

Advanced Drift Explorer topics



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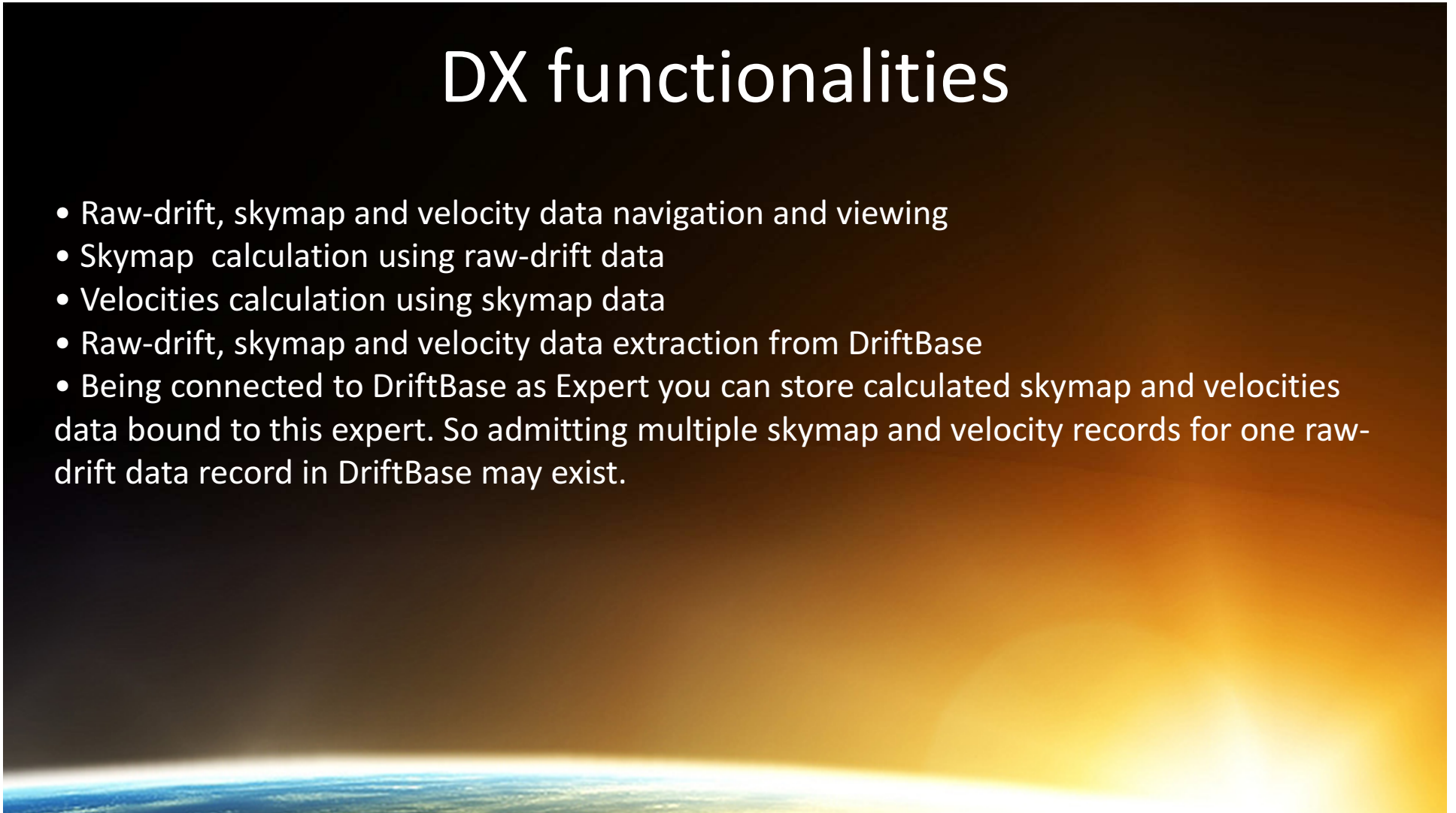
University of Massachusetts Lowell
Center for Atmospheric Research

The logo for the XIV International Giro Forum (IGF) 2014. It features the text "IGF 2014" in large blue letters. The number "0" is replaced by a blue and white globe showing the Americas. The background of the slide shows a view of Earth from space with a bright sun on the horizon.

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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.

