Advanced Drift Explorer topics

Alexander Kozlov

University of Massachusetts Lowell
Center for Atmospheric Research

IGF 2014
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DX functionalities

- Raw-drift, skymap and velocity data navigation and viewing
- Skymap calculation using raw-drift data
- Velocities calculation using skymap data
- Raw-drift, skymap and velocity data extraction from DriftBase
- Being connected to DriftBase as Expert you can store calculated skymap and velocities data bound to this expert. So admitting multiple skymap and velocity records for one raw-drift data record in DriftBase may exist.

DX features

- You can load list of data for several station
- You can visually compare data by opening more than one window of data representation
- Each window of data representation has its own list of stations and records so you can independently from others to observe data in this window
- You can browse through the clustered data list and open synchronized data view windows for raw-drift (DFT) and skymap (SKY) data
- Or/and you can open any number of unsynchronized windows for any type of data (DFT, SKY or DVL)
- You can display height or frequency ranges for velocity plot
- Velocity data that represent both F and E layer will not be messed up on velocity display but will be shown in two different windows

DriftExplorer v1.2.5 (database DRIFT is on-line)
File View Calculate Expert Options Help
DriftExplorer 1.2.5
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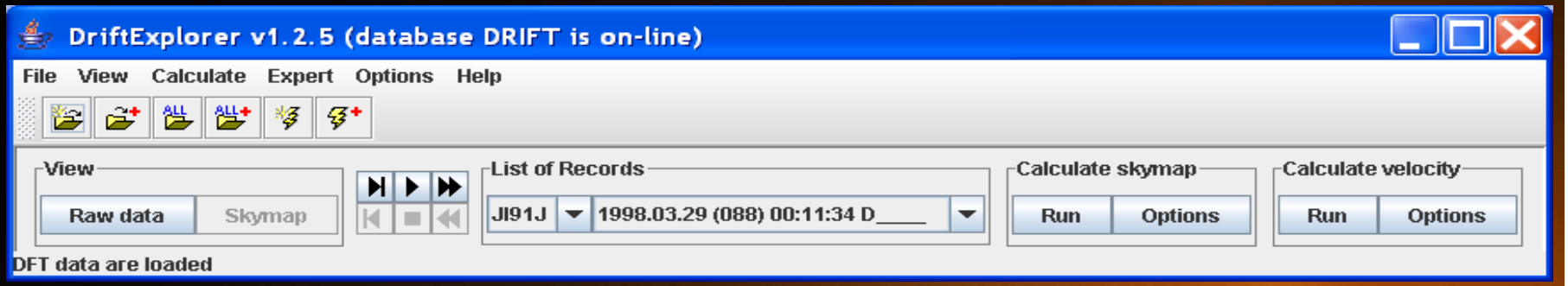
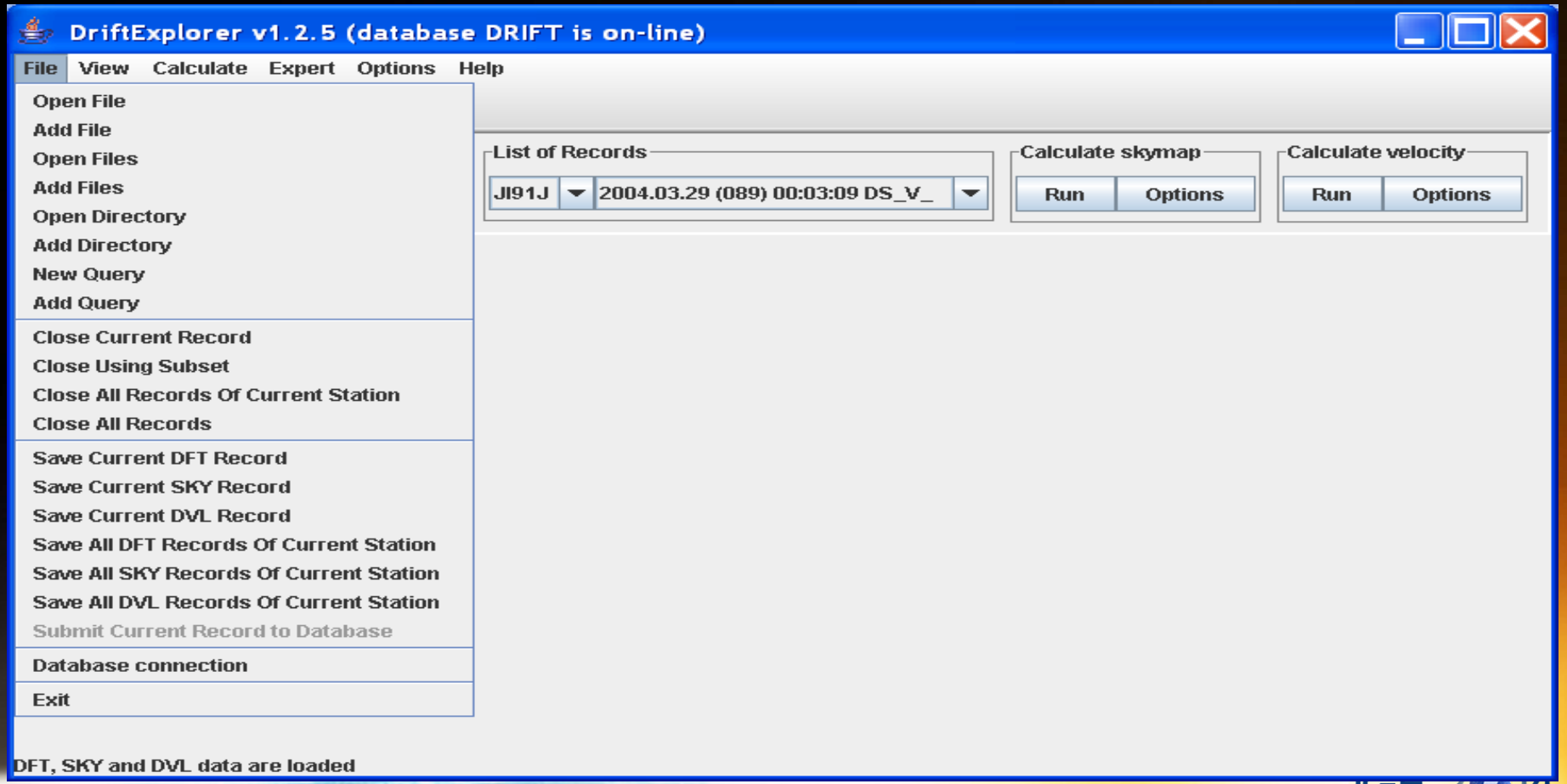
University of Massachusetts Lowell
Center for Atmospheric Research
Drift Explorer
No data loaded

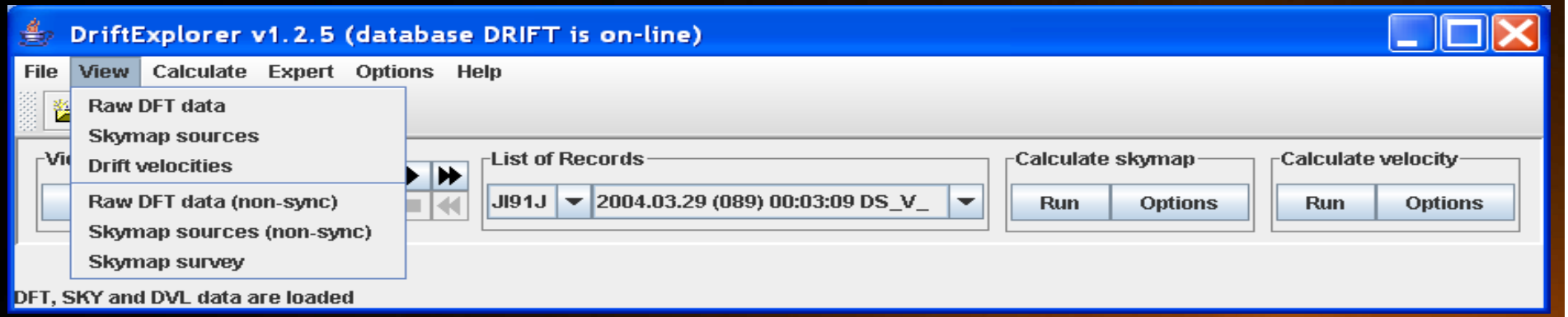
Main window


DriftExplorer v1.2.5 (database DRIFT is on-line)
File View Calculate Expert Options Help
View
Raw data
Skymap
List of Records
JI91J
1998.03.29 (088) 00:11:34 D____
Calculate skymap
Run
Options
Calculate velocity
Run
Options
DFT data are loaded

Menu File


DriftExplorer v1.2.5 (database DRIFT is on-line)
File
View
Calculate
Expert
Options
Help
Open File
Add File
Open Files
Add Files
Open Directory
Add Directory
New Query
Add Query
Close Current Record
Close Using Subset
Close All Records Of Current Station
Close All Records
Save Current DFT Record
Save Current SKY Record
Save Current DVL Record
Save All DFT Records Of Current Station
Save All SKY Records Of Current Station
Save All DVL Records Of Current Station
Submit Current Record to Database
Database connection
Exit
List of Records
JI91J
2004.03.29 (089) 00:03:09 DS_V_
Calculate skymap
Run
Options
Calculate velocity
Run
Options
DFT, SKY and DVL data are loaded

Menu View



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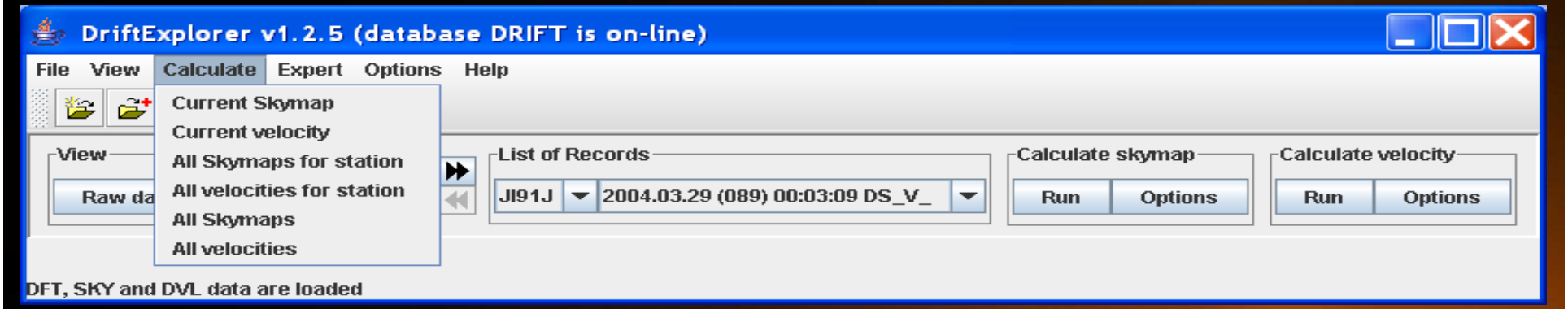
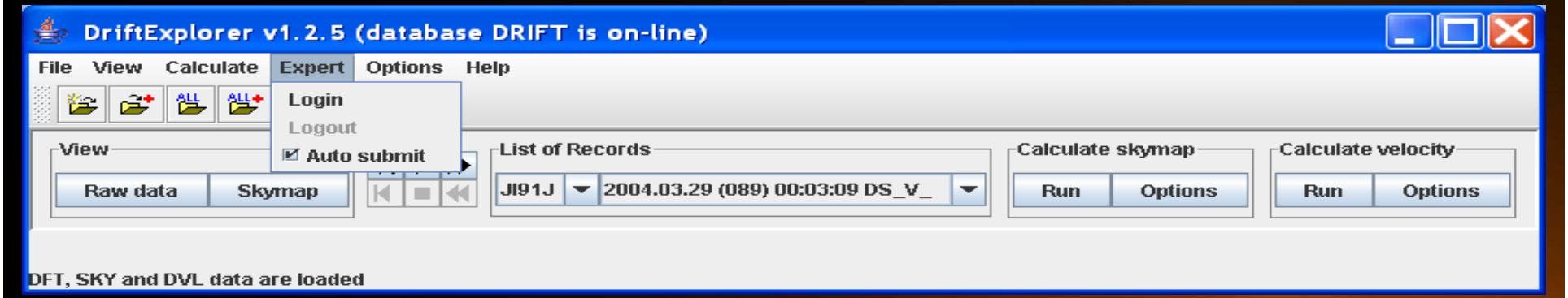
Menu Calculate



