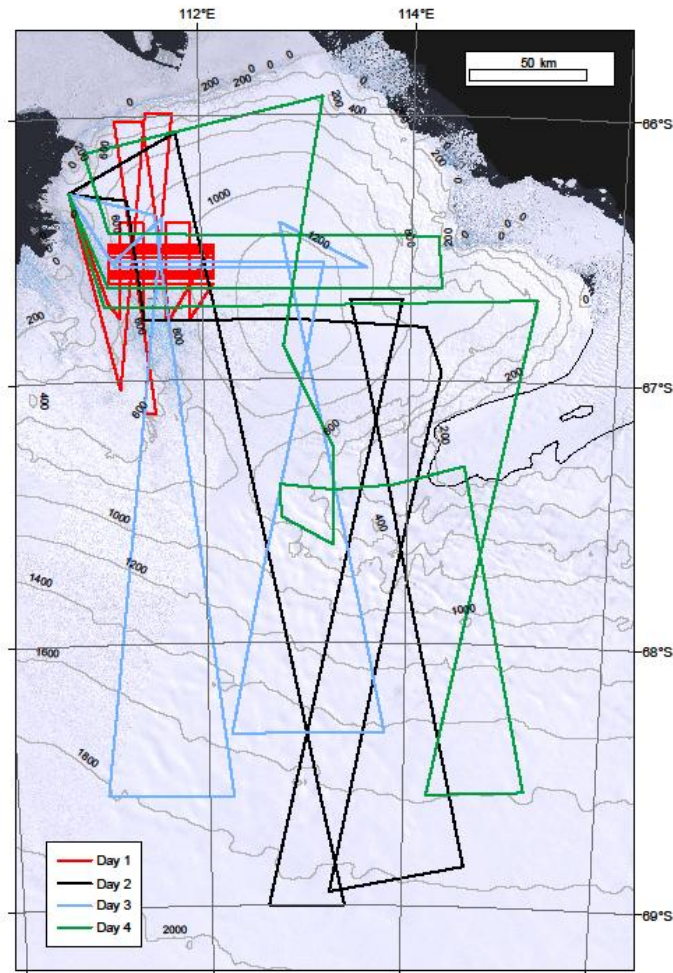
Cooperation:

- University of Tasmania
Christopher Watson, Reed Burgett
- Australian Antarctic Division (AAD)
- ESA

Law Dome/Totten Glacier near Casey station

Blue Ice area near Novo runway

#3121: Tot-Cal Project: Nominal AWI Flight lines 2011/12
(excludes inbound and outbound ferry routes)