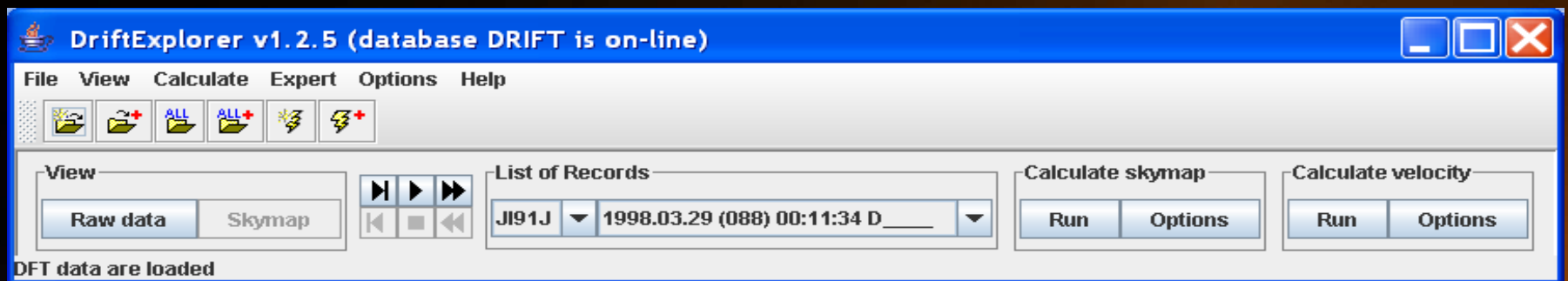


DX features

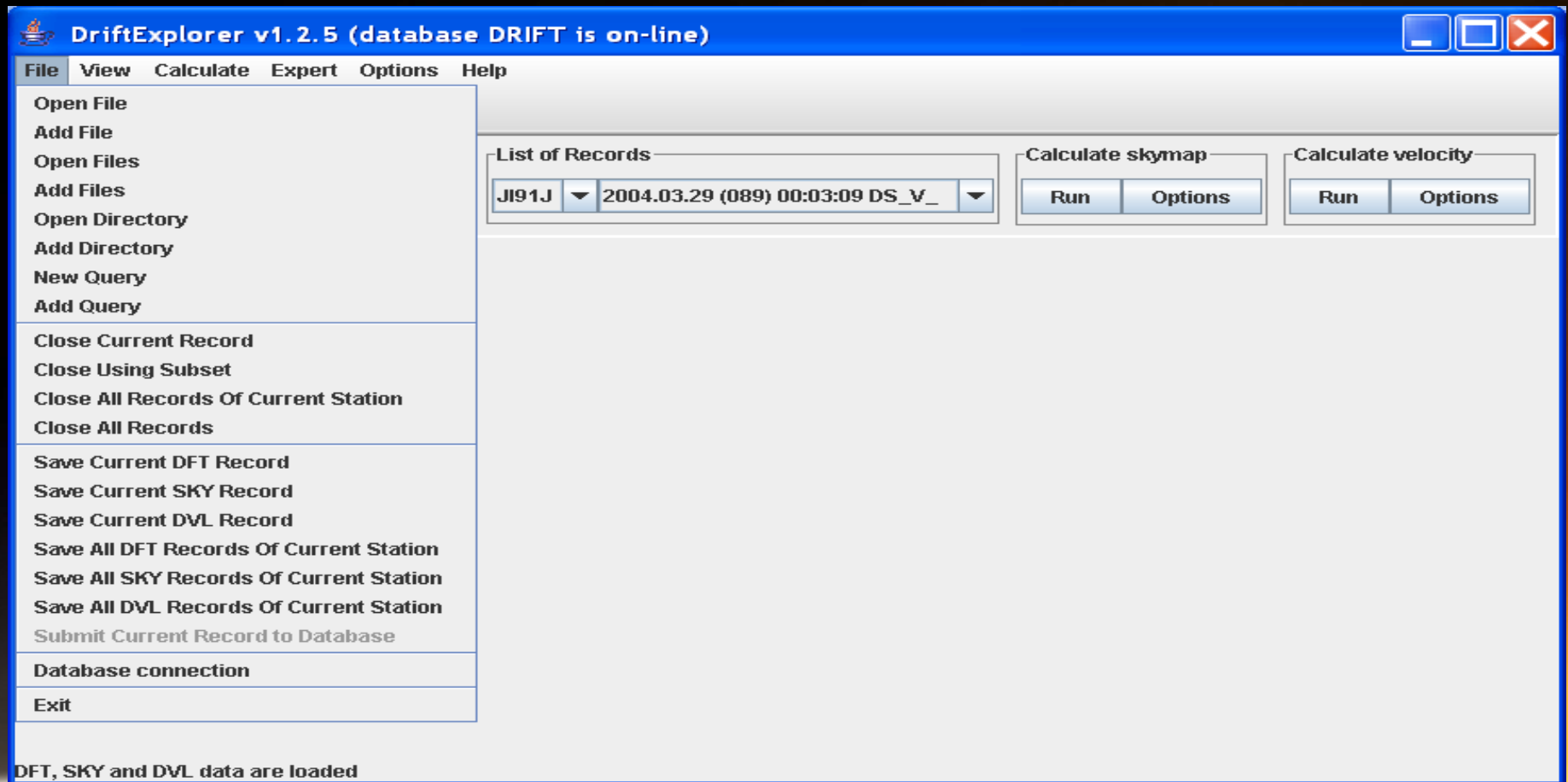
- You can load list of data for several station
- You can visually compare data by opening more than one window of data representation
- Each window of data representation has its own list of stations and records so you can independently from others to observe data in this window
- You can browse through 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