Menu Expert



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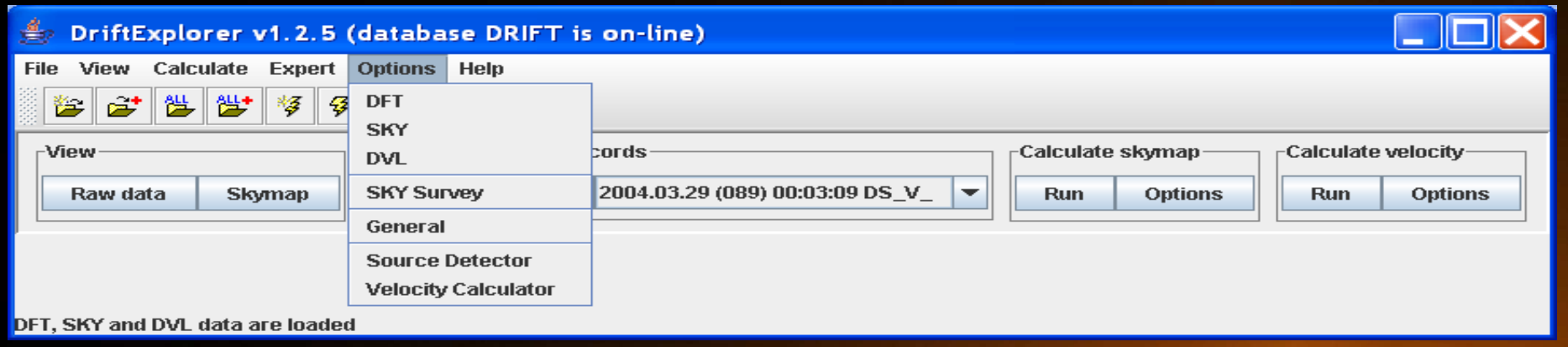
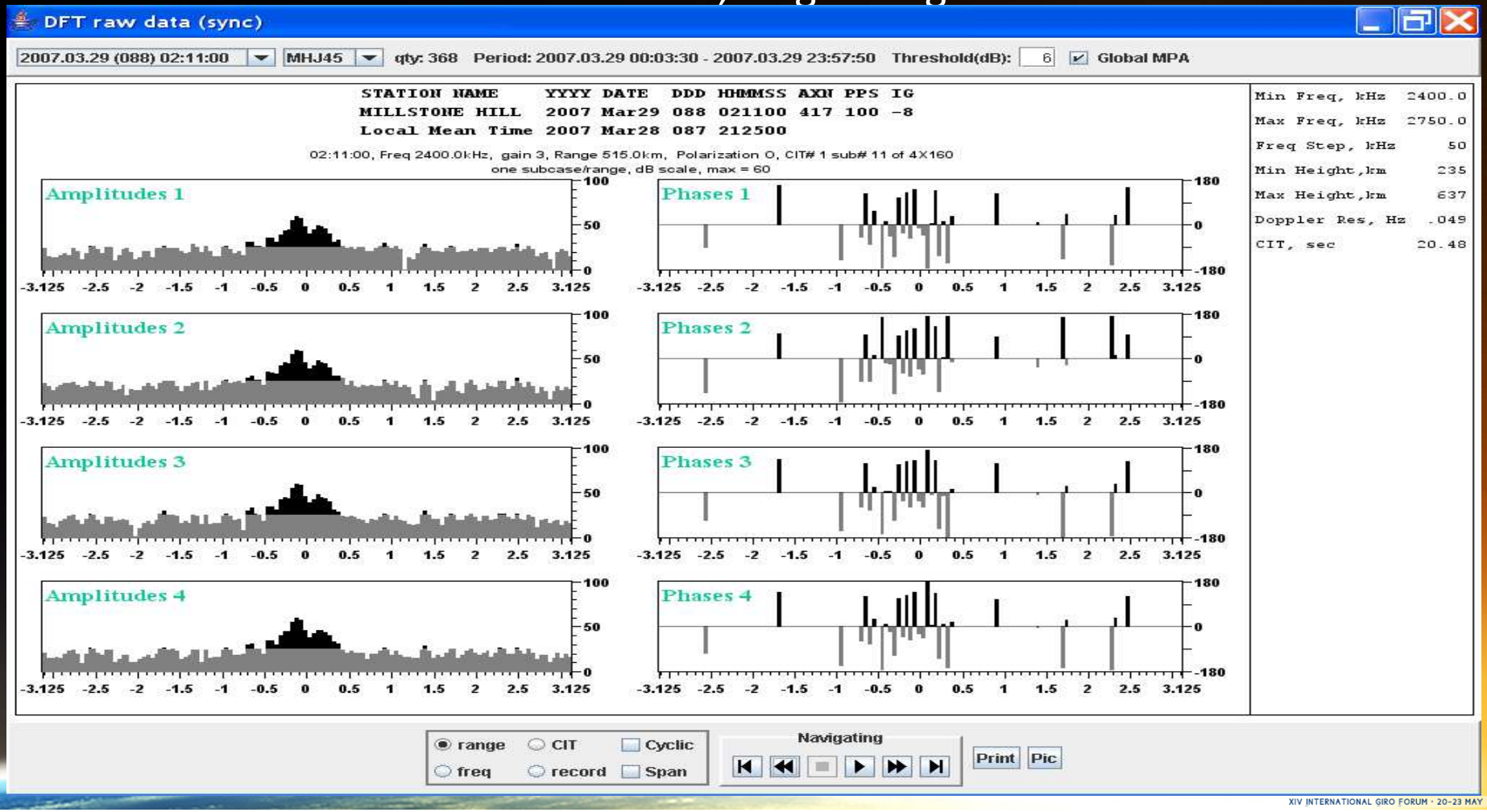
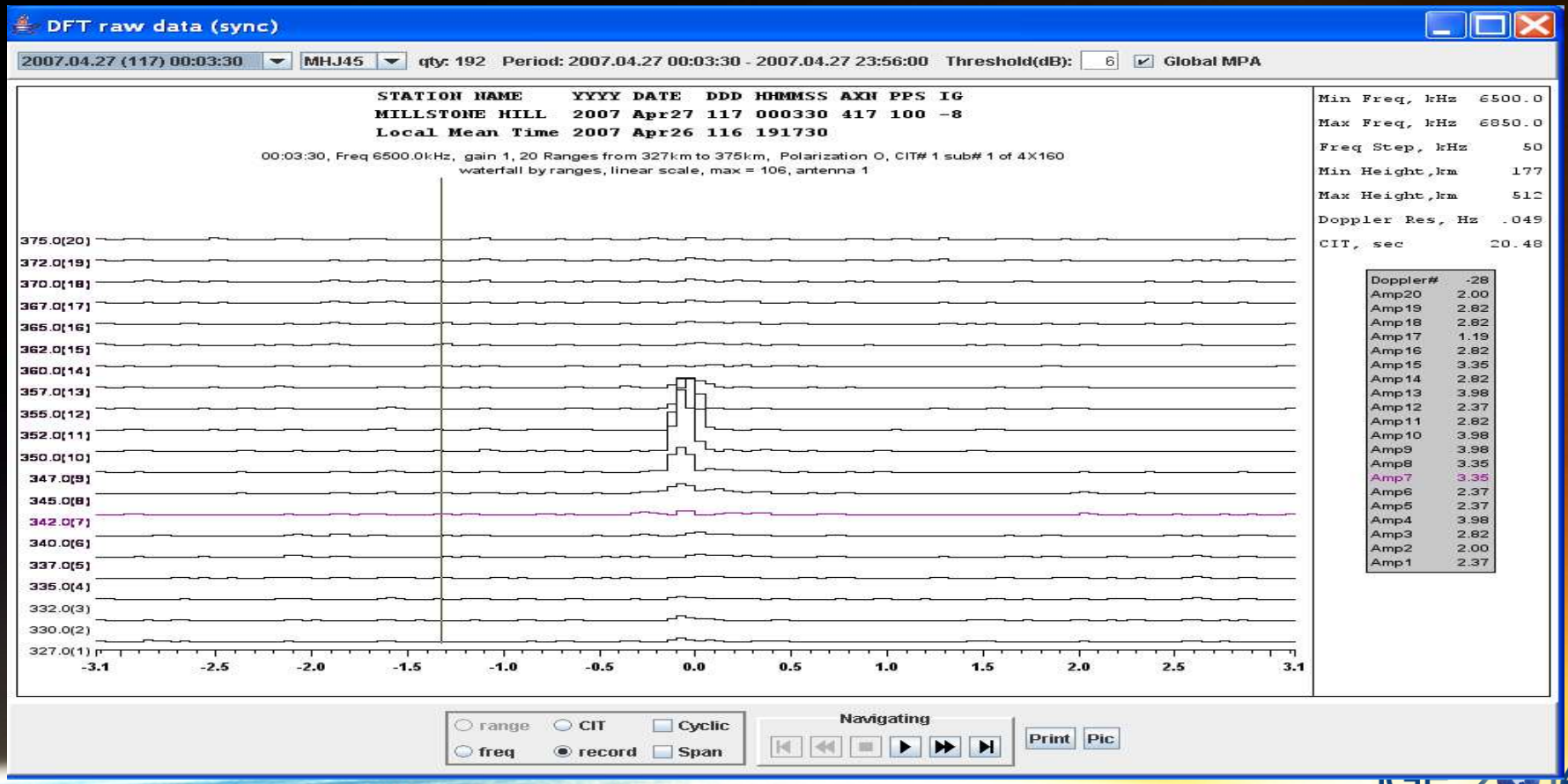
Menu Options