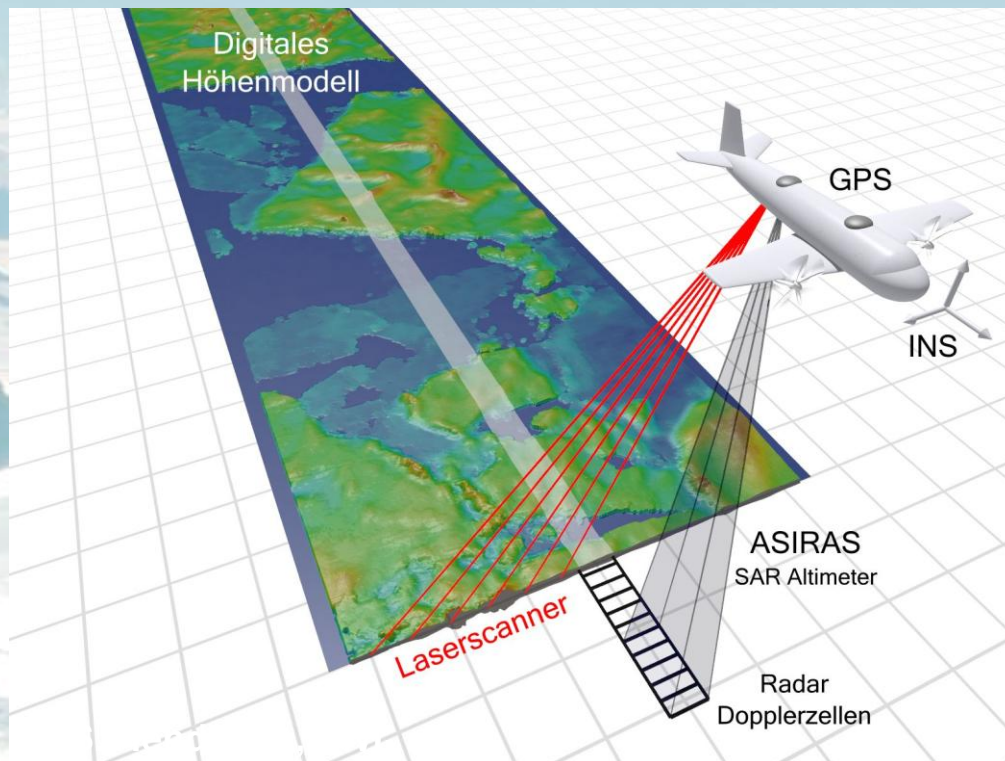
Airborne survey (4 days) - AWI

- Gid 30 km x 50 km
- CryoSat-2 Tracks
- IceSat Lines
- Historical lines for Acc. studies

Field activities – Unversity of Tasmania

- GPS
- Corner Reflector
- Snowpit

Aircraft: AWI POLAR 6



ASIRAS: RST/ESA – SAR-Altimeter

Laserscanner: Riegl LMSVQ-580

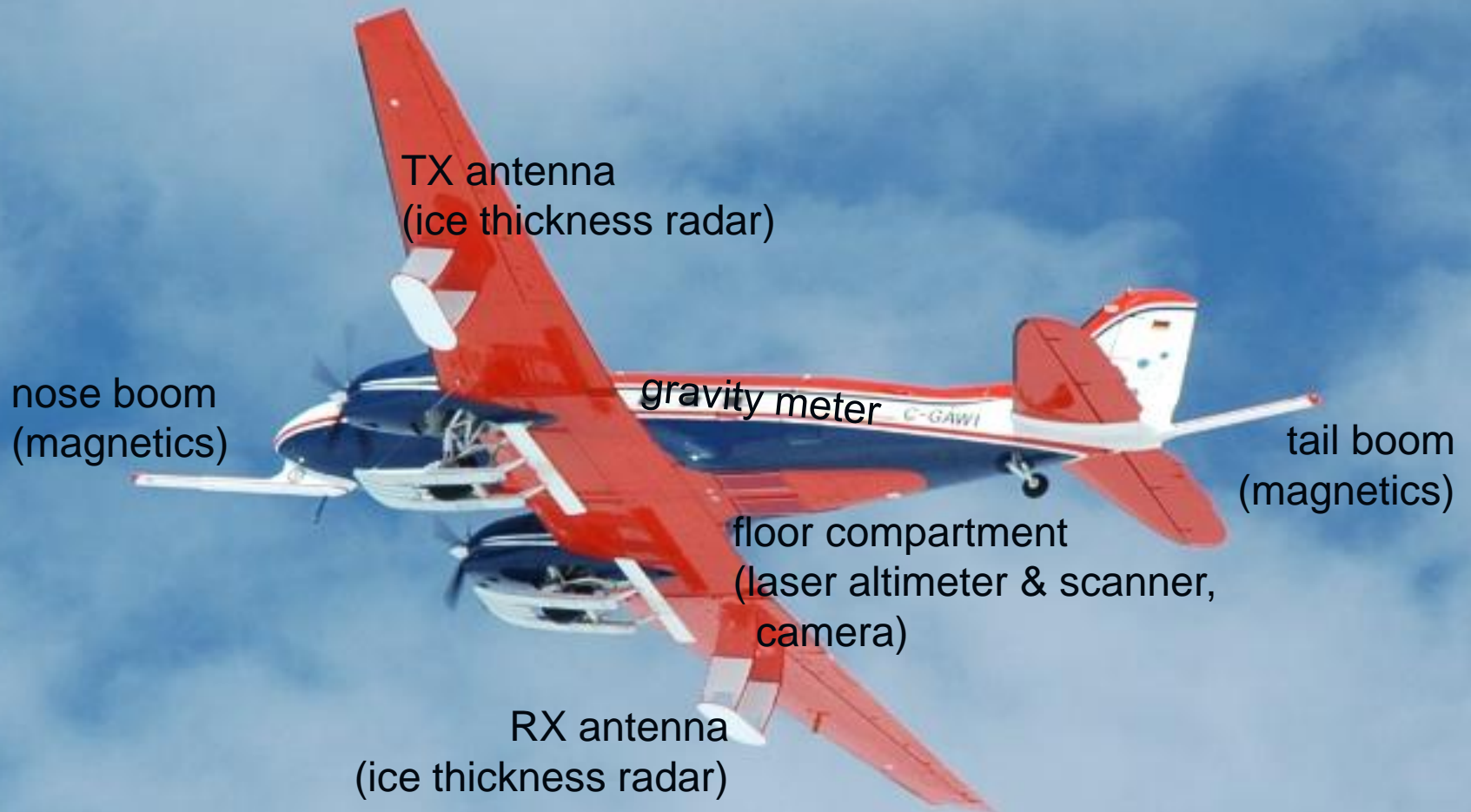
Laseraltimeter: Riegl LD90

GPS: two Trimble , two Novatel

NADIR camera:

INS: Honeywell

Geophysical mapping in Antarctica - aircraft instrumentation



ASIRAS Test flight with new Aircraft POLAR6 (Basler BT-67)

- Bremerhaven, Oct 22nd/23rd
- Ferry to Antarctica

Start of CryoVEx ANT-2011 – Novo runway:

- System integration and test flight including CryoSat2-tracks around Novo (16.11 – 19.11)
- Ferry from Novo via Syowa and Davis to Casey (19.11 – 21.11)

Main activities – Law Dome, Totten Glacier:

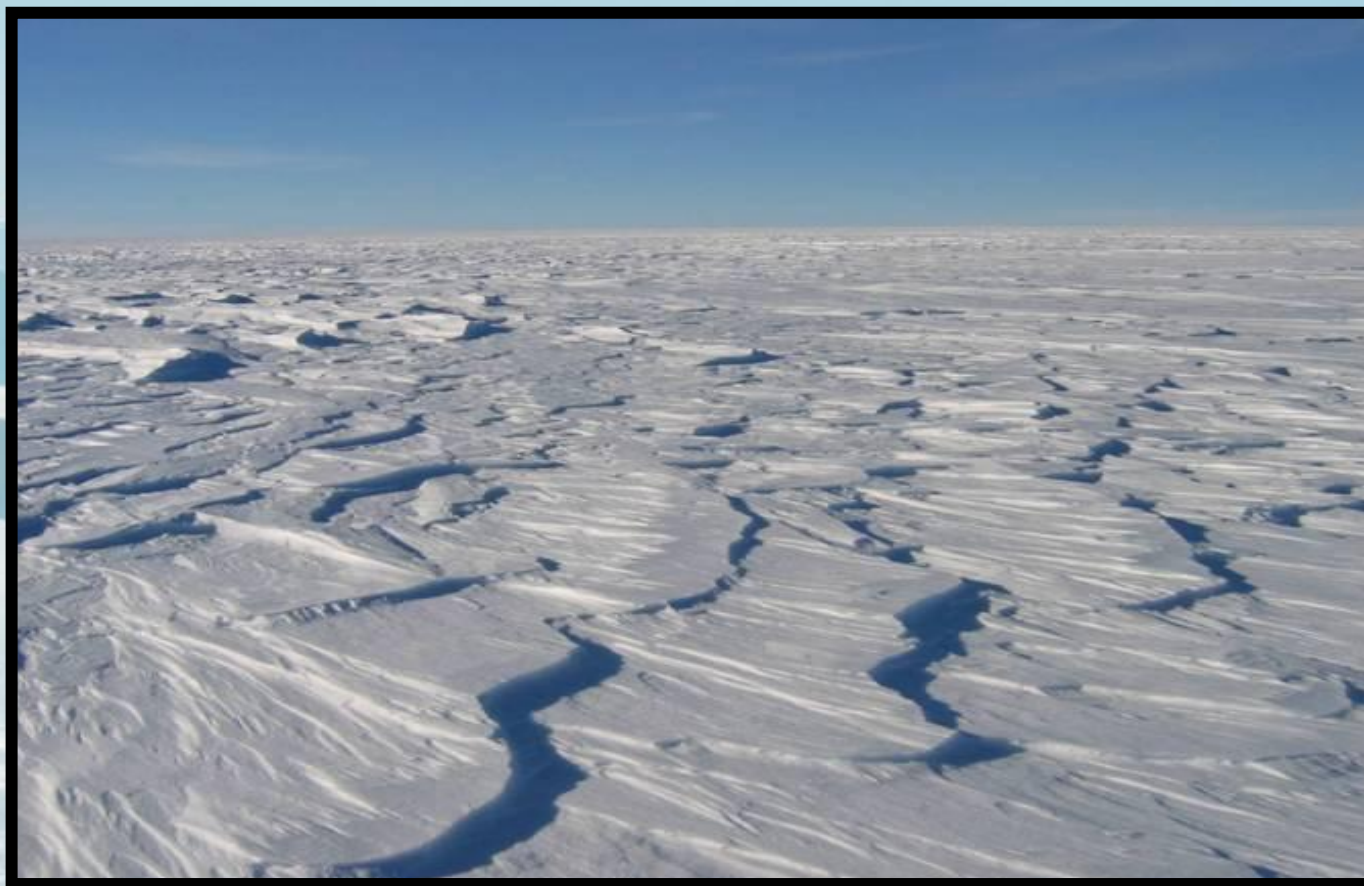
- Airborne activities: 5 days of survey including CR passes, CryoSat-2 tracks, Grid, IceSat tracks (22.11 – 28.11)
- Field activities: CR, Snowpit, GPS by University of Tasmania (Reed Burgett, C. Watson)