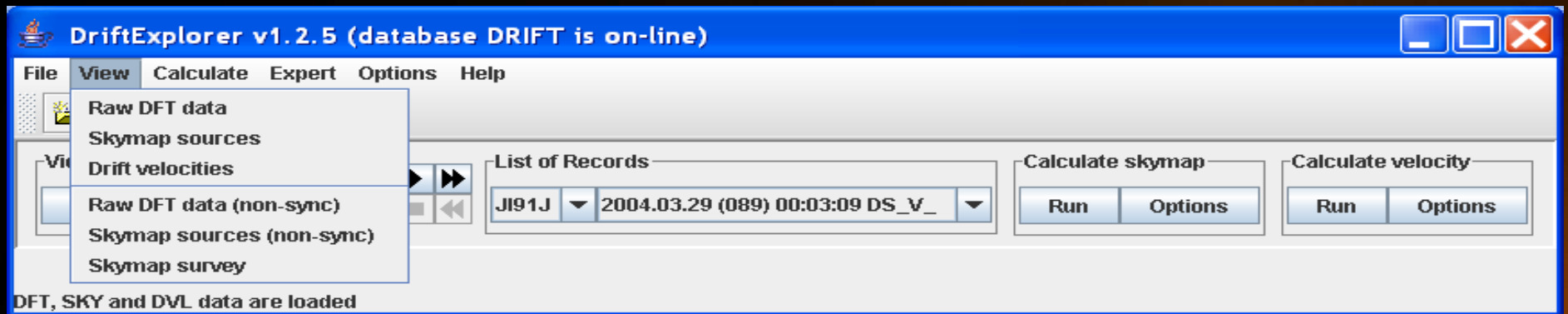
Main window



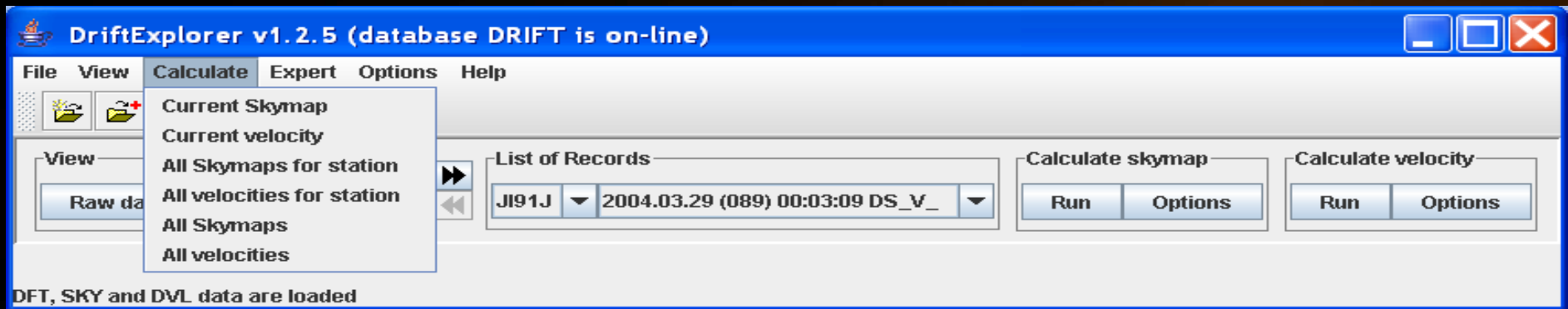
Menu File



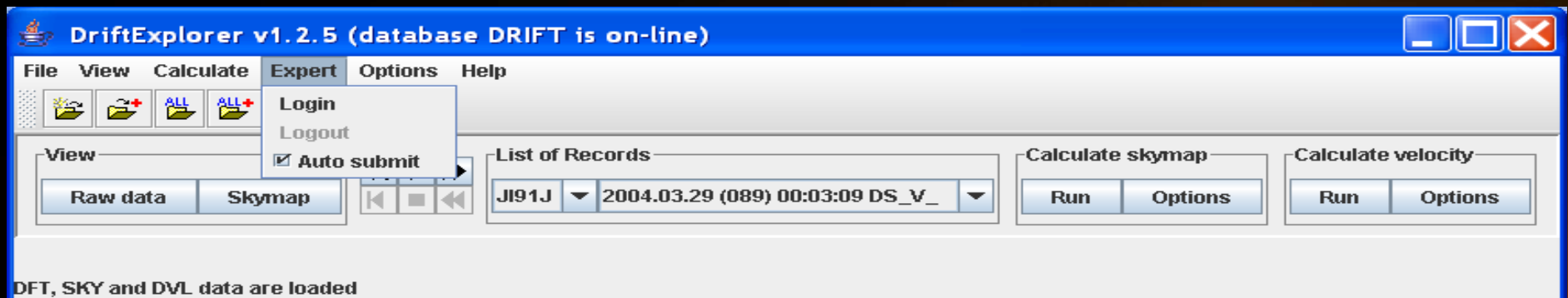