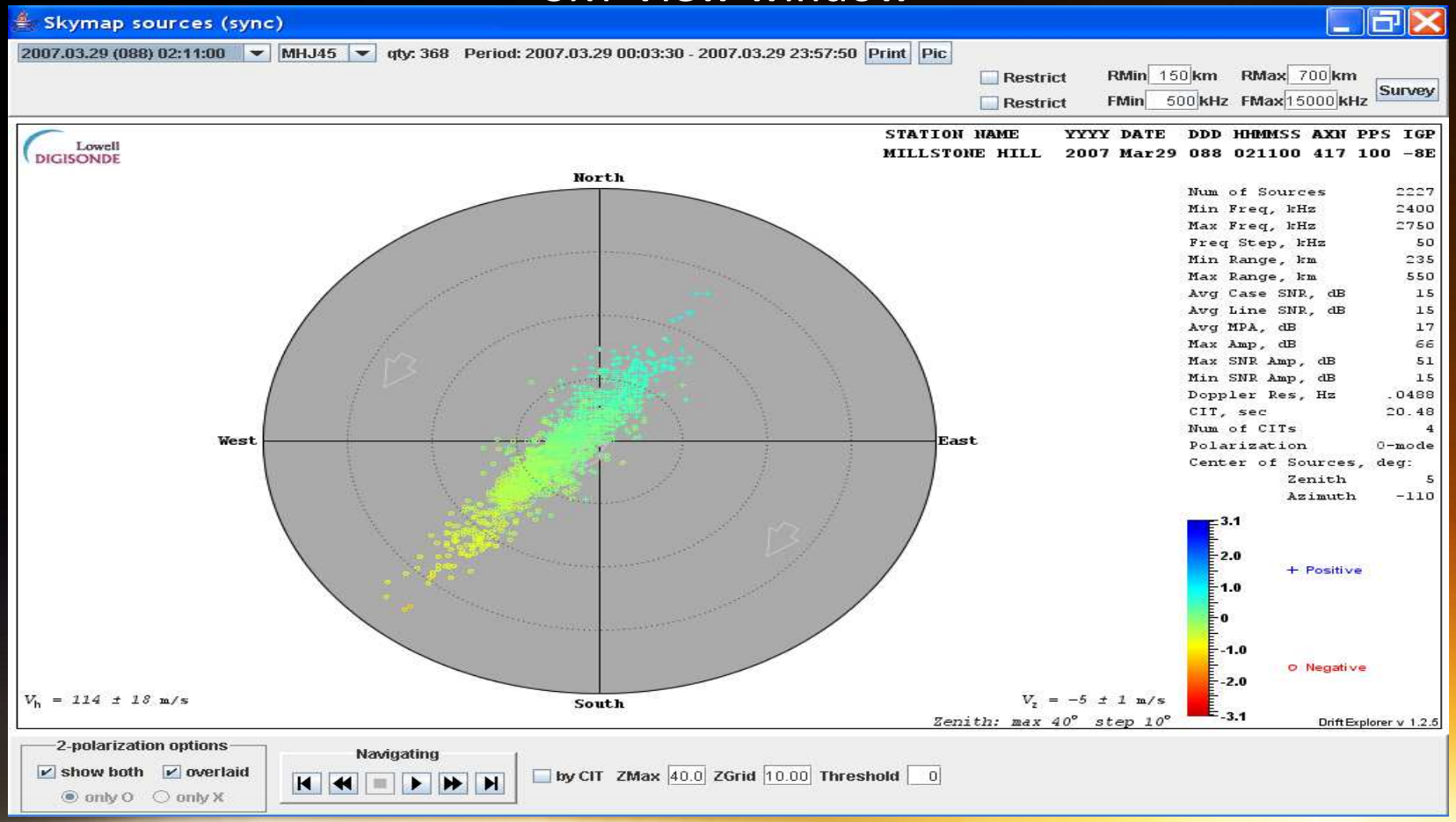
DFT View, single range



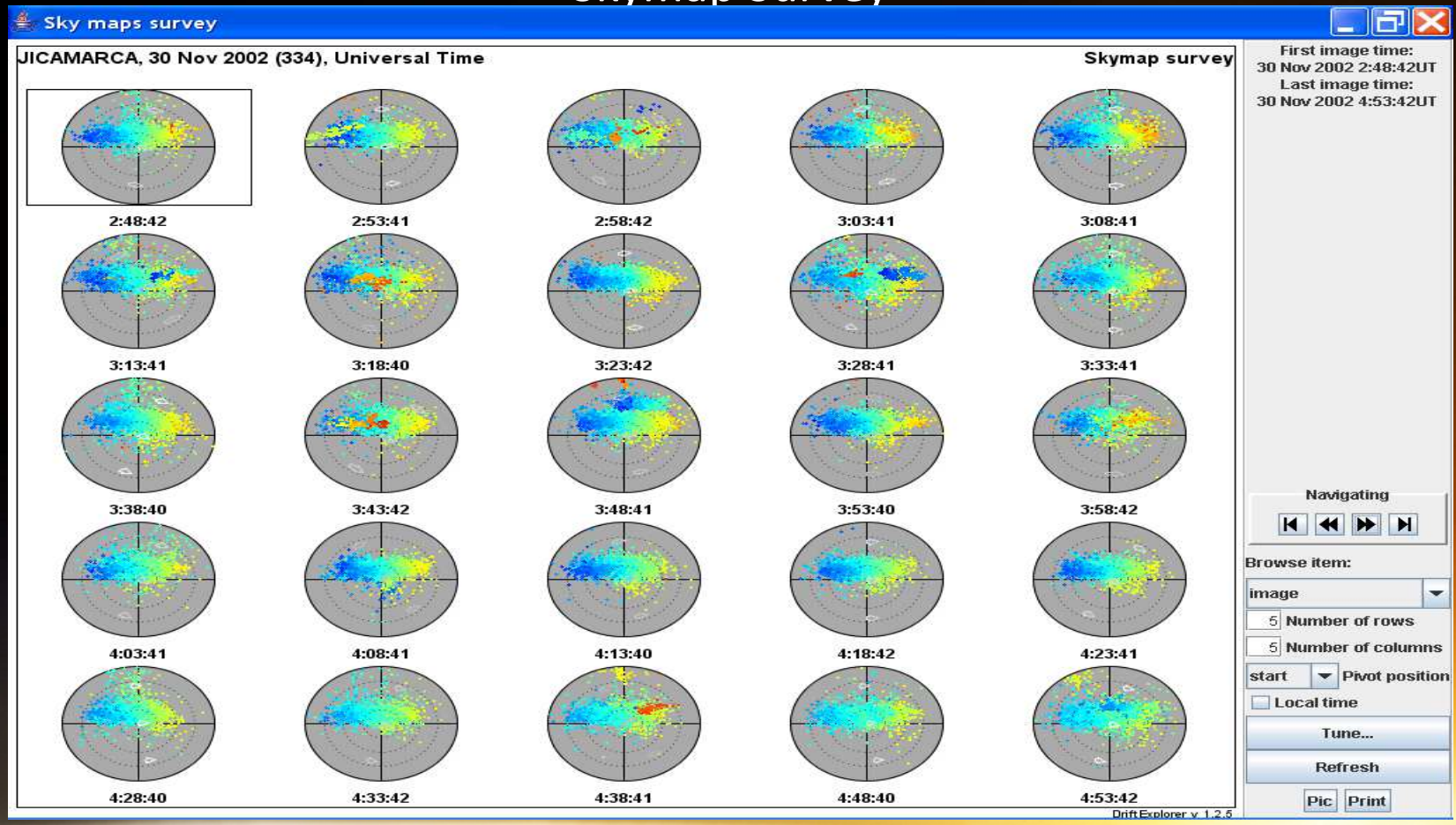
DFT View, waterfall



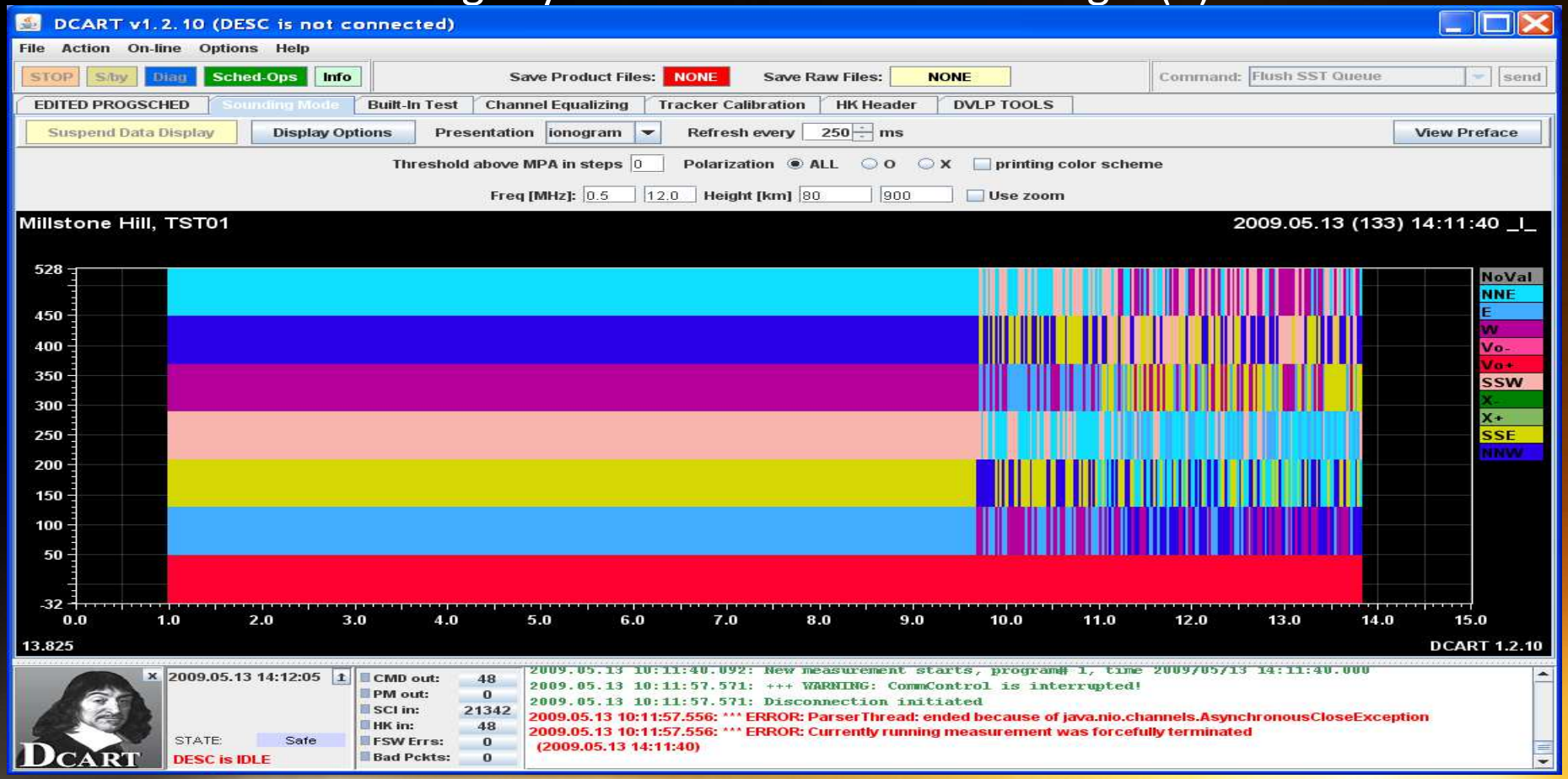
SKY View window



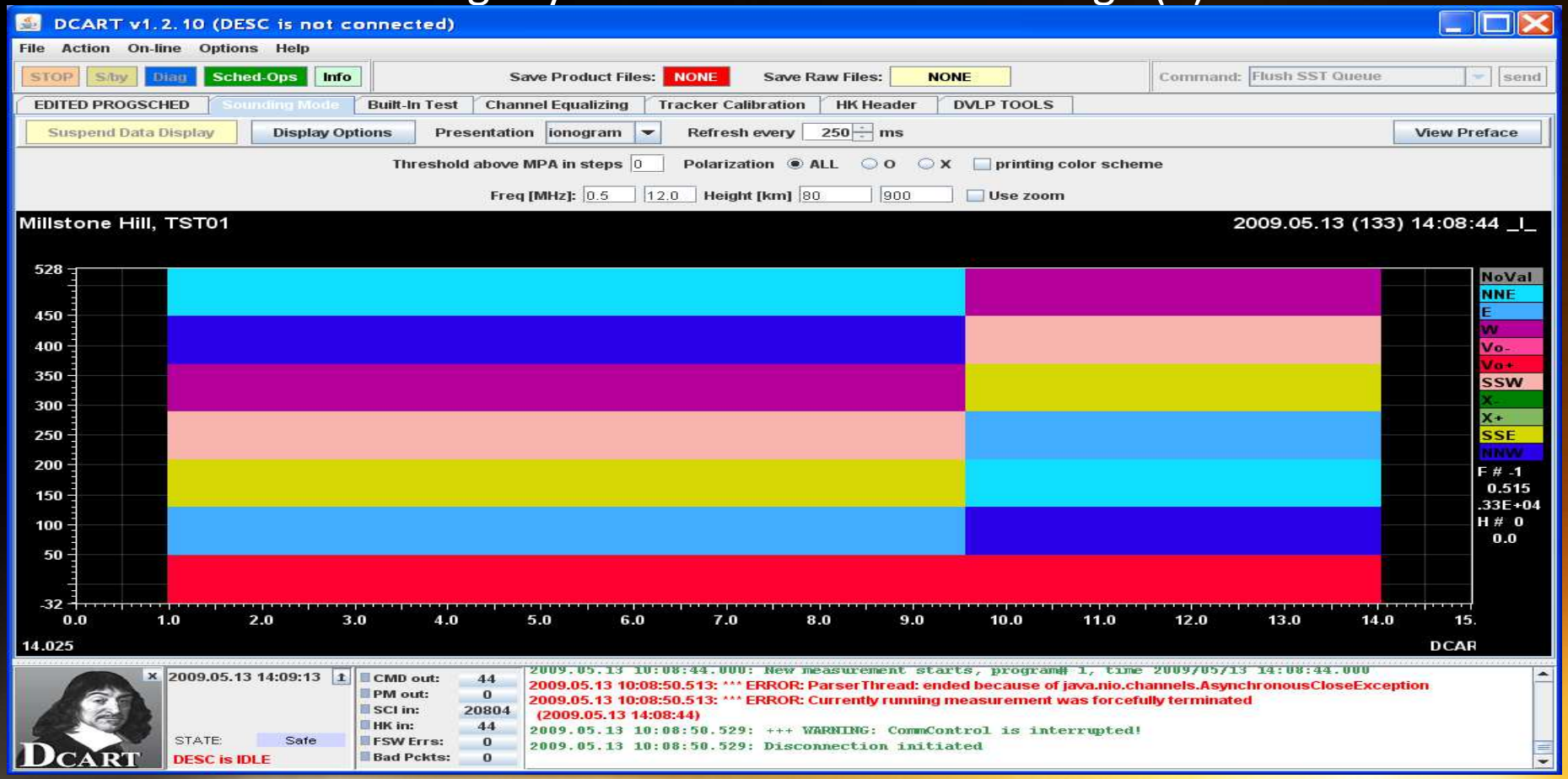
Skymap Survey



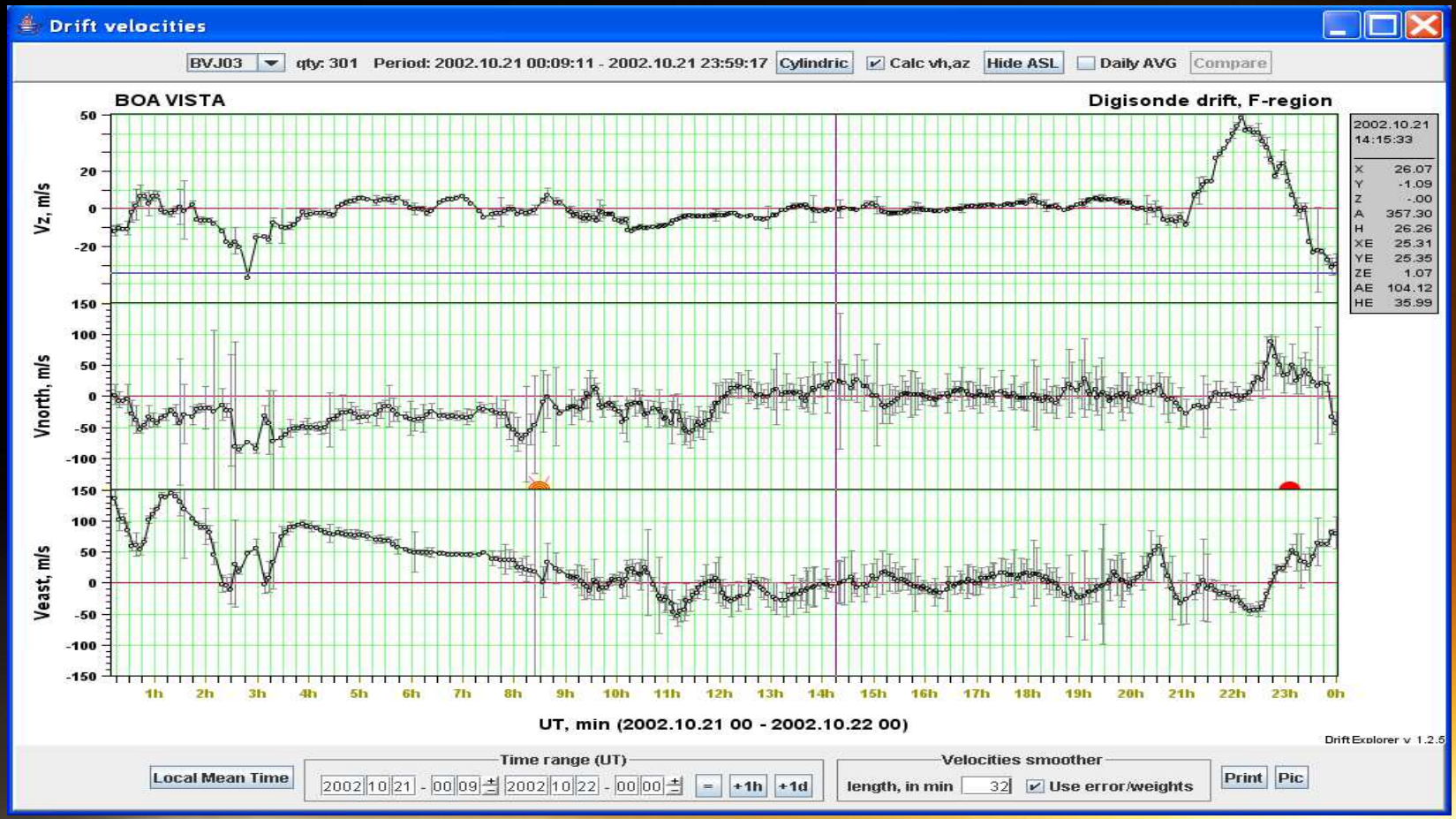
Ambiguity in calculation of arrival angle (1)



Ambiguity in calculation of arrival angle(2)



DVL View BoaVista 1



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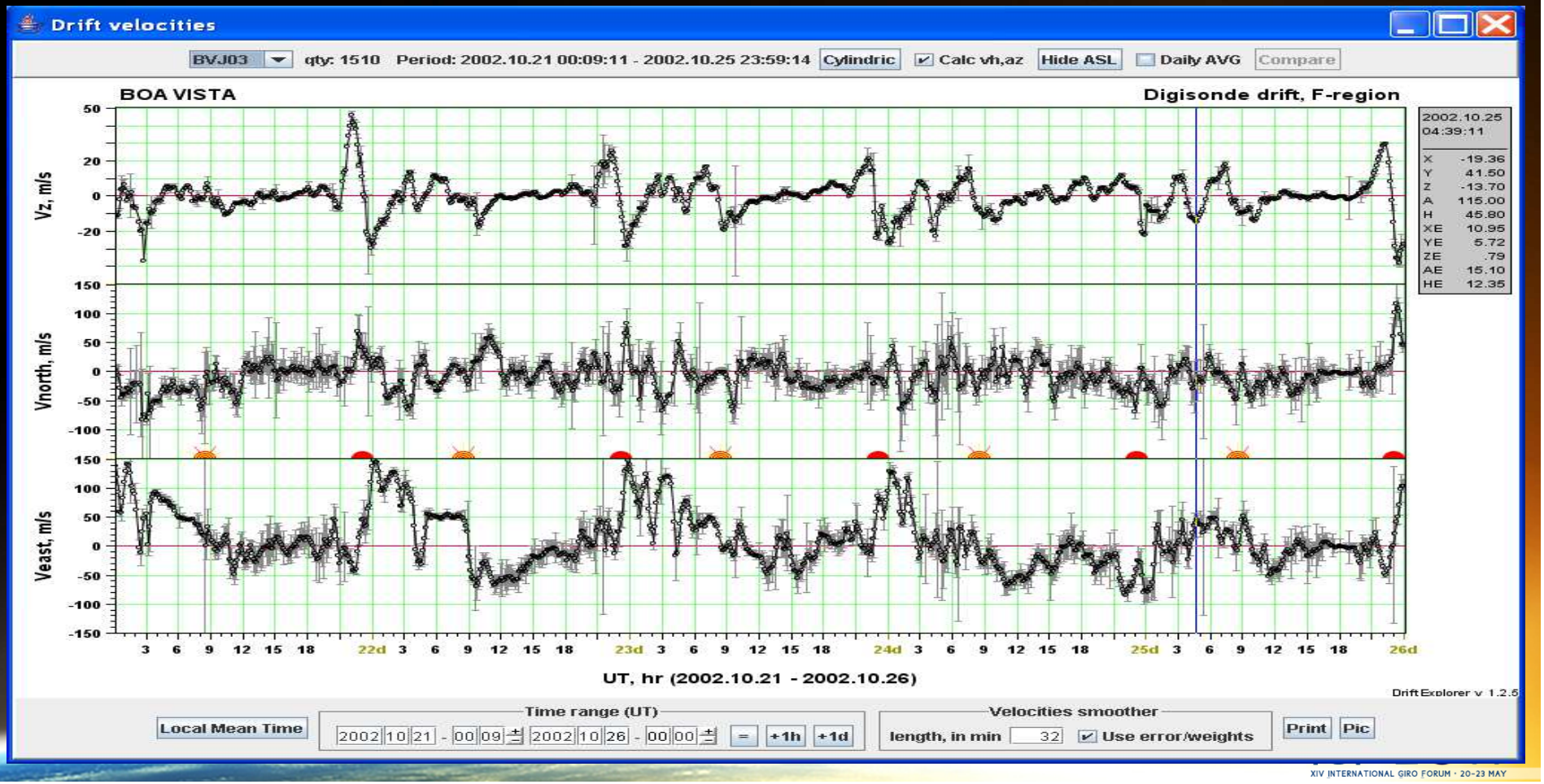
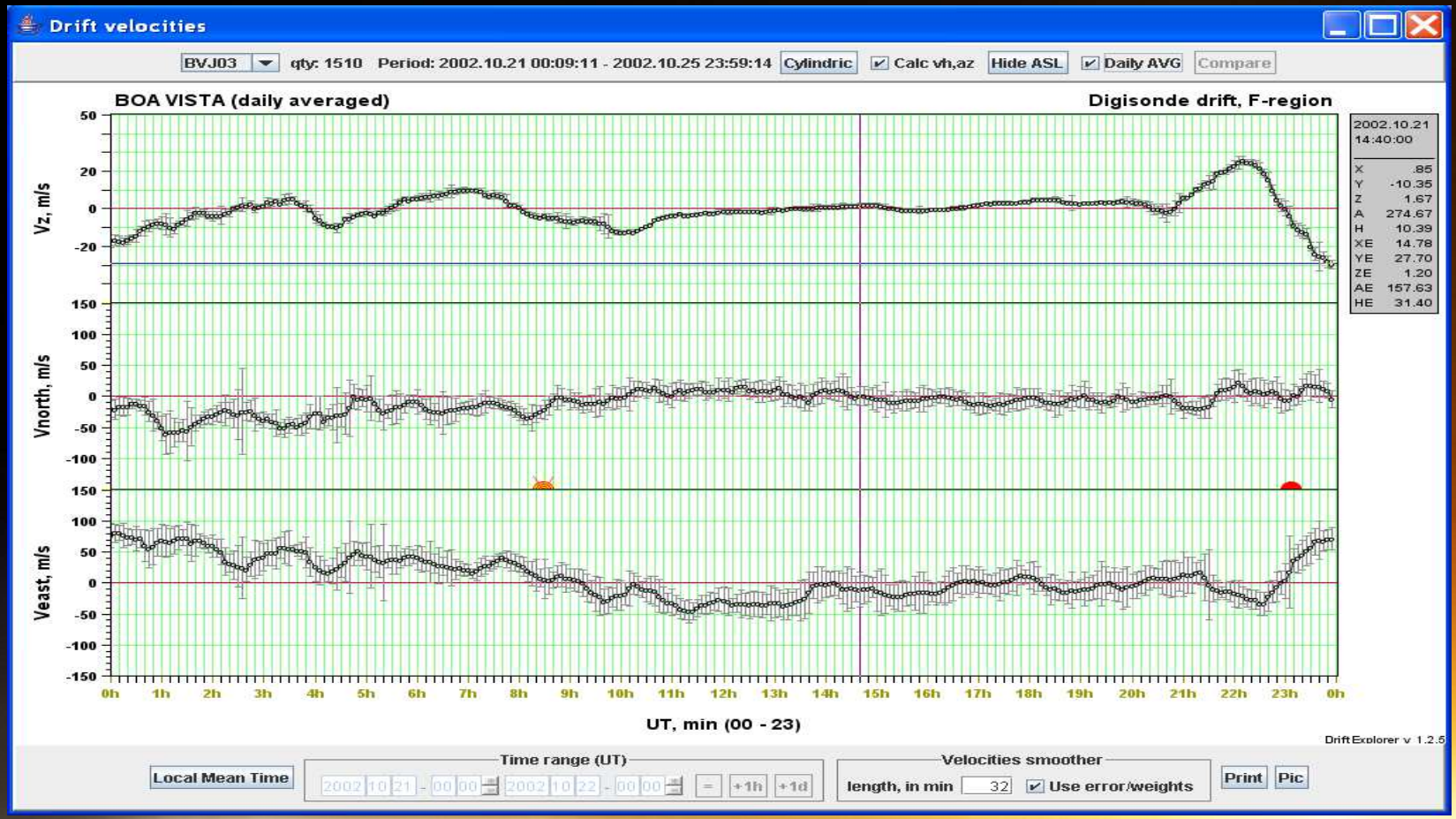
DVL View BoaVista 5 days