Opportunistic activities

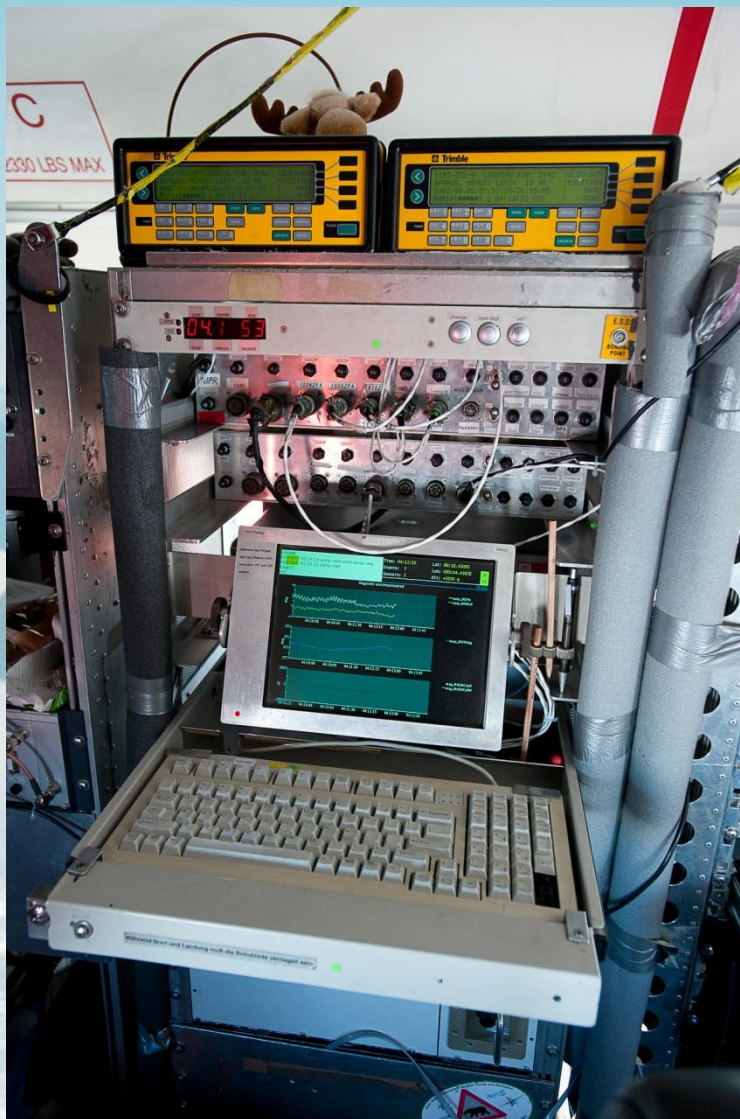
- Amery Ice shelf – 30.11. (Repeat measurements of CryoVExANT-2010)
- Novo Blue Ice grid and CryoSat2-tracks - 04.12 (Repeat measurements of CryoVExANT-2008 and 2010)

- **Very lucky with weather!!!**
- **All planned lines were surveyed**
- **Instruments worked very well, even the new laser scanner (Range up to 2000 m)**
- **Opportunistic lines were also surveyed**
- **Both CR were hit several times**
- **In field analysis of ASIRAS showed a clear E-W accumulation trend across Law Dome and good data quality**
- **ASIRAS instrument arrived last week in Bremerhaven**
- **Airborne Data processing will start in February**