Menu View



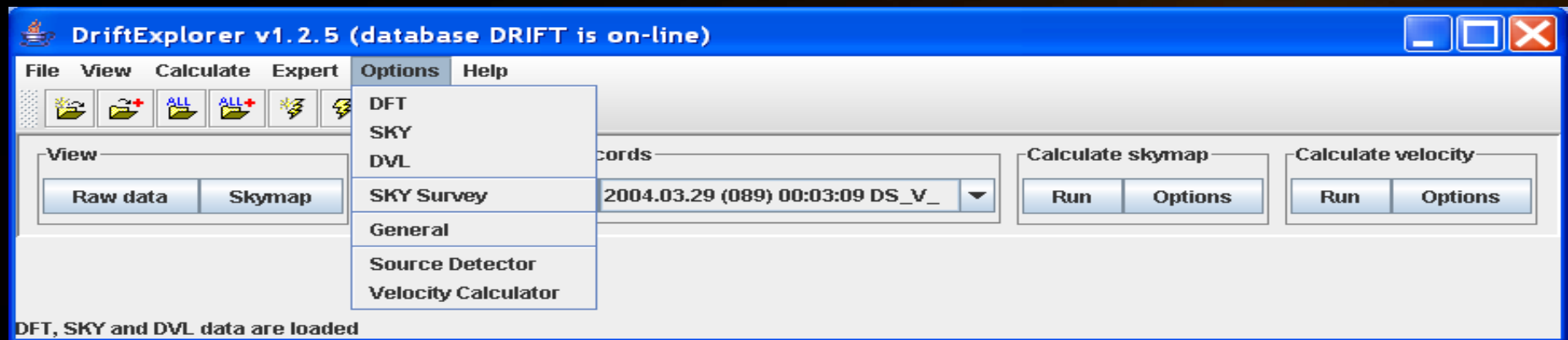
Menu Calculate



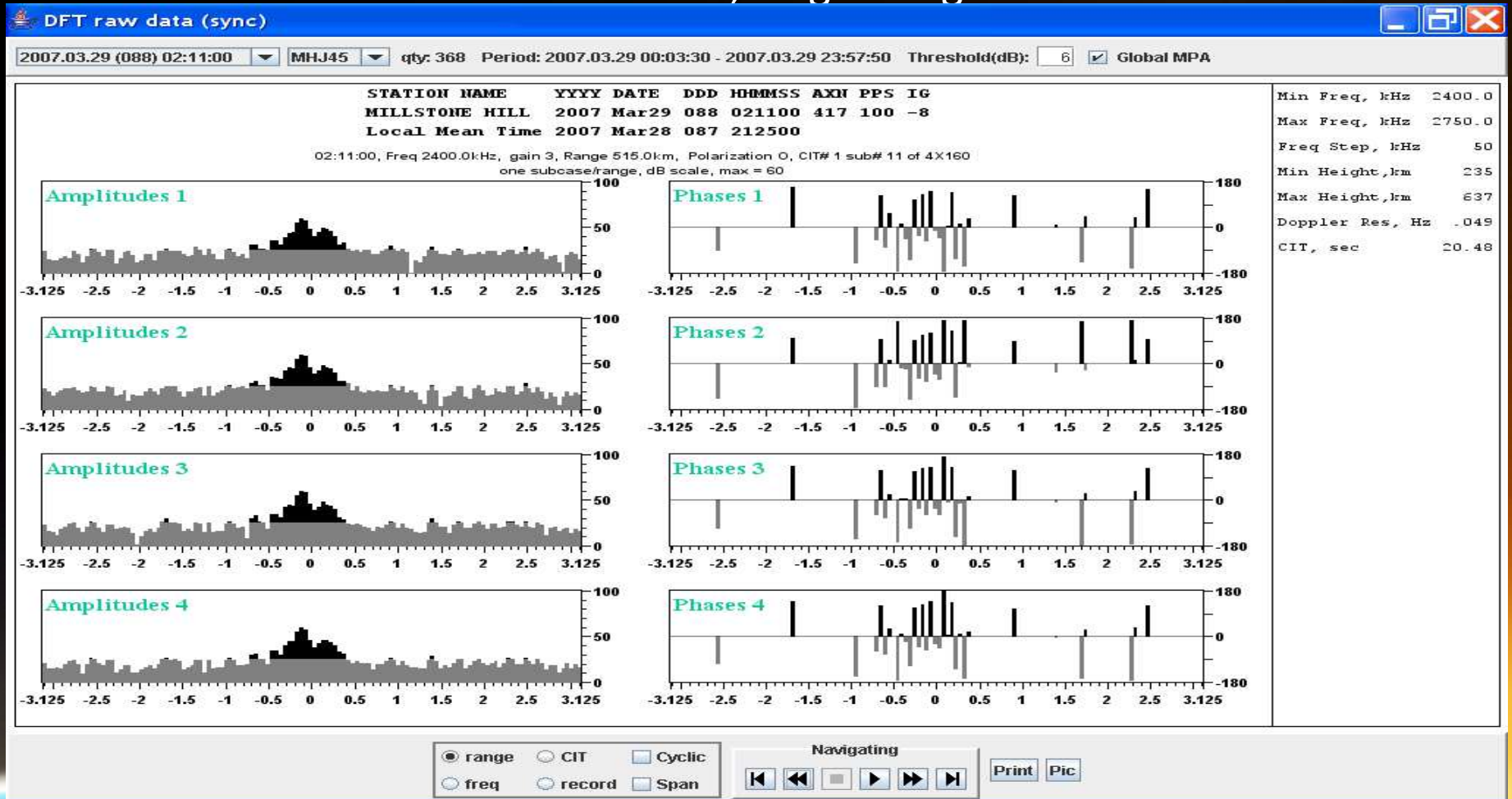
Menu Expert



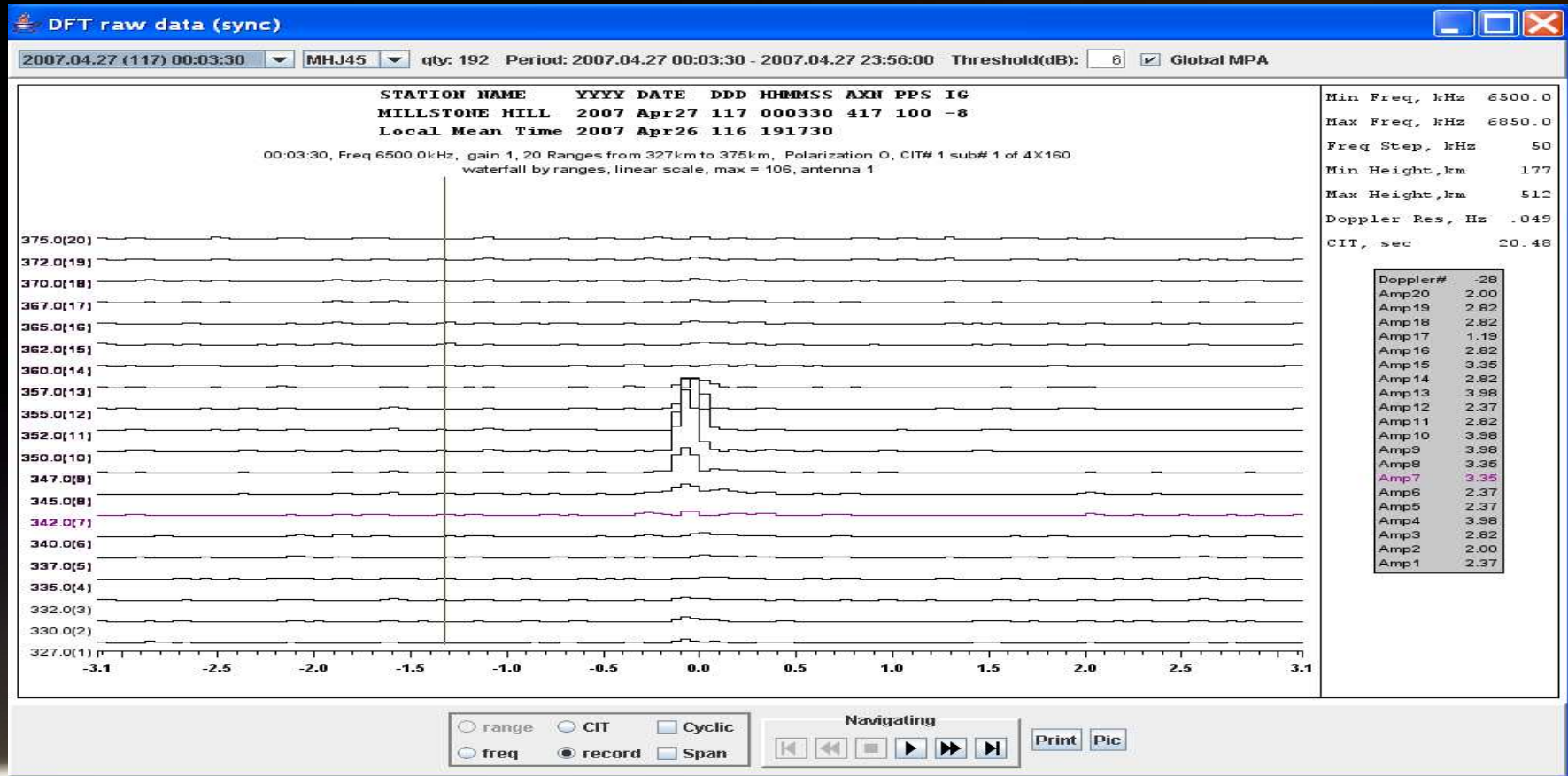