DVL View BoaVista av 1



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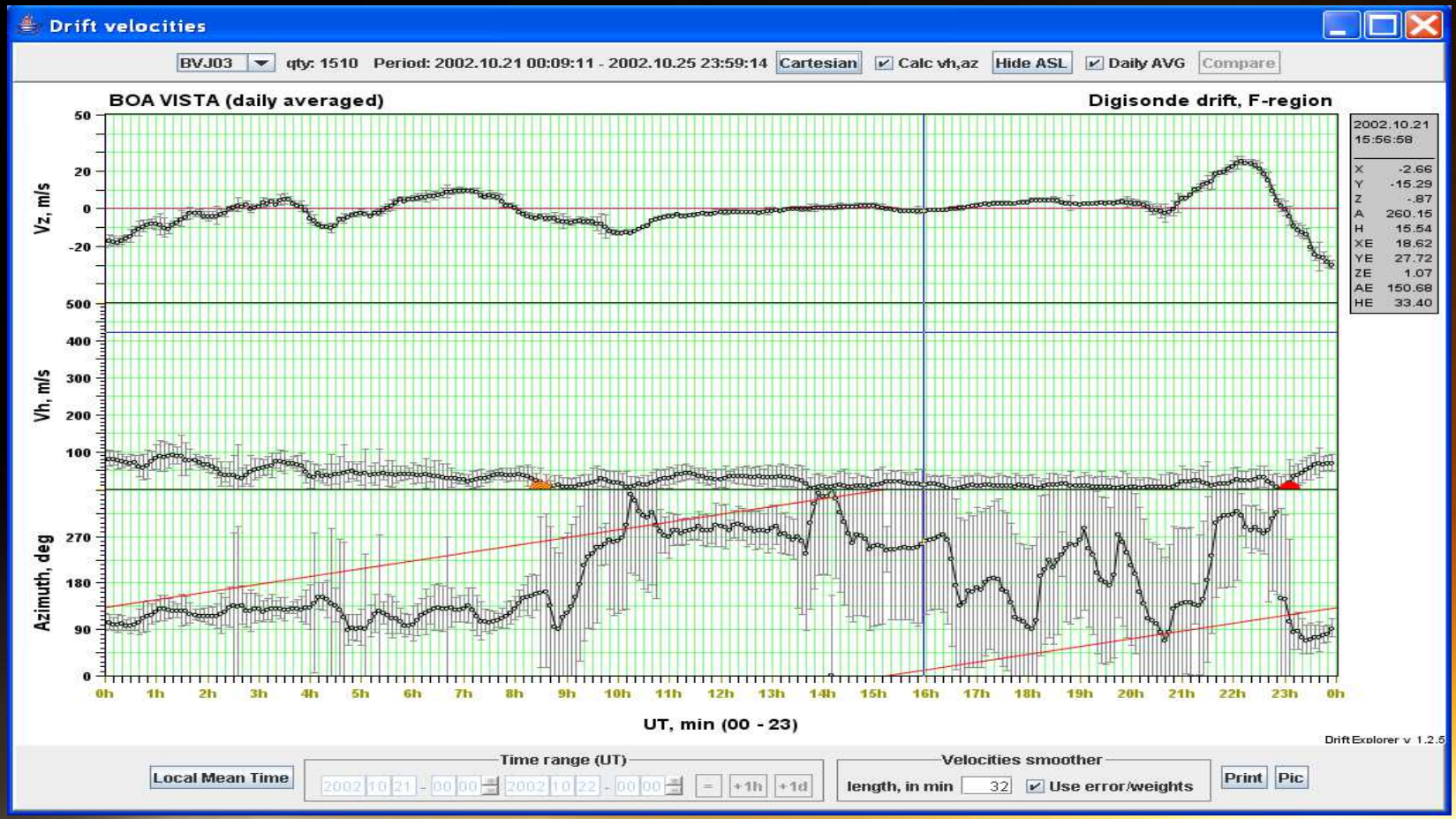
DVL View BoaVista av 2



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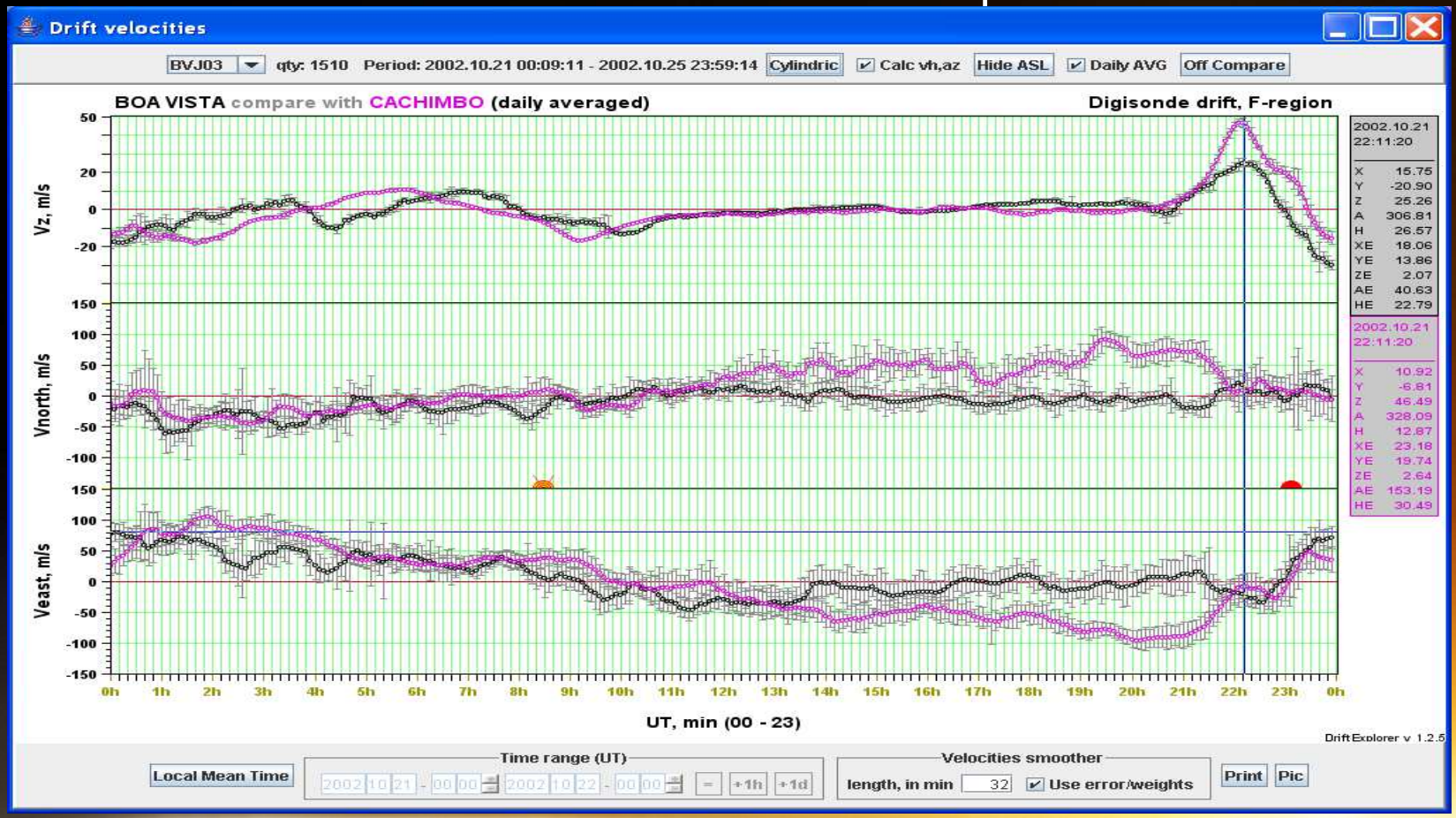
DVL View BoaVista av cmp



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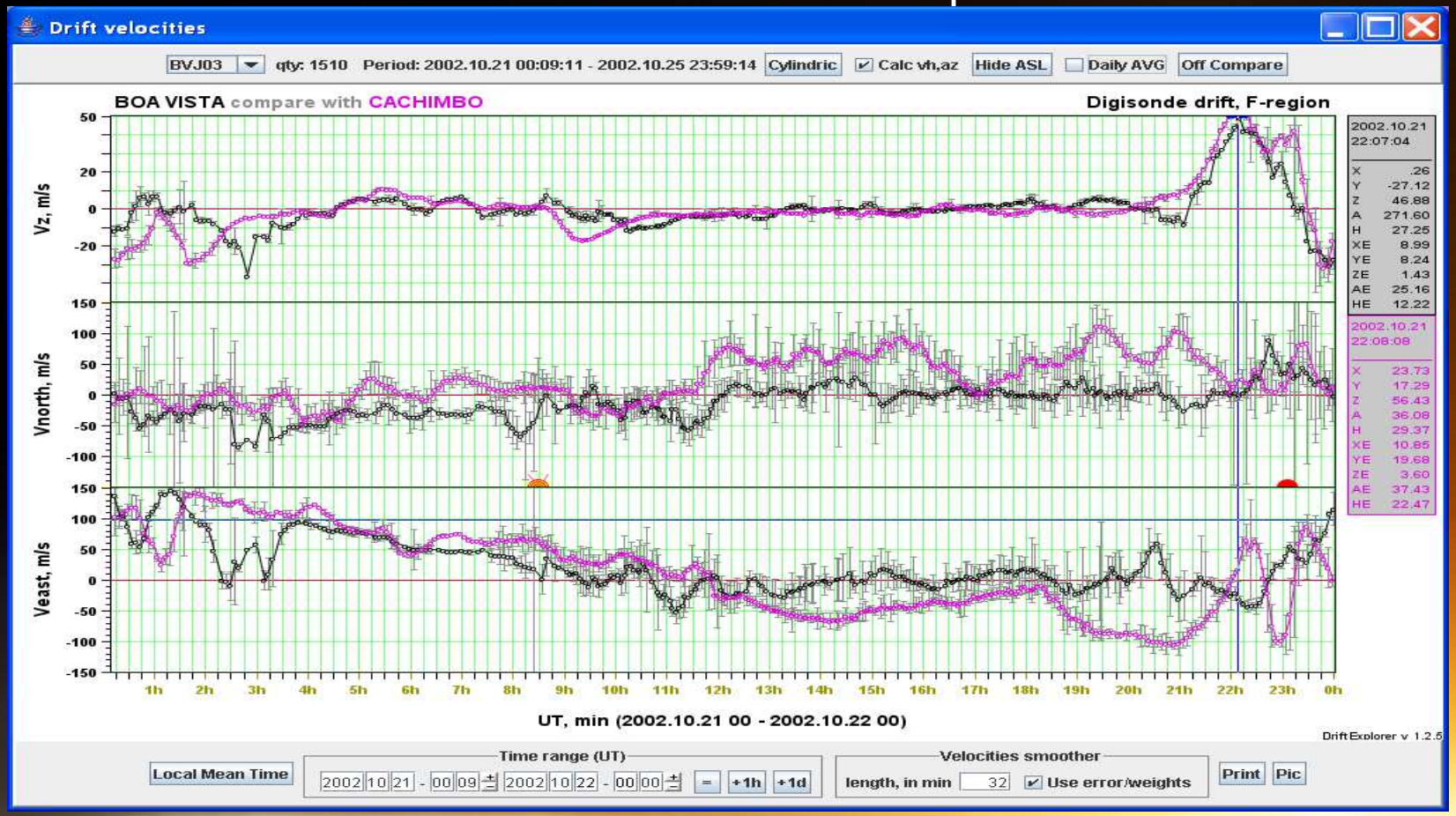
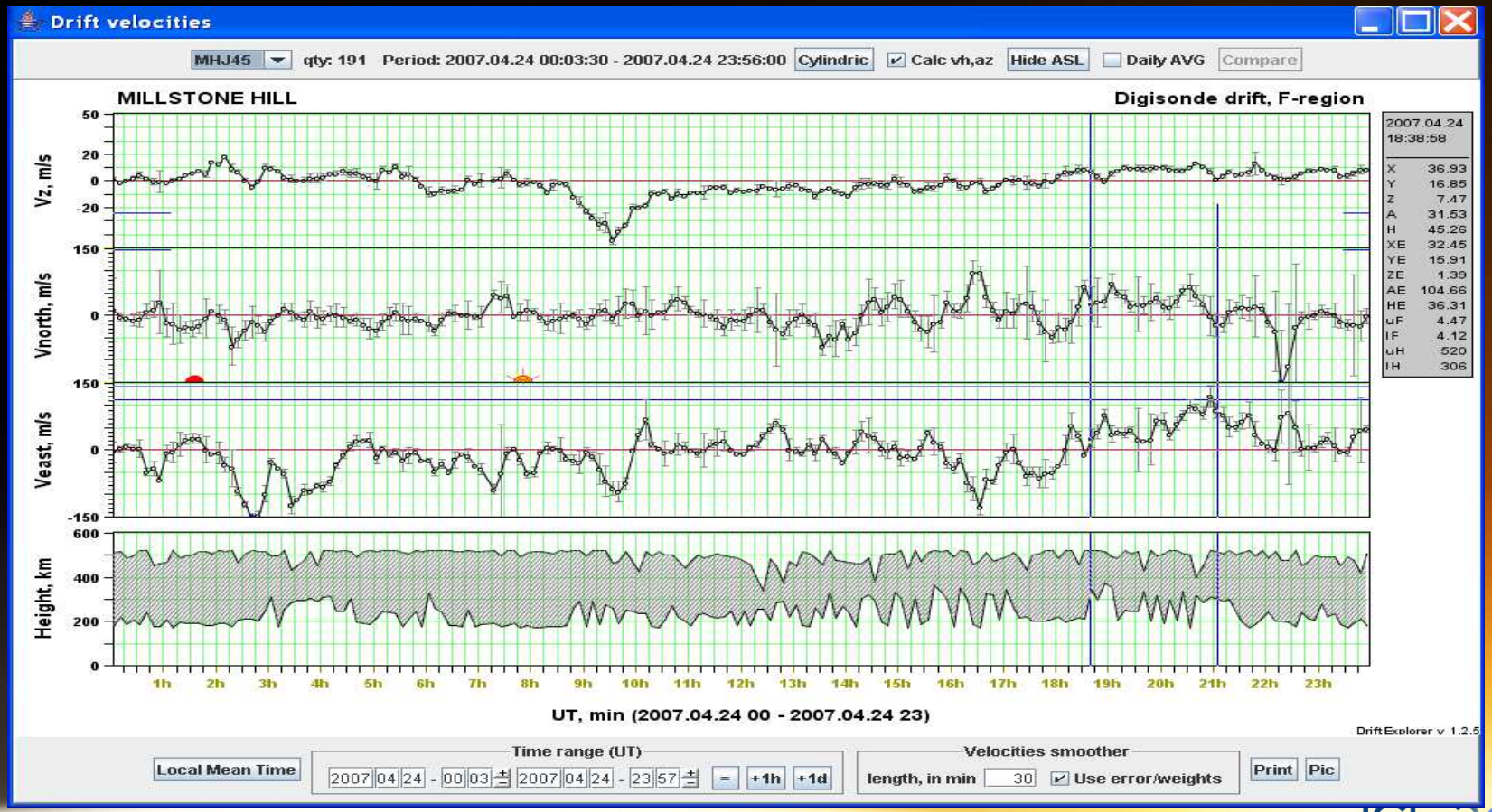
DVL View BoaVista cmp