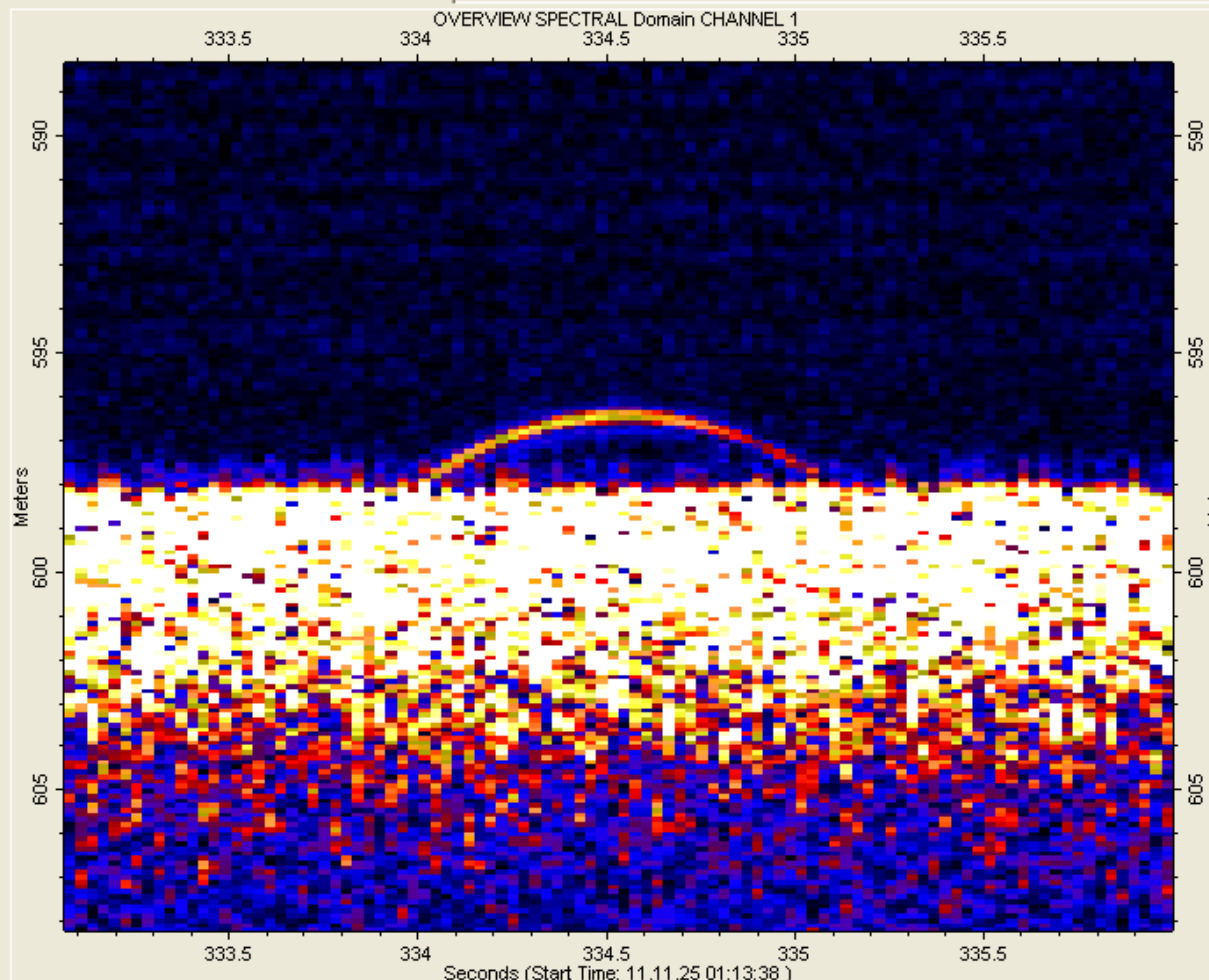
Thank you!








Operation Mode: Low Altitude Mode



Operation Mode: LAM LSR 

Bandwidth [MHz]: 1000

Pulse Length [s]: 8.0E-05

PRF [Hz]: 3000 (Calculated: 3001)

Range Window [m]: 90.00

GPS Triggered: Yes

Tracking Mode: Manual

Attenuation [dB]: 0

Config. File: -

Log File: A111125_02.log

File Ch.: A111125_02_1_05.dat

Number of Files: 11

Number of Pulses: 1896747

Time Resolution [μs]: 333.202

Samples in each Pulse: 768

0 Seconds 632.04

Start [s] 333.08 **F12 Enter**

End [s] 336.02

Start [m] 22316.60 Offset Comp

End [m] 22513.30 Hamming

Scroll X		Zoom X		Scroll Y		Zoom Y		DefaultView		Intensity Max: 50 Level: 8
F3 Left	F4 Right	F5 XOut	F6 XIn	F7 Up	F8 Down	F9 YOut	F11 YIn	FFT	Detail Proc.	

F2 Time Domain		Report	
Capture	Image	F1 Open	
	DataFile		