Menu Options



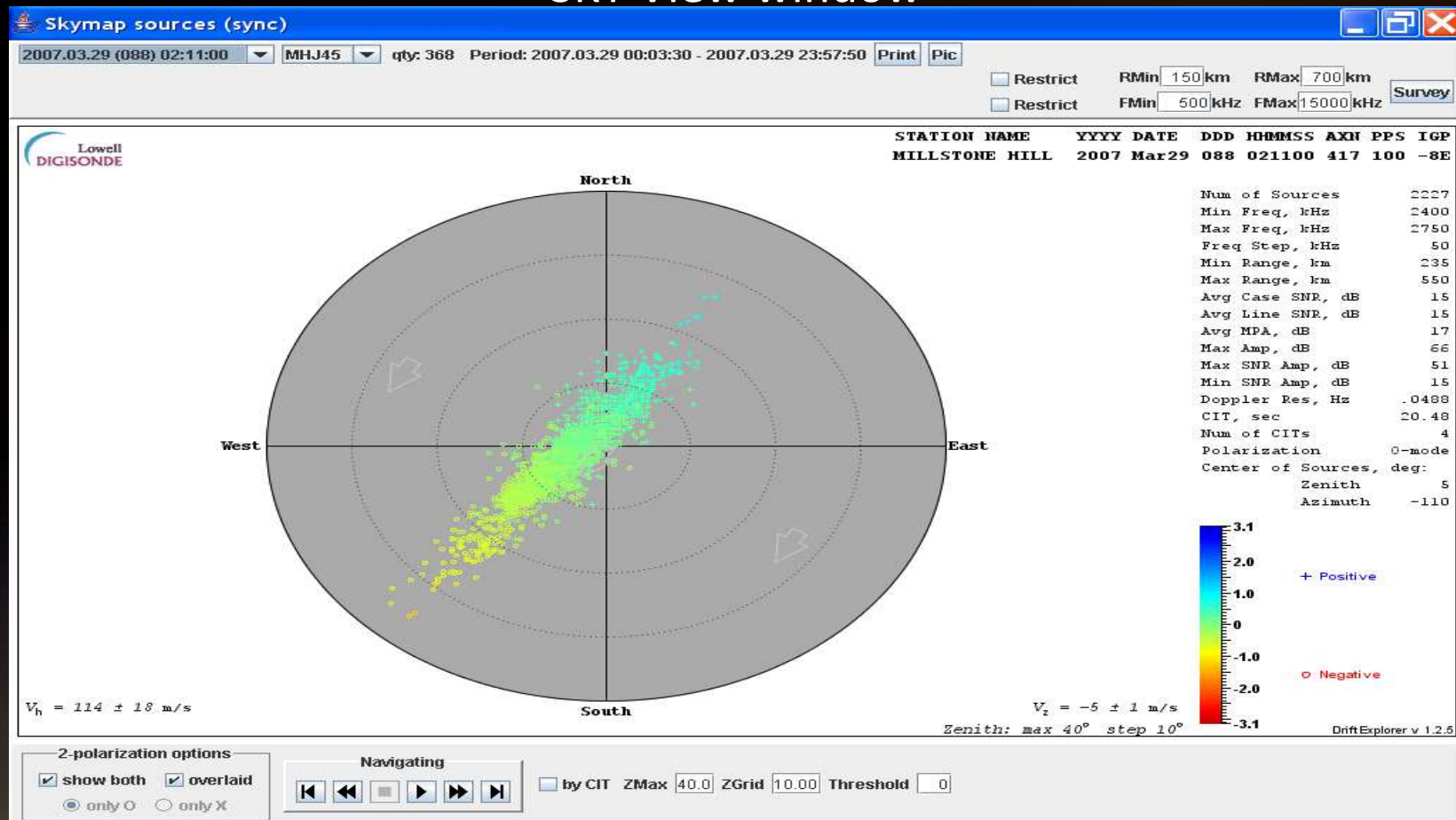
DFT View, single range



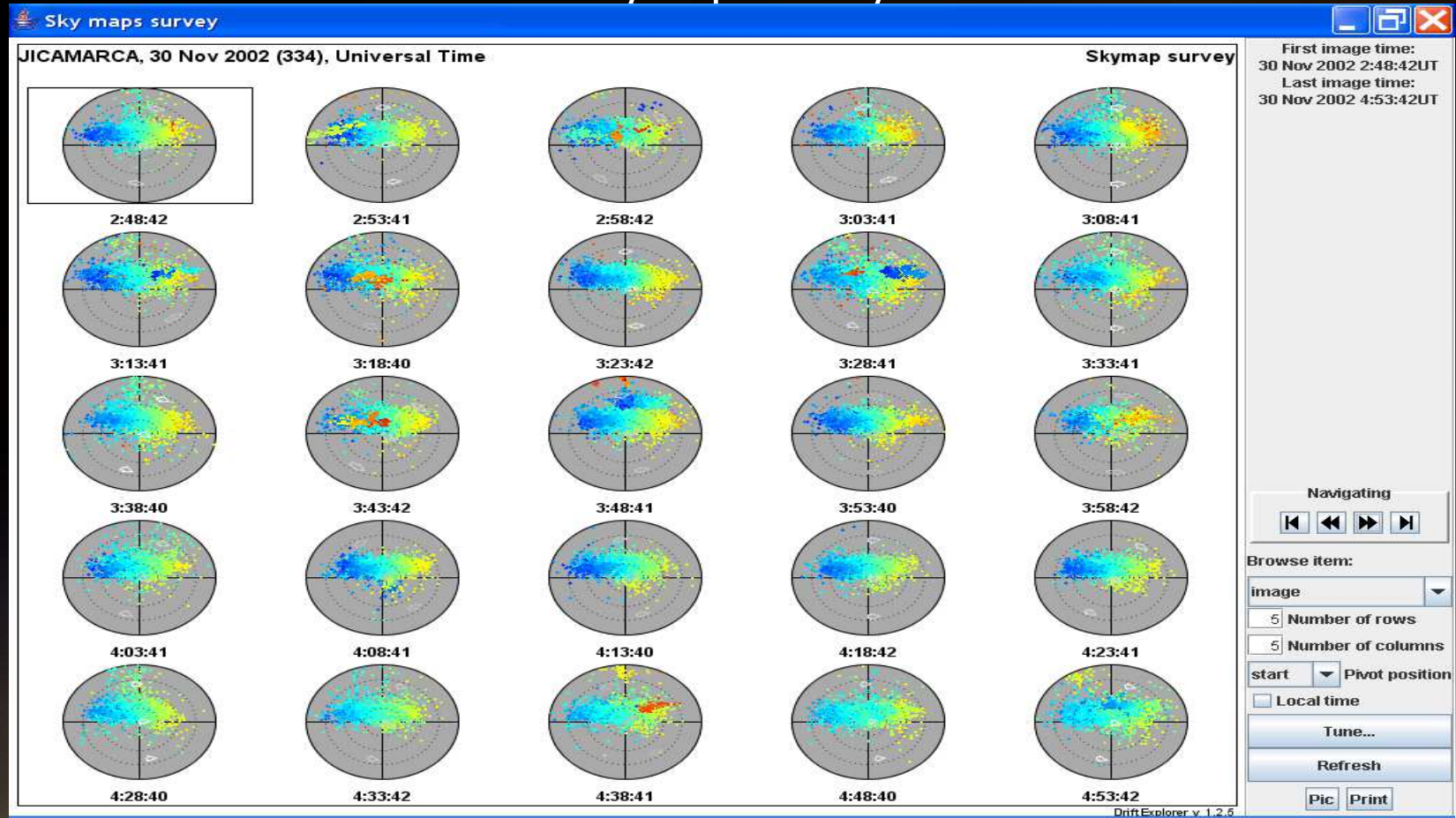
DFT View, waterfall