DVL Millstone Hill, height range



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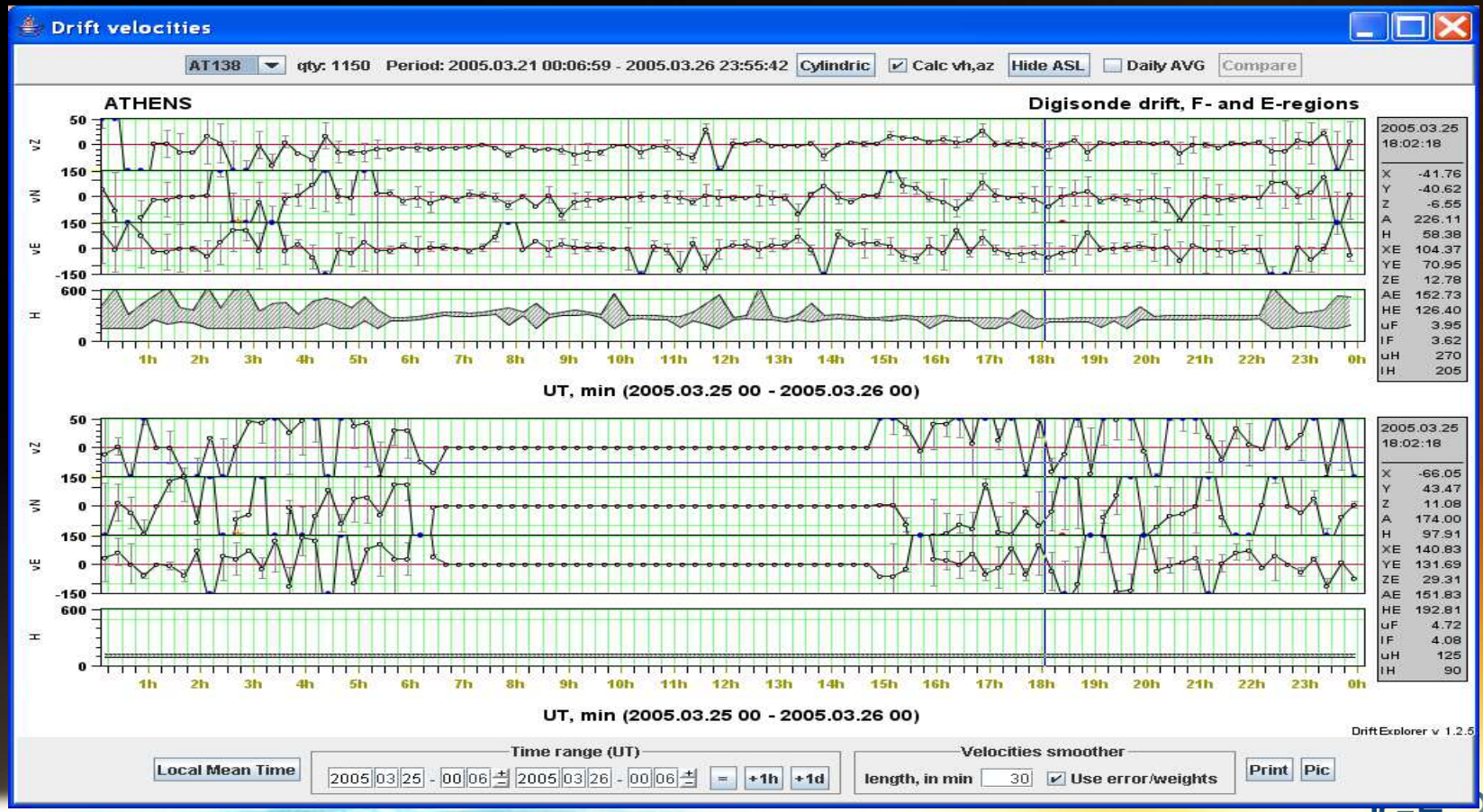
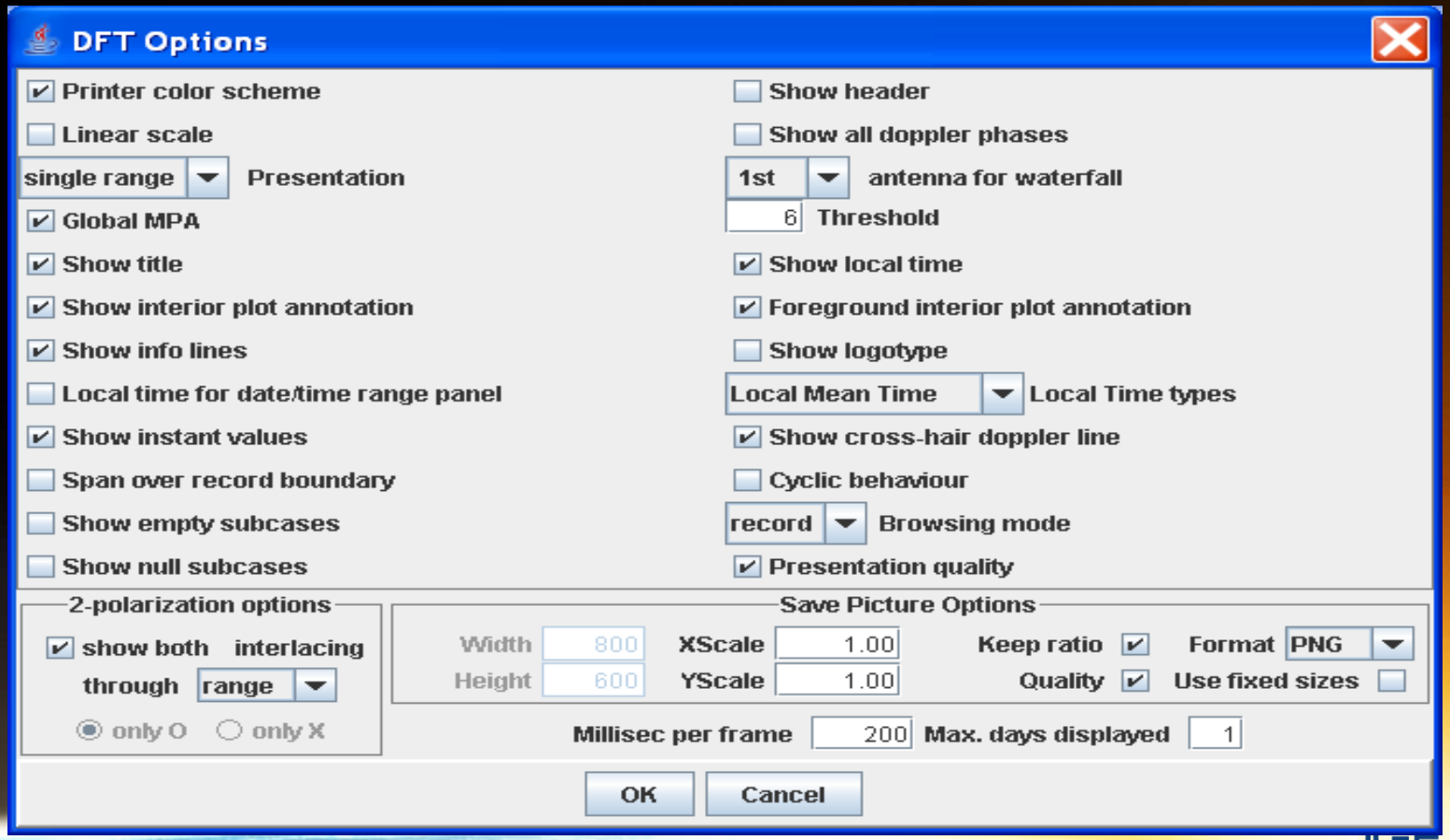
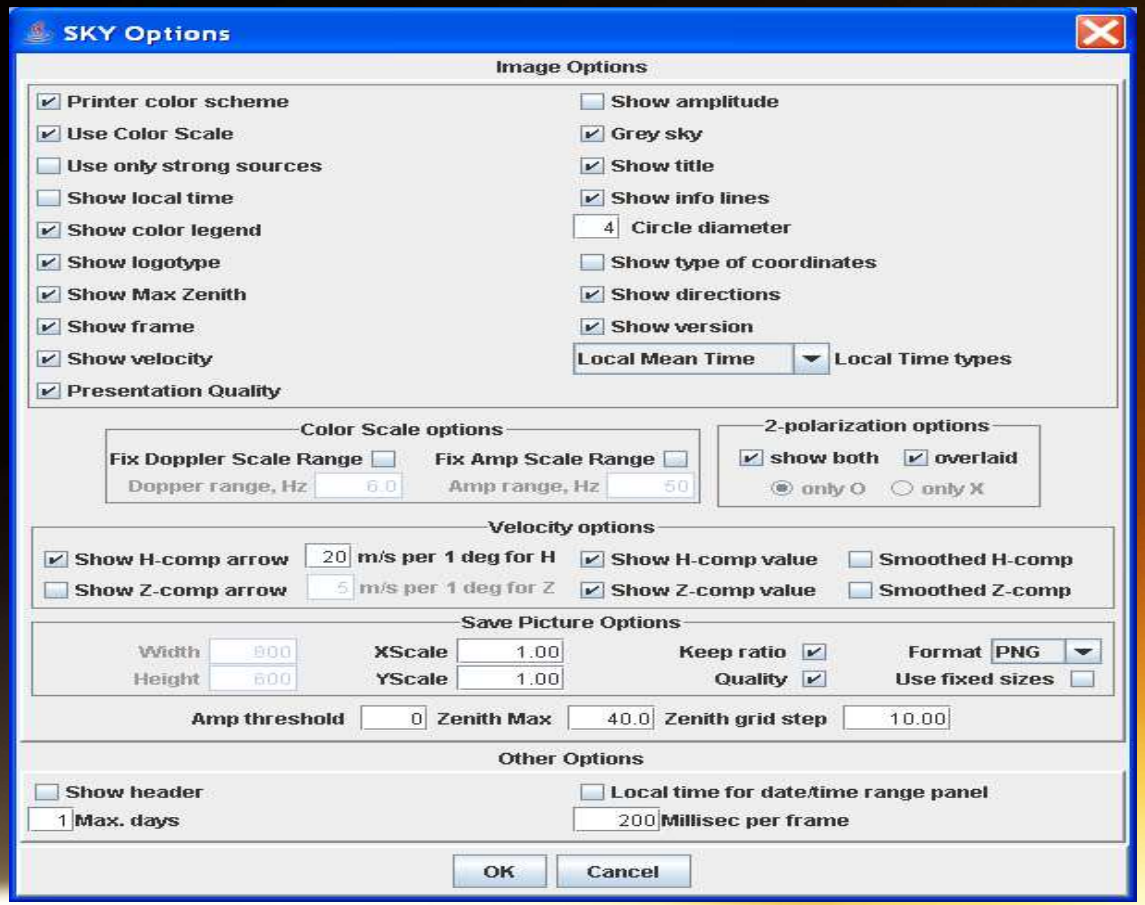
DVL Athens, F and E layers



DFT Options Dialog



SKY Options Dialog



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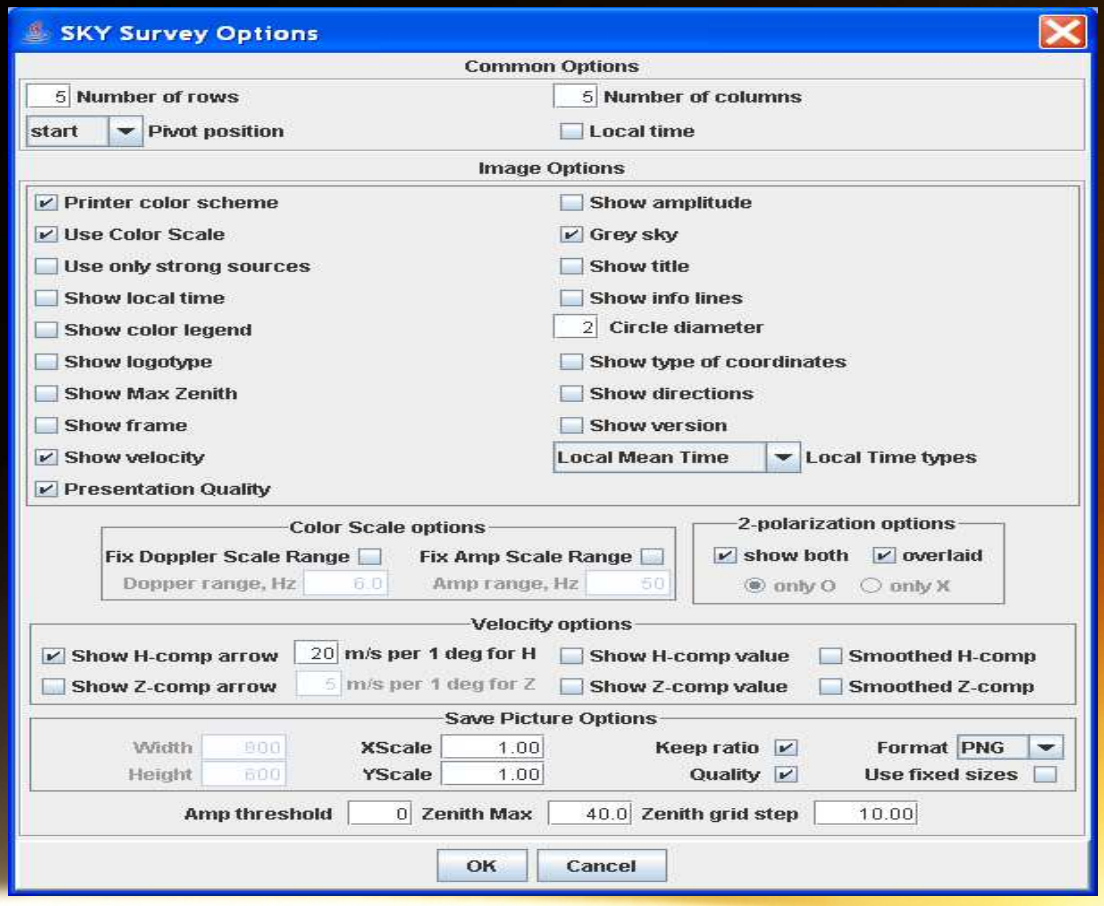
SKY Survey Options Dialog