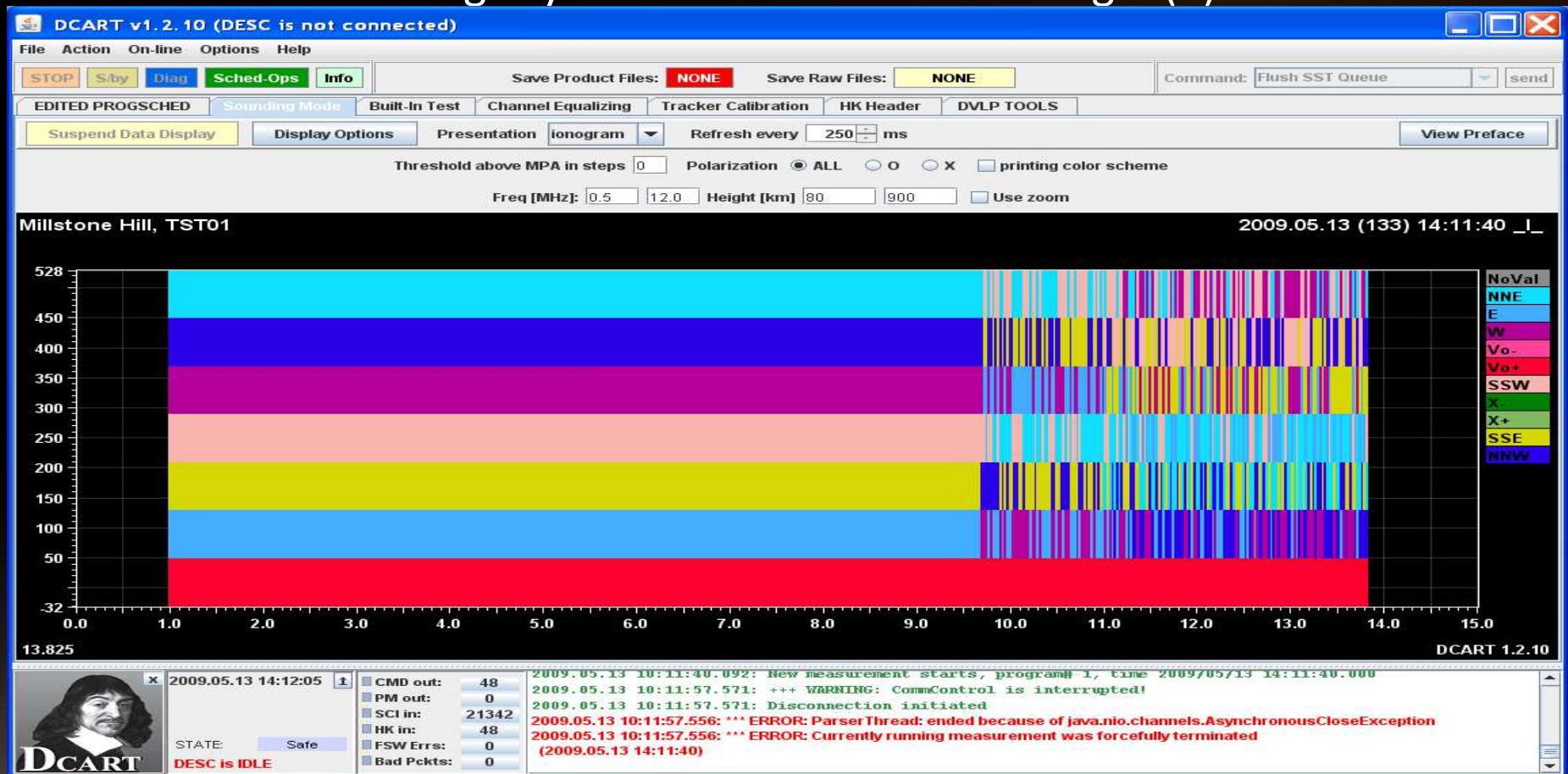
SKY View window



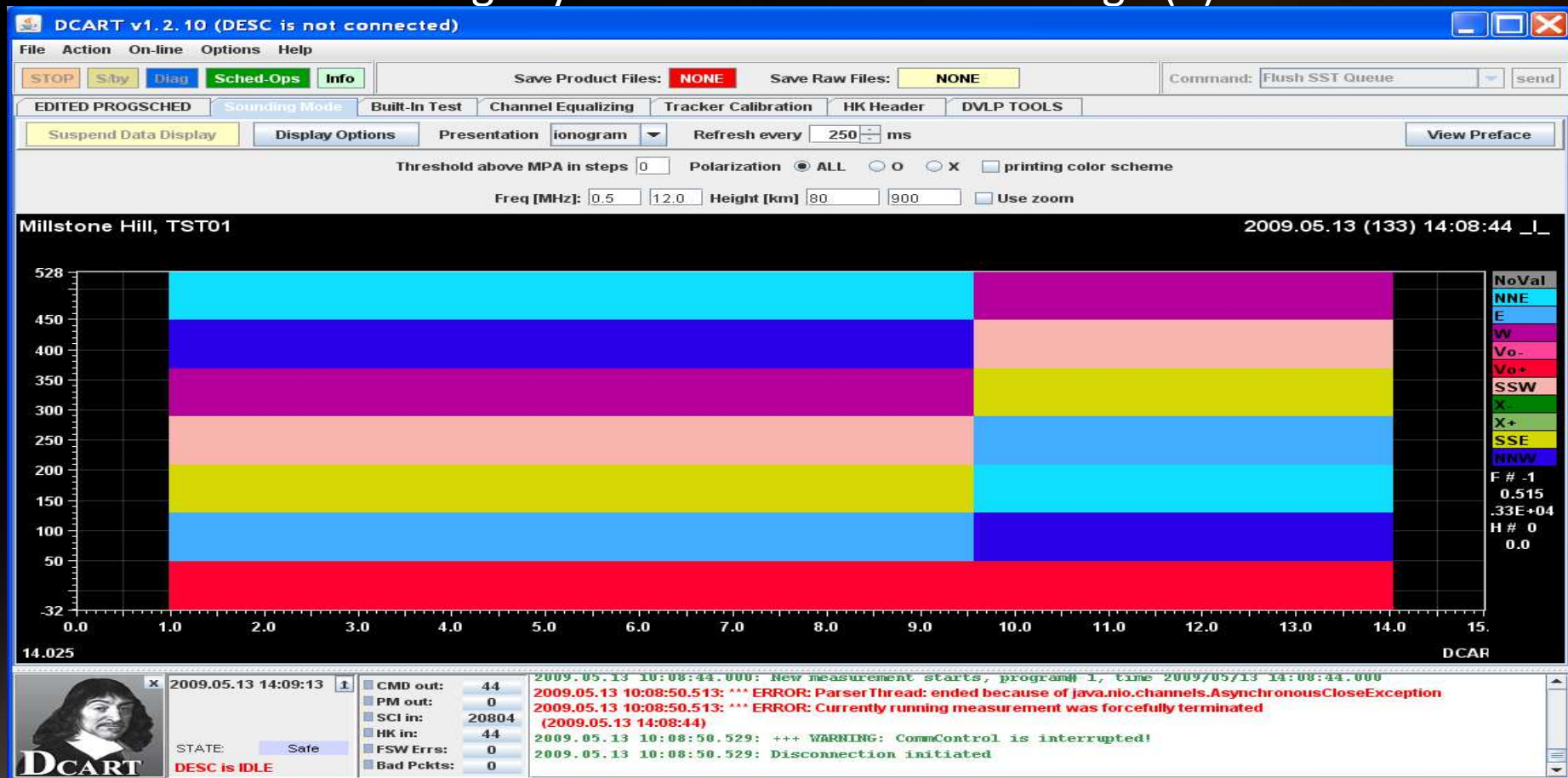
Skymap Survey



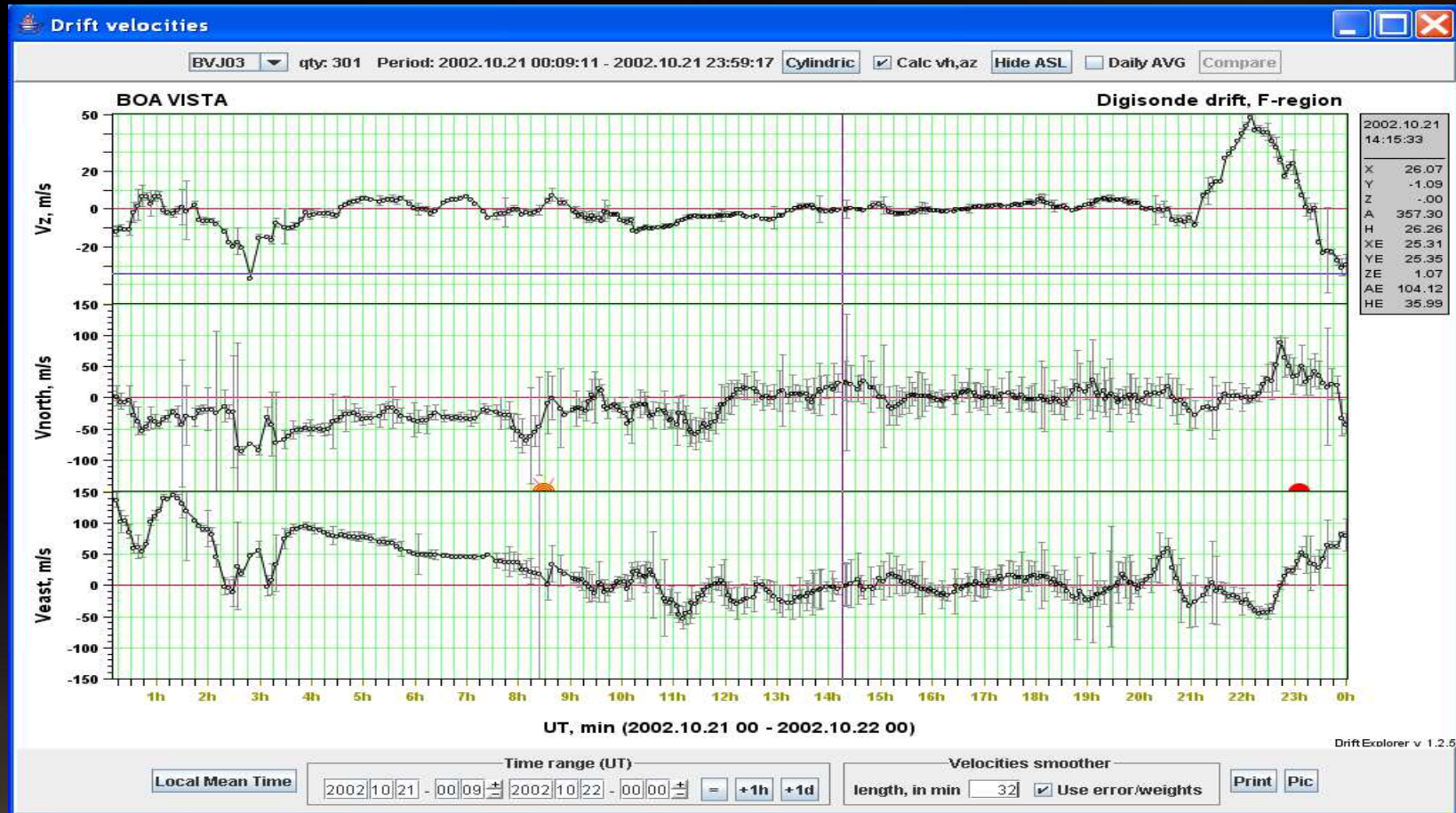