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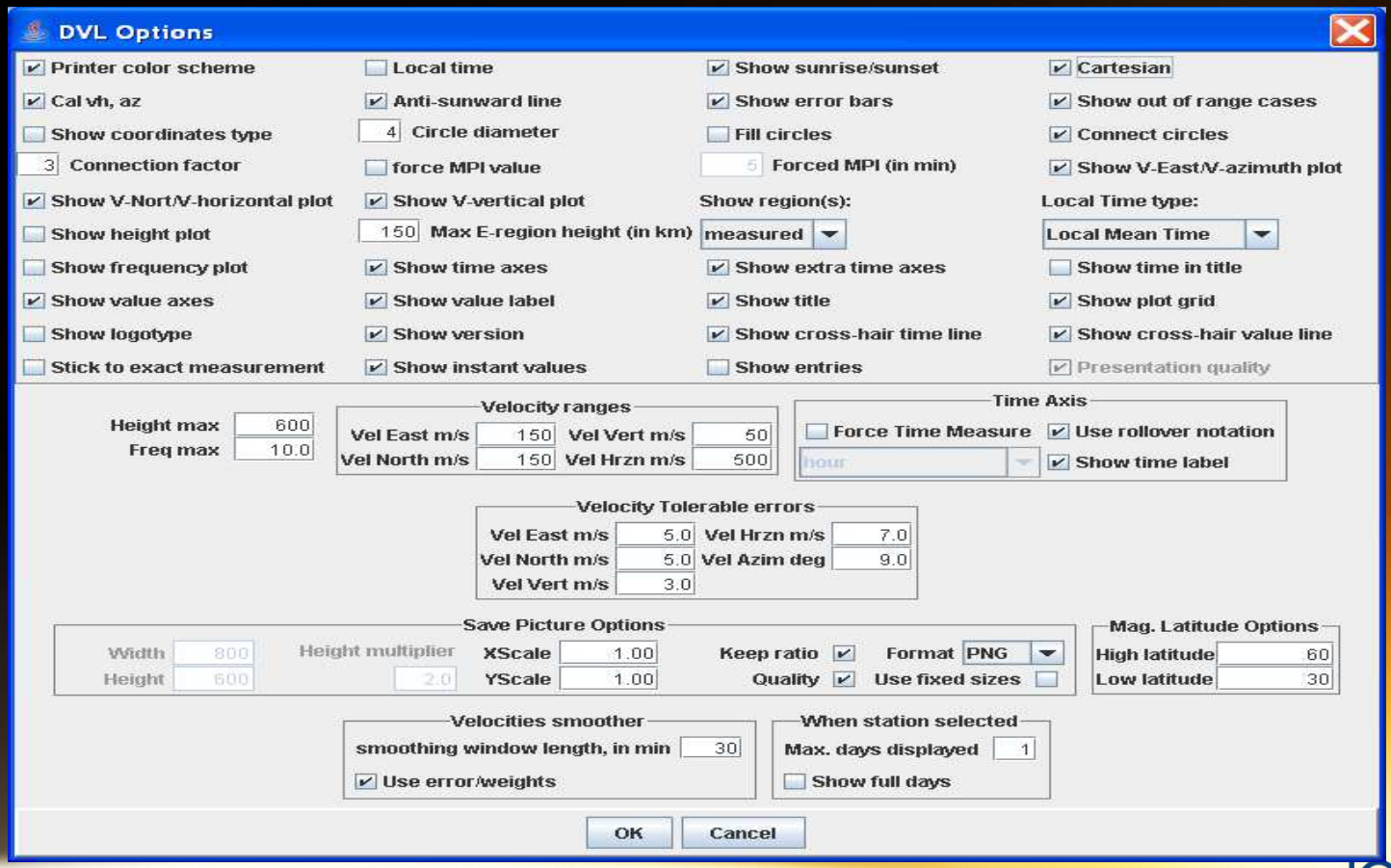
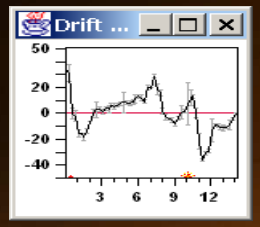
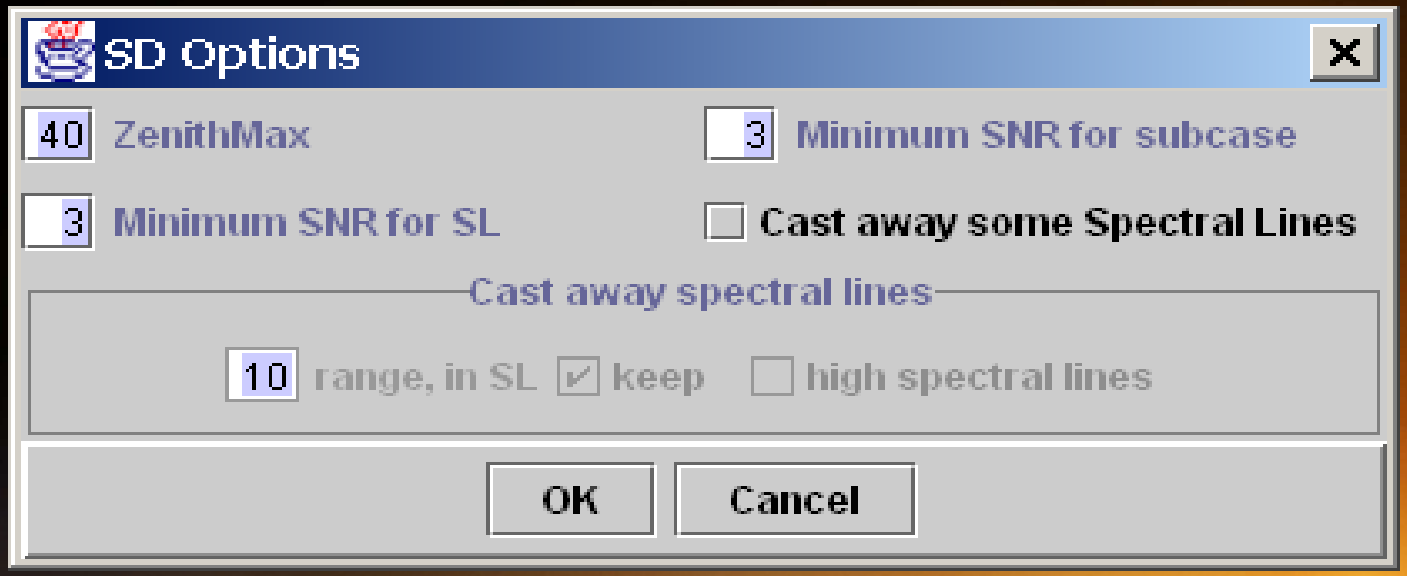
DVL Options Dialog



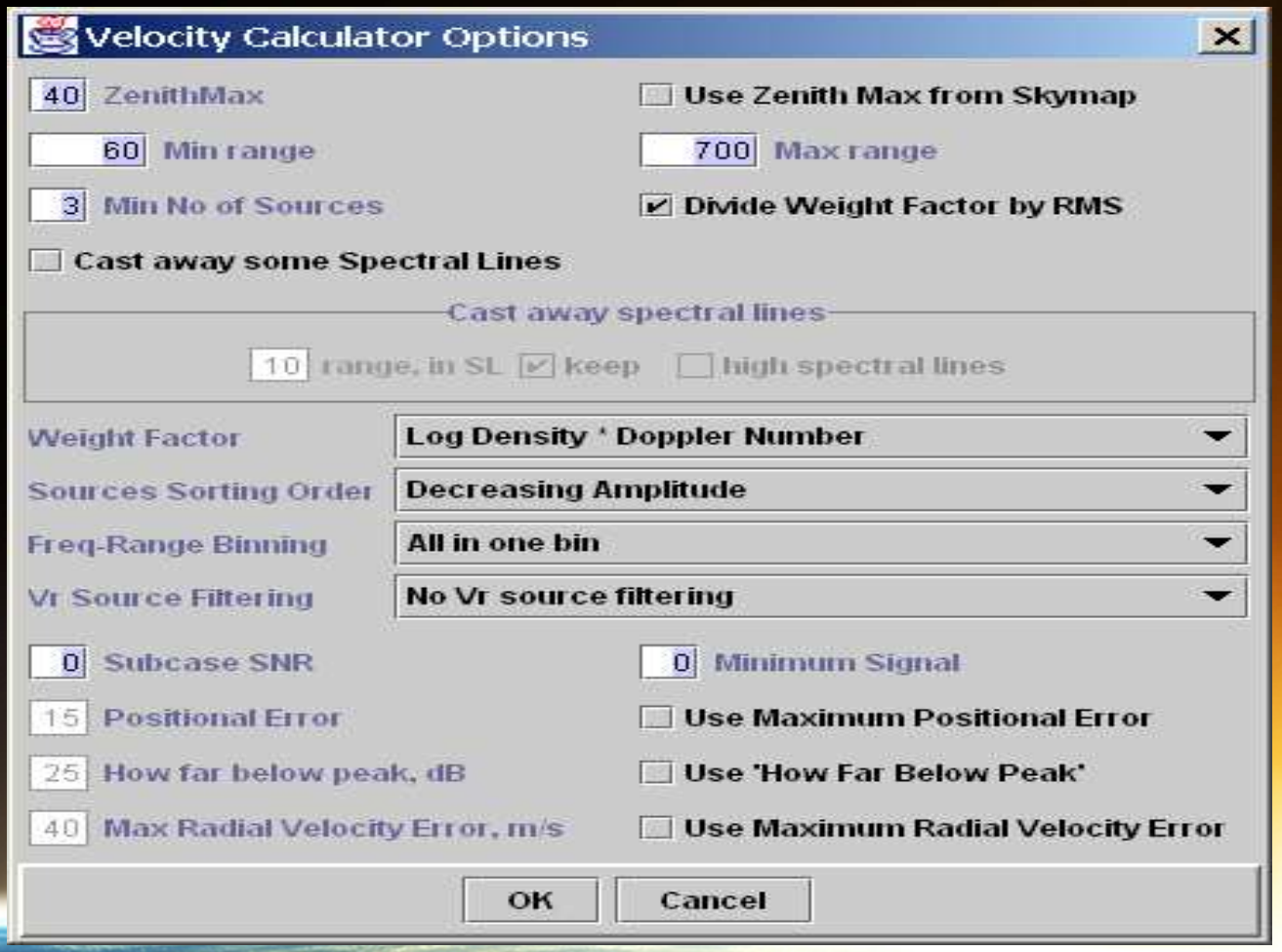
DVL View Jicamarca small



Source Detector Options Dialog



Velocity Calculator Options Dialog



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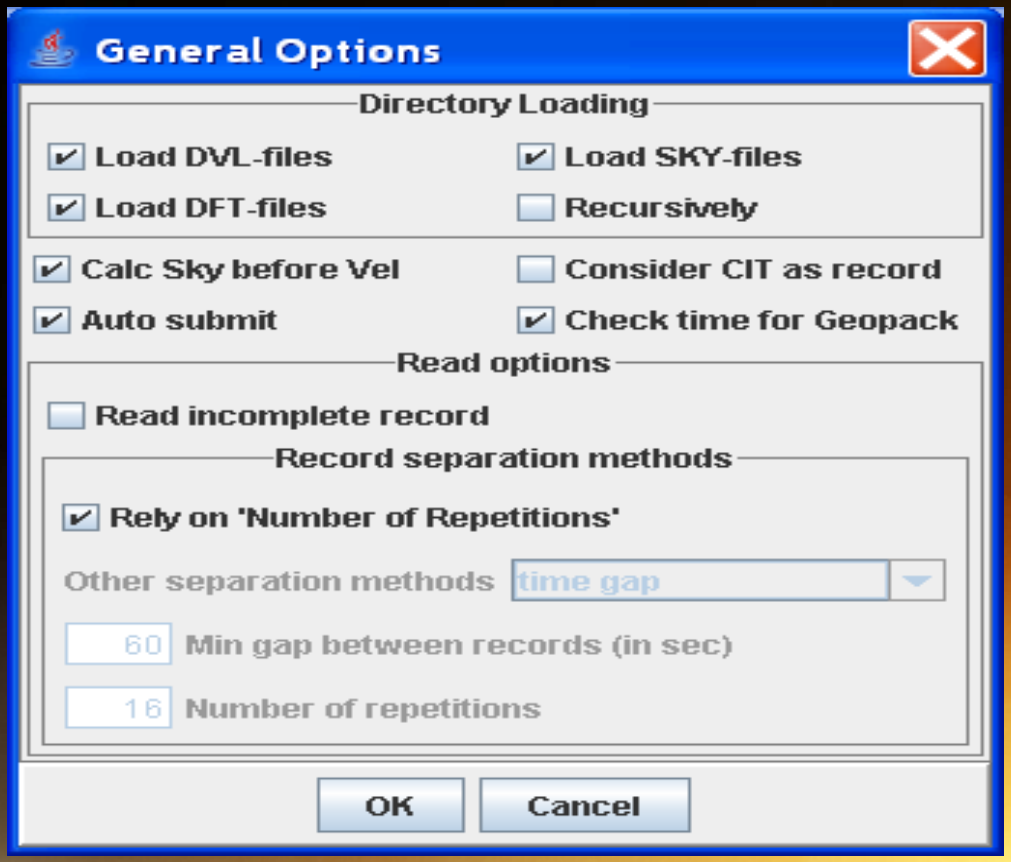
General Options Dialog