Ambiguity in calculation of arrival angle (1)



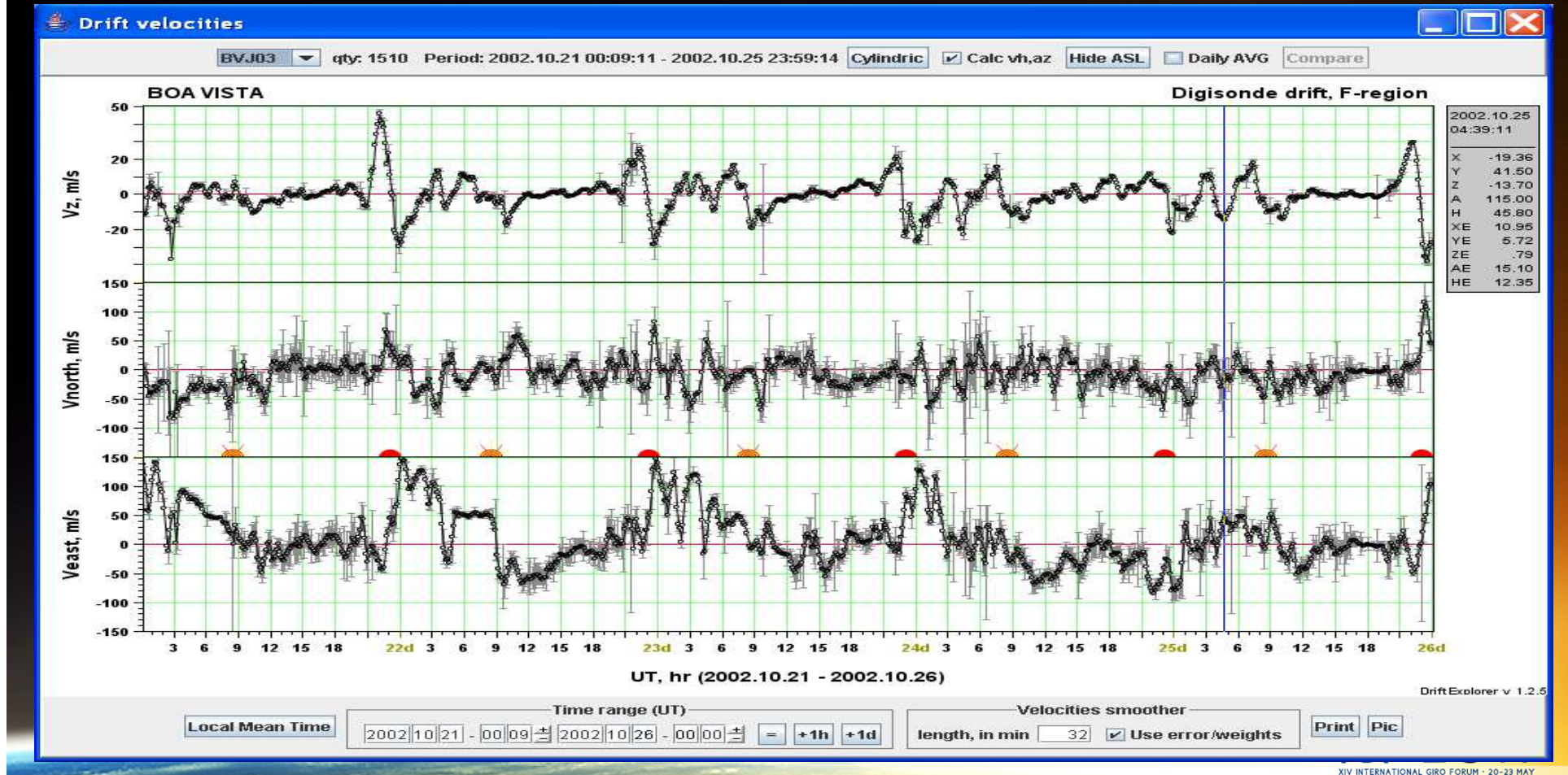
Ambiguity in calculation of arrival angle(2)