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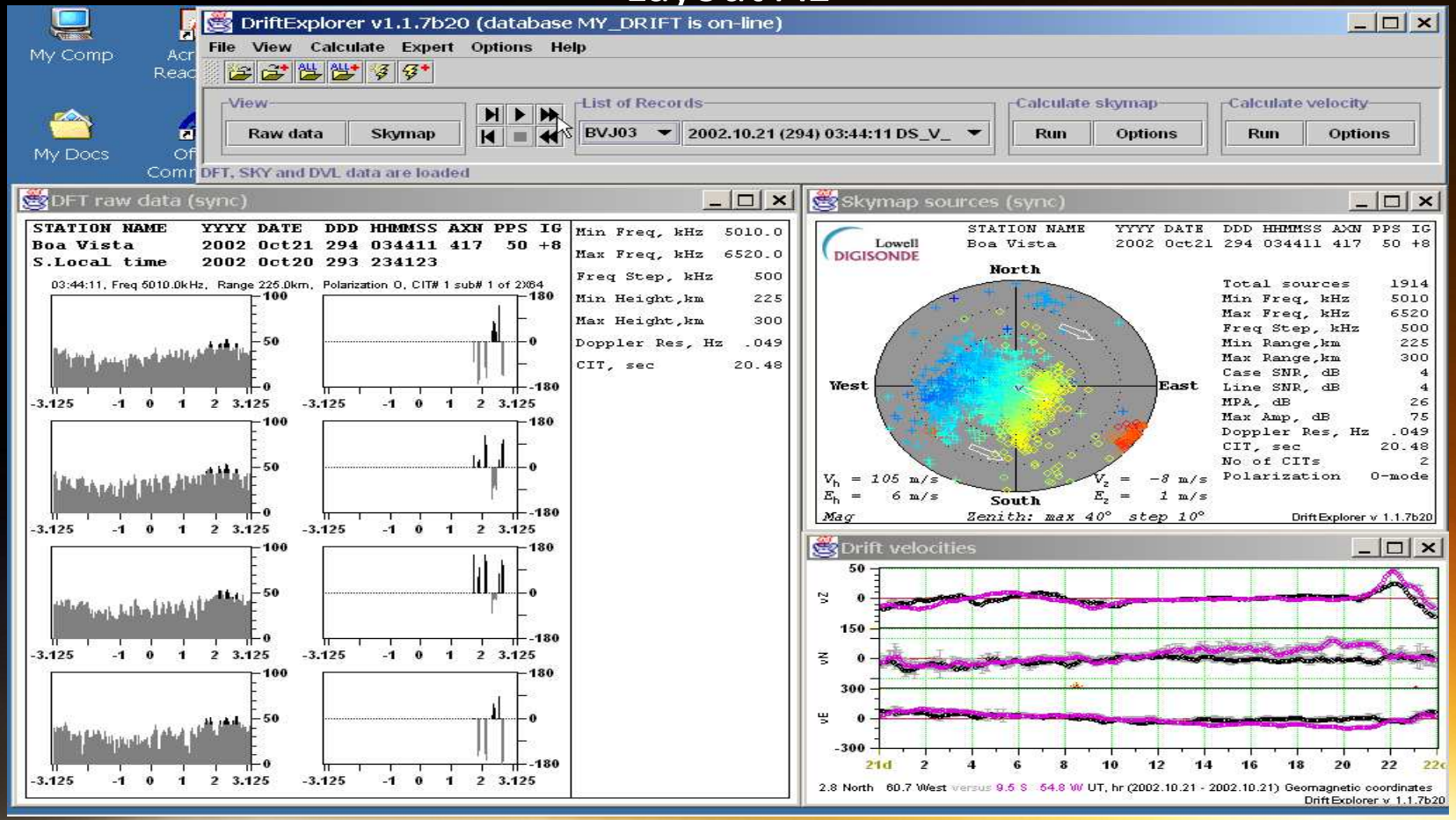
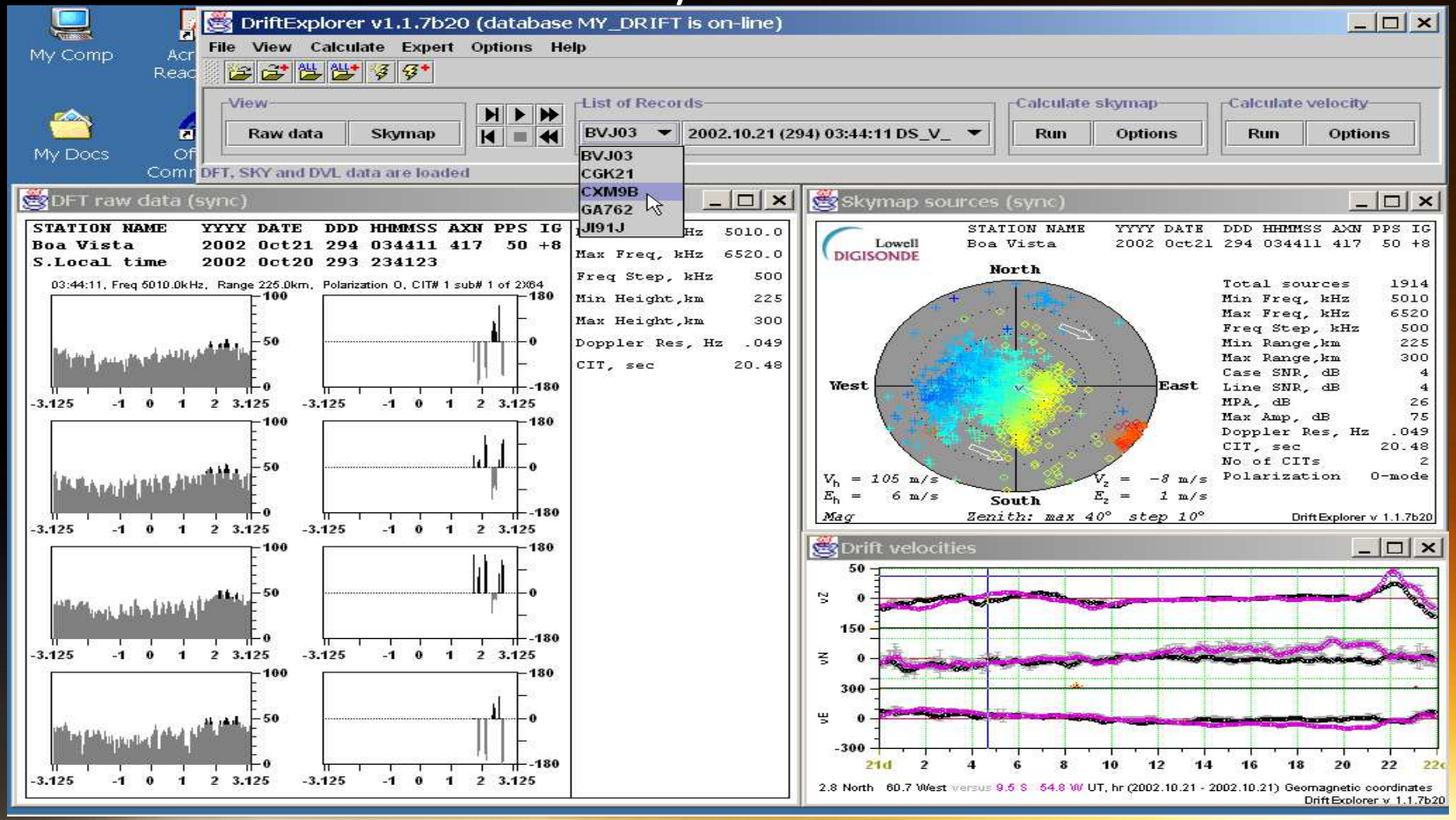
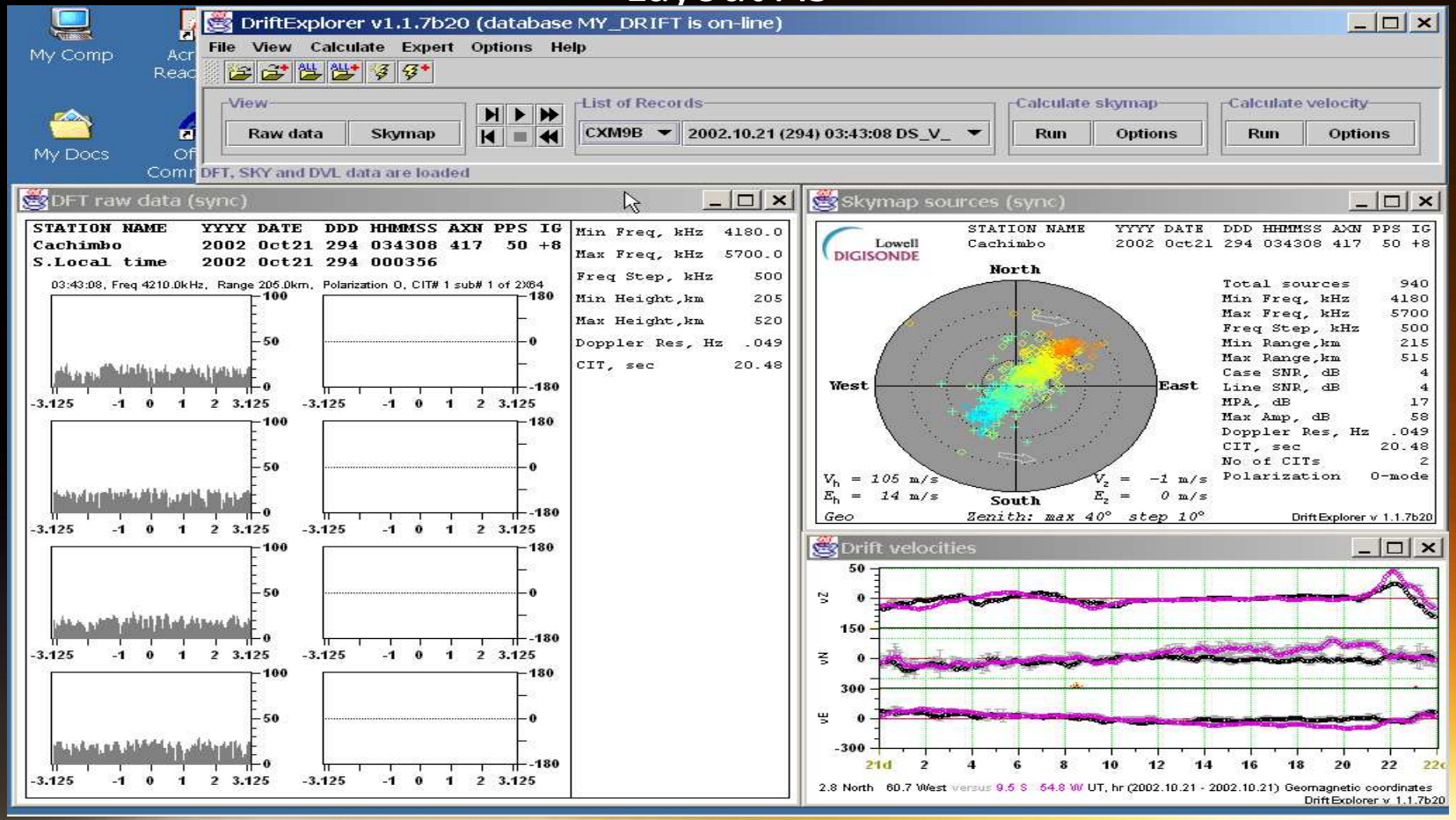
Layout A1


DriftExplorer v1.1.7b20 (database MY_DRIFT is on-line)
File View Calculate Expert Options Help
View
Raw data
Skymap
List of Records
BVJ03
2002.10.21 (294) 03:44:11 DS_V_
Calculate skymap
Run
Options
Calculate velocity
Run
Options
DFT, SKY and DVL data are loaded
DFT raw data (sync)
STATION NAME YYYY DATE DDD HHMMSS AXN PPS IG
Boa Vista 2002 Oct21 294 034411 417 50 +8
S.Local time 2002 Oct20 293 234123
03:44:11, Freq 5010.0kHz, Range 225.0km, Polarization O, CIT# 1 sub# 1 of 2X64
Min Freq, kHz 5010.0
Max Freq, kHz 6520.0
Freq Step, kHz 500
Min Height,km 225
Max Height,km 300
Doppler Res, Hz .049
CIT, sec 20.48
Skymap sources (sync)
Lowell DIGISONDE
STATION NAME YYYY DATE DDD HHMMSS AXN PPS IG
Boa Vista 2002 Oct21 294 034411 417 50 +8
North
West
East
South
Total sources 1914
Min Freq, kHz 5010
Max Freq, kHz 6520
Freq Step, kHz 500
Min Range,km 225
Max Range,km 300
Case SNR, dB 4
Line SNR, dB 4
MPA, dB 26
Max Amp, dB 75
Doppler Res, Hz .049
CIT, sec 20.48
No of CITs 2
Polarization O-mode
Vh = 105 m/s
Eh = 6 m/s
Vz = -8 m/s
Ez = 1 m/s
Mag
Zenith: max 40° step 10°
DriftExplorer v 1.1.7b20
Drift velocities
2.8 North 60.7 West versus 9.6 S 54.8 W UT, hr (2002.10.21 - 2002.10.21) Geomagnetic coordinates
DriftExplorer v 1.1.7b20

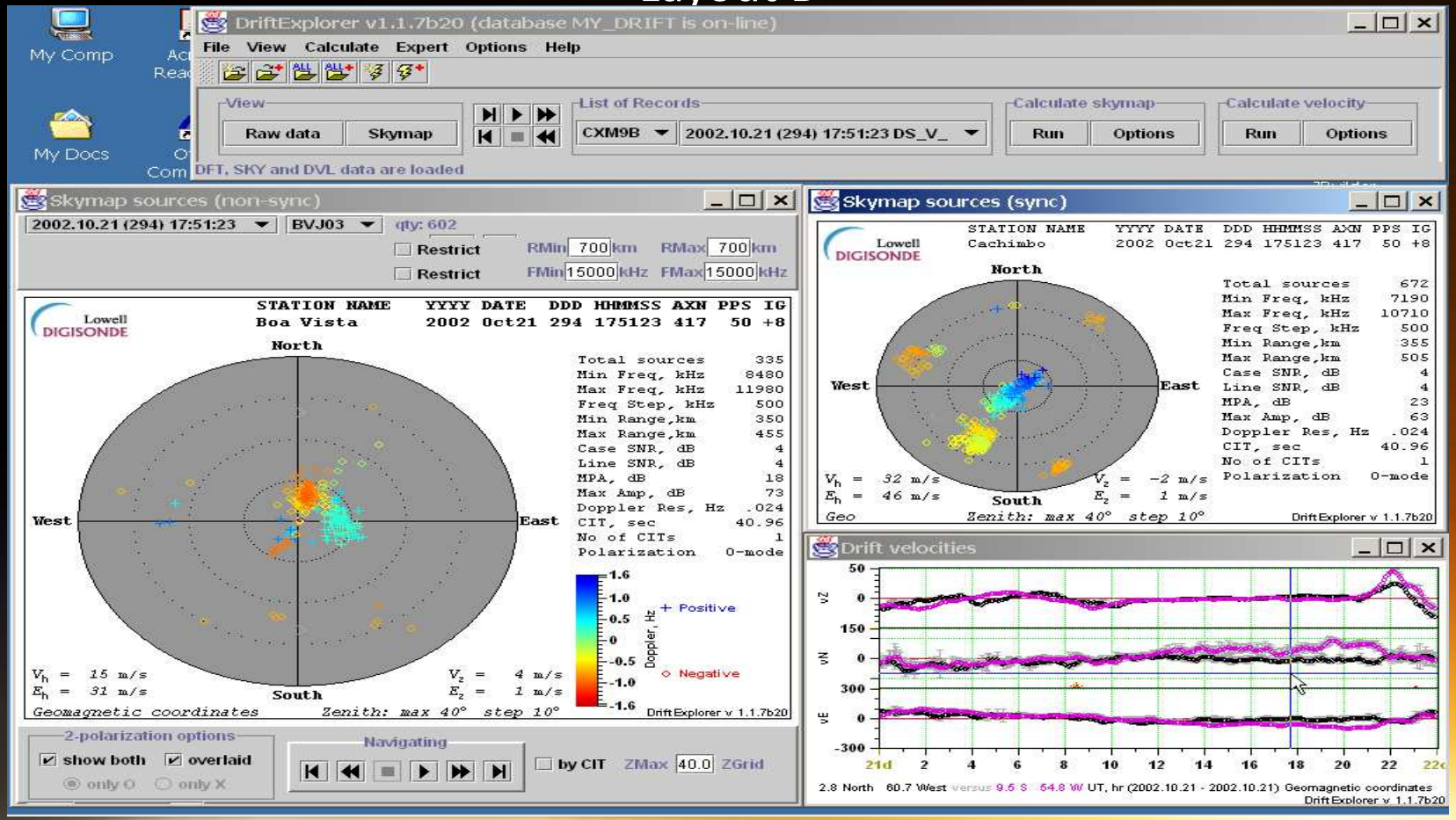
Layout A2


DriftExplorer v1.1.7b20 (database MY_DRIFT is on-line)
File View Calculate Expert Options Help
View
Raw data
Skymap
List of Records
BVJ03
2002.10.21 (294) 03:44:11 DS_V_
Calculate skymap
Run
Options
Calculate velocity
Run
Options
DFT, SKY and DVL data are loaded
BVJ03
CGK21
CXM9B
GA762
JI91J
DFT raw data (sync)
STATION NAME YYYY DATE DDD HHMMSS AXN PPS IG
Boa Vista 2002 Oct21 294 034411 417 50 +8
S.Local time 2002 Oct20 293 234123
03:44:11, Freq 5010.0kHz, Range 225.0km, Polarization O, CIT# 1 sub# 1 of 2X64
Max Freq, kHz 6520.0
Freq Step, kHz 500
Min Height,km 225
Max Height,km 300
Doppler Res, Hz .049
CIT, sec 20.48
Skymap sources (sync)
Lowell DIGISONDE
STATION NAME YYYY DATE DDD HHMMSS AXN PPS IG
Boa Vista 2002 Oct21 294 034411 417 50 +8
North
West
East
South
Total sources 1914
Min Freq, kHz 5010
Max Freq, kHz 6520
Freq Step, kHz 500
Min Range,km 225
Max Range,km 300
Case SNR, dB 4
Line SNR, dB 4
MPA, dB 26
Max Amp, dB 75
Doppler Res, Hz .049
CIT, sec 20.48
No of CITs 2
Polarization O-mode
Mag
Zenith: max 40° step 10°
DriftExplorer v 1.1.7b20
Drift velocities
2.8 North 60.7 West versus 9.6 S 54.8 W UT, hr (2002.10.21 - 2002.10.21) Geomagnetic coordinates
DriftExplorer v 1.1.7b20

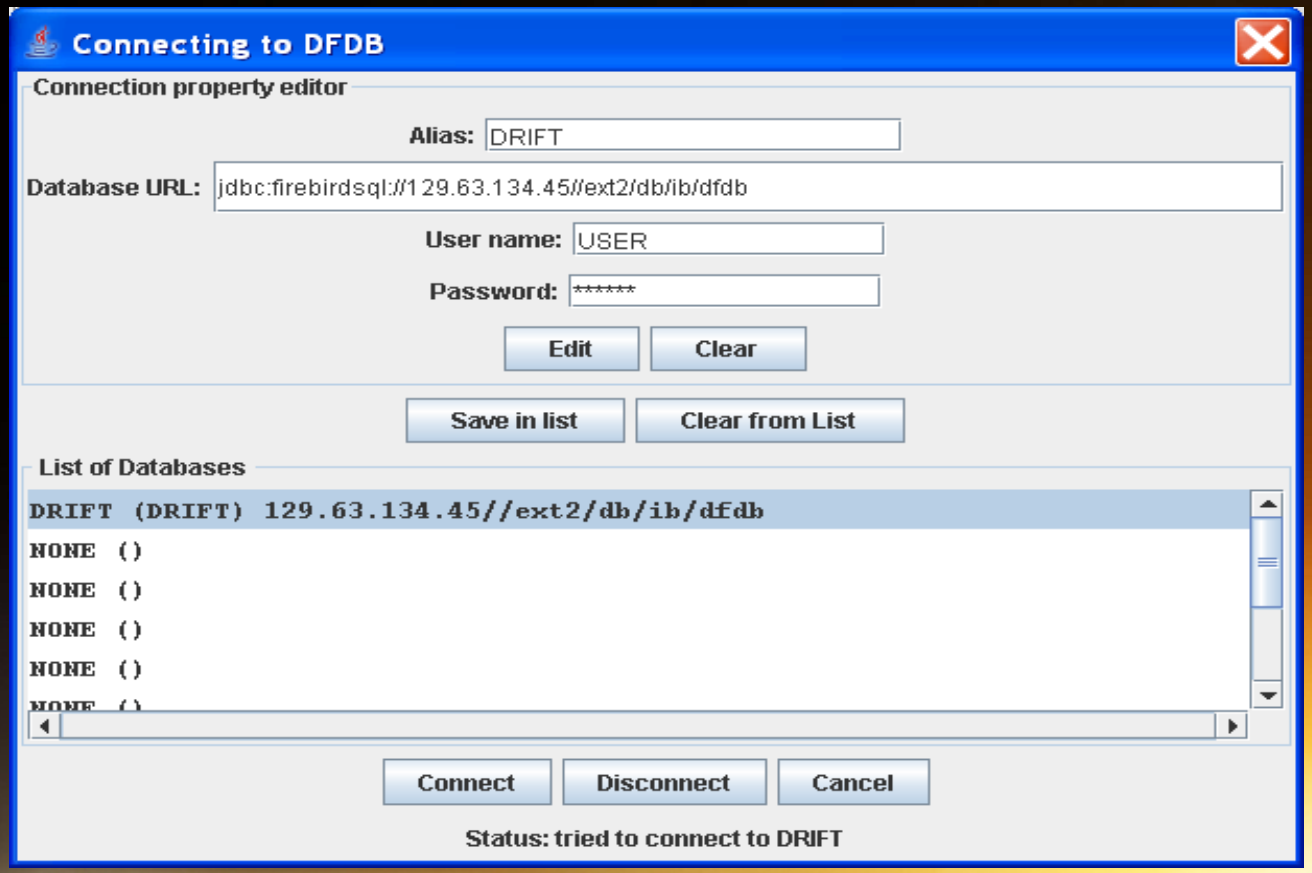
Layout A3


DriftExplorer v1.1.7b20 (database MY_DRIFT is on-line)
File View Calculate Expert Options Help
View
Raw data
Skymap
List of Records
CXM9B
2002.10.21 (294) 03:43:08 DS_V_
Calculate skymap
Run
Options
Calculate velocity
Run
Options
DFT, SKY and DVL data are loaded
DFT raw data (sync)
STATION NAME YYYY DATE DDD HHMMSS AXN PPS IG
Cachimbo 2002 Oct21 294 034308 417 50 +8
S.Local time 2002 Oct21 294 000356
03:43:08, Freq 4210.0kHz, Range 205.0km, Polarization O, CIT# 1 sub# 1 of 2X64
Min Freq, kHz 4180.0
Max Freq, kHz 5700.0
Freq Step, kHz 500
Min Height,km 205
Max Height,km 520
Doppler Res, Hz .049
CIT, sec 20.48
Skymap sources (sync)
Lowell DIGISONDE
STATION NAME YYYY DATE DDD HHMMSS AXN PPS IG
Cachimbo 2002 Oct21 294 034308 417 50 +8
North
West
East
South
Total sources 940
Min Freq, kHz 4180
Max Freq, kHz 5700
Freq Step, kHz 500
Min Range,km 215
Max Range,km 515
Case SNR, dB 4
Line SNR, dB 4
MPA, dB 17
Max Amp, dB 58
Doppler Res, Hz .049
CIT, sec 20.48
No of CITs 2
Polarization O-mode
Geo
Zenith: max 40° step 10°
DriftExplorer v 1.1.7b20
Drift velocities
2.8 North 60.7 West versus 9.6 S 54.8 W UT, hr (2002.10.21 - 2002.10.21) Geomagnetic coordinates
DriftExplorer v 1.1.7b20

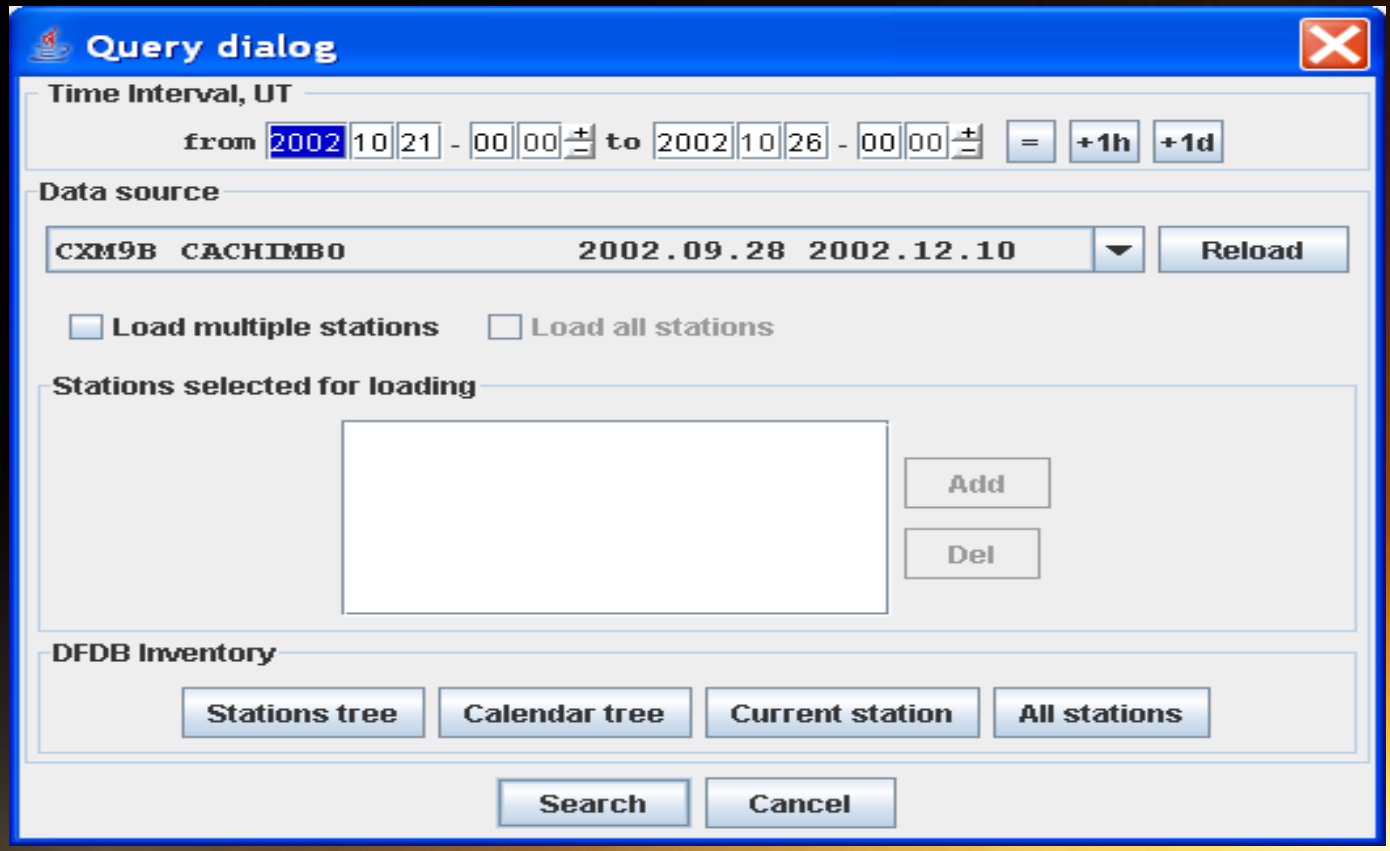
Layout B


DriftExplorer v1.1.7b20 (database MY_DRIFT is on-line)
File View Calculate Expert Options Help
View
Raw data
Skymap
List of Records
CXM9B
2002.10.21 (294) 17:51:23 DS_V_
Calculate skymap
Run
Options
Calculate velocity
Run
Options
DFT, SKY and DVL data are loaded
Skymap sources (non-sync)
2002.10.21 (294) 17:51:23
BVJ03
qty: 602
Restrict
RMin 700 km
RMax 700 km
Restrict
FMin 15000 kHz
FMax 15000 kHz
Lowell DIGISONDE
STATION NAME YYYY DATE DDD HHMMSS AXN PPS IG
Boa Vista 2002 Oct21 294 175123 417 50 +8
North
West
East
South
Total sources 335
Min Freq, kHz 8480
Max Freq, kHz 11980
Freq Step, kHz 500
Min Range,km 350
Max Range,km 455
Case SNR, dB 4
Line SNR, dB 4
MPA, dB 18
Max Amp, dB 73
Doppler Res, Hz .024
CIT, sec 40.96
No of CITs 1
Polarization O-mode
Doppler, Hz
+ Positive
Negative
Geomagnetic coordinates
Zenith: max 40° step 10°
DriftExplorer v 1.1.7b20
2-polarization options
show both
overlaid
Navigating
by CIT
ZMax 40.0
ZGrid
Skymap sources (sync)
Lowell DIGISONDE
STATION NAME YYYY DATE DDD HHMMSS AXN PPS IG
Cachimbo 2002 Oct21 294 175123 417 50 +8
North
West
East
South
Total sources 672
Min Freq, kHz 7190
Max Freq, kHz 10710
Freq Step, kHz 500
Min Range,km 355
Max Range,km 505
Case SNR, dB 4
Line SNR, dB 4
MPA, dB 23
Max Amp, dB 63
Doppler Res, Hz .024
CIT, sec 40.96
No of CITs 1
Polarization O-mode
Geo
Zenith: max 40° step 10°
DriftExplorer v 1.1.7b20
Drift velocities
2.8 North 60.7 West versus 9.5 S 54.8 W UT, hr (2002.10.21 - 2002.10.21) Geomagnetic coordinates
DriftExplorer v 1.1.7b20

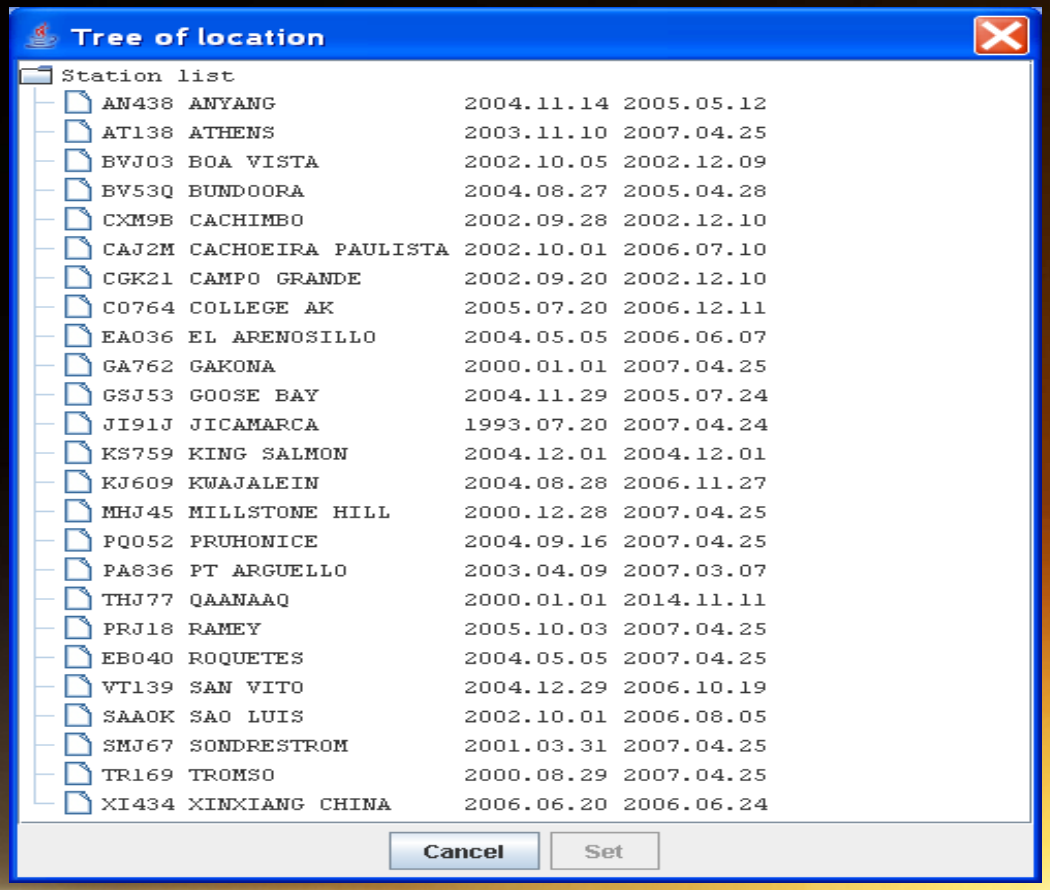
Connect Dialog



Query Dialog



Tree Of Locations 1



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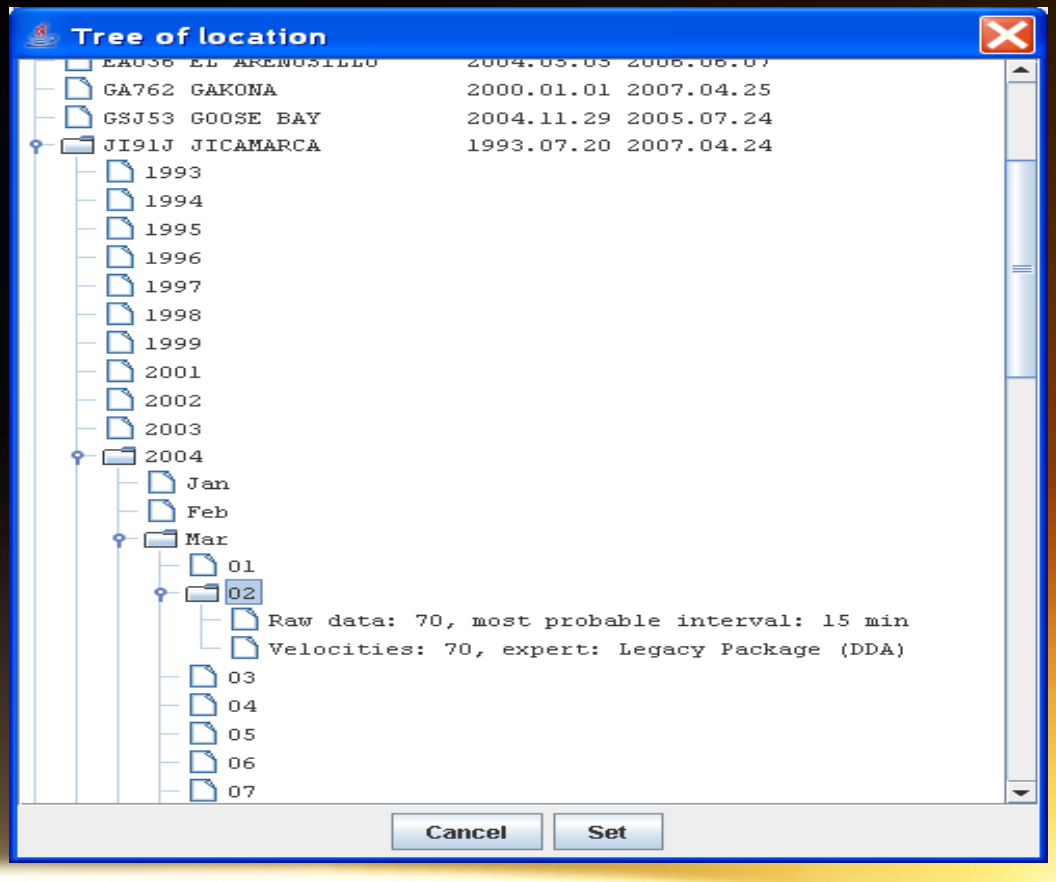
Tree Of Locations 2



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Dalu
감사합니다
Gracias
Danke
Ευχαριστίες
THANK YOU
Obrigado
Köszönöm
Grazie
Спасибо
Dank
Tack
谢谢
Merci
ありがとう
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