DVL View BoaVista 1



DVL View BoaVista 5 days



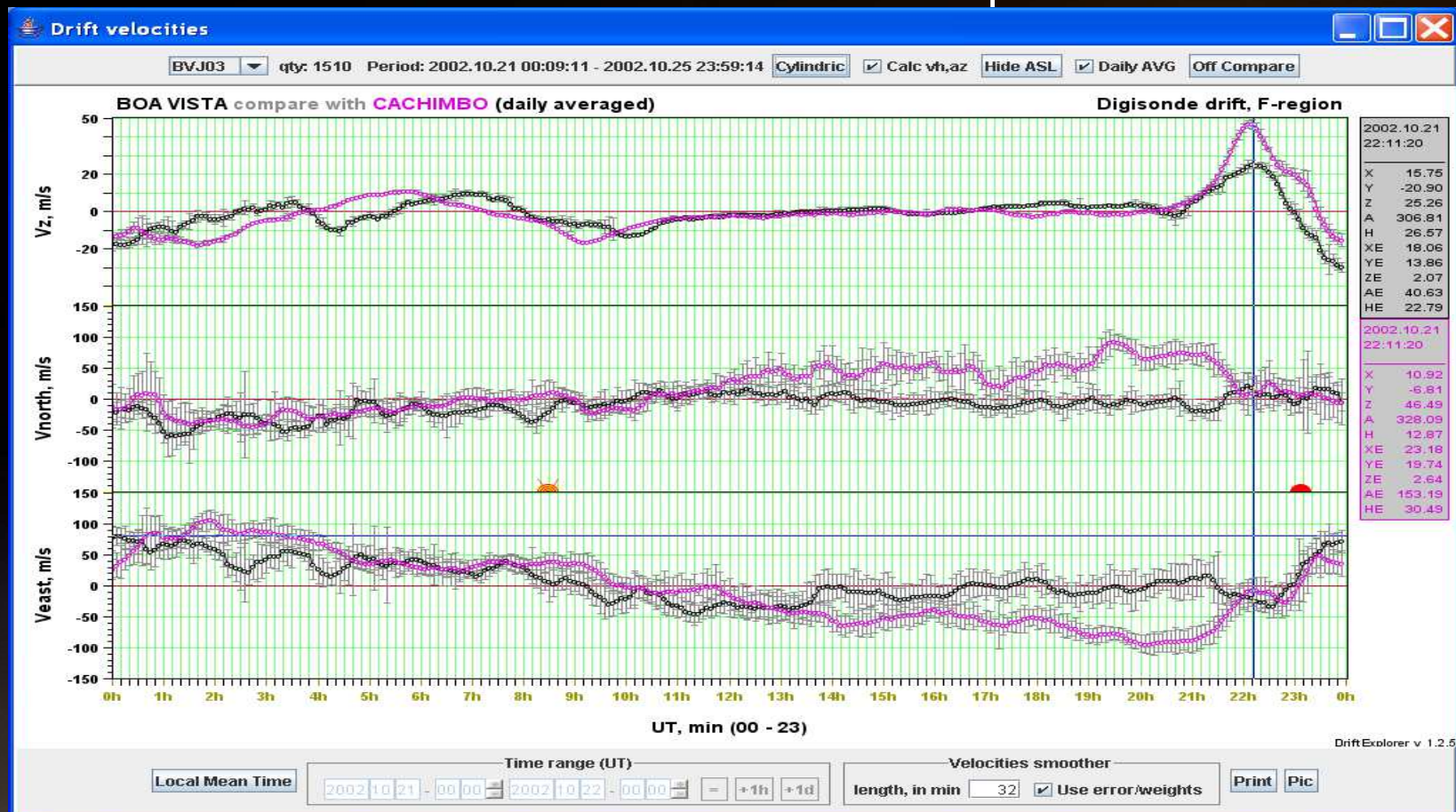
DVL View BoaVista av 1



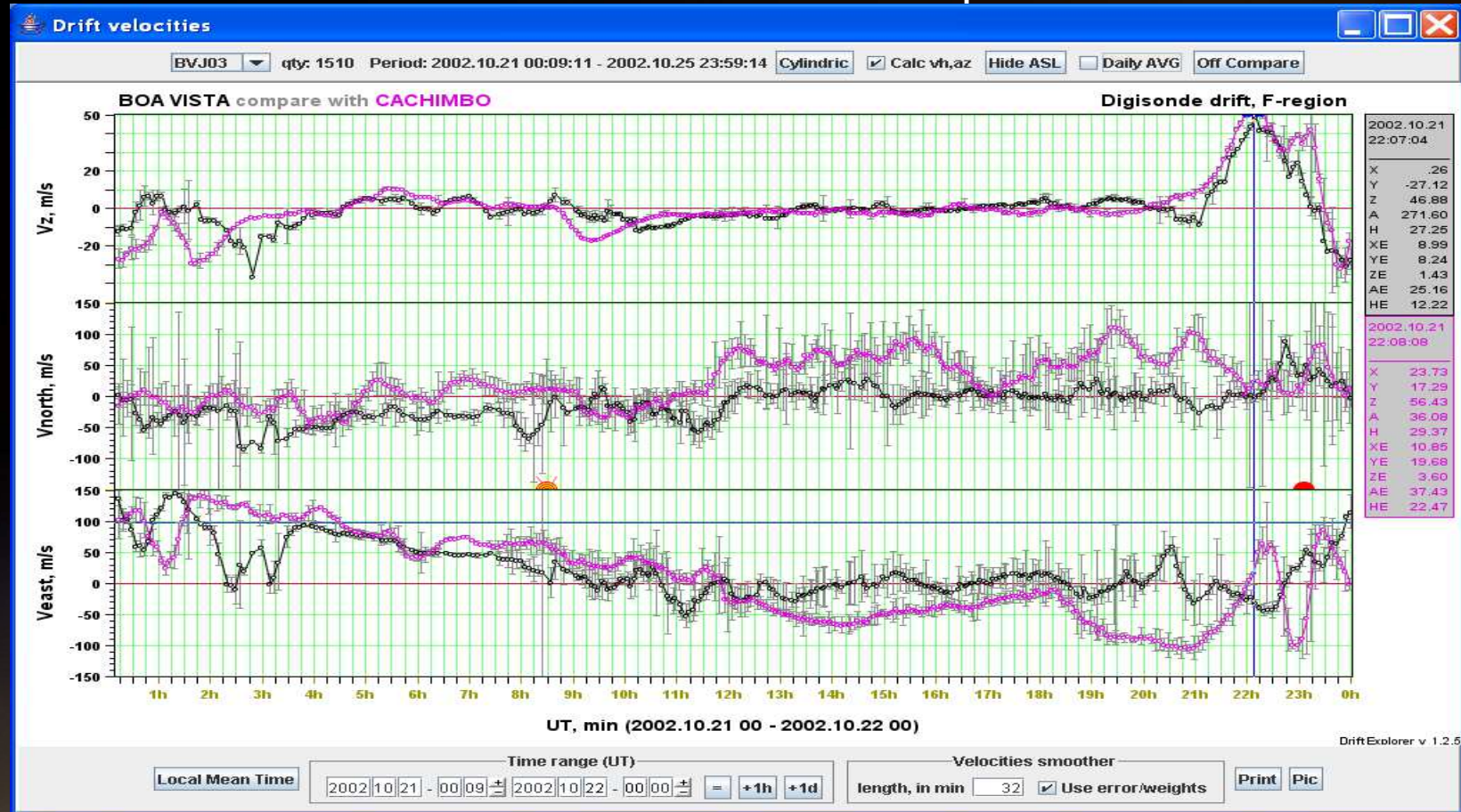
DVL View BoaVista av 2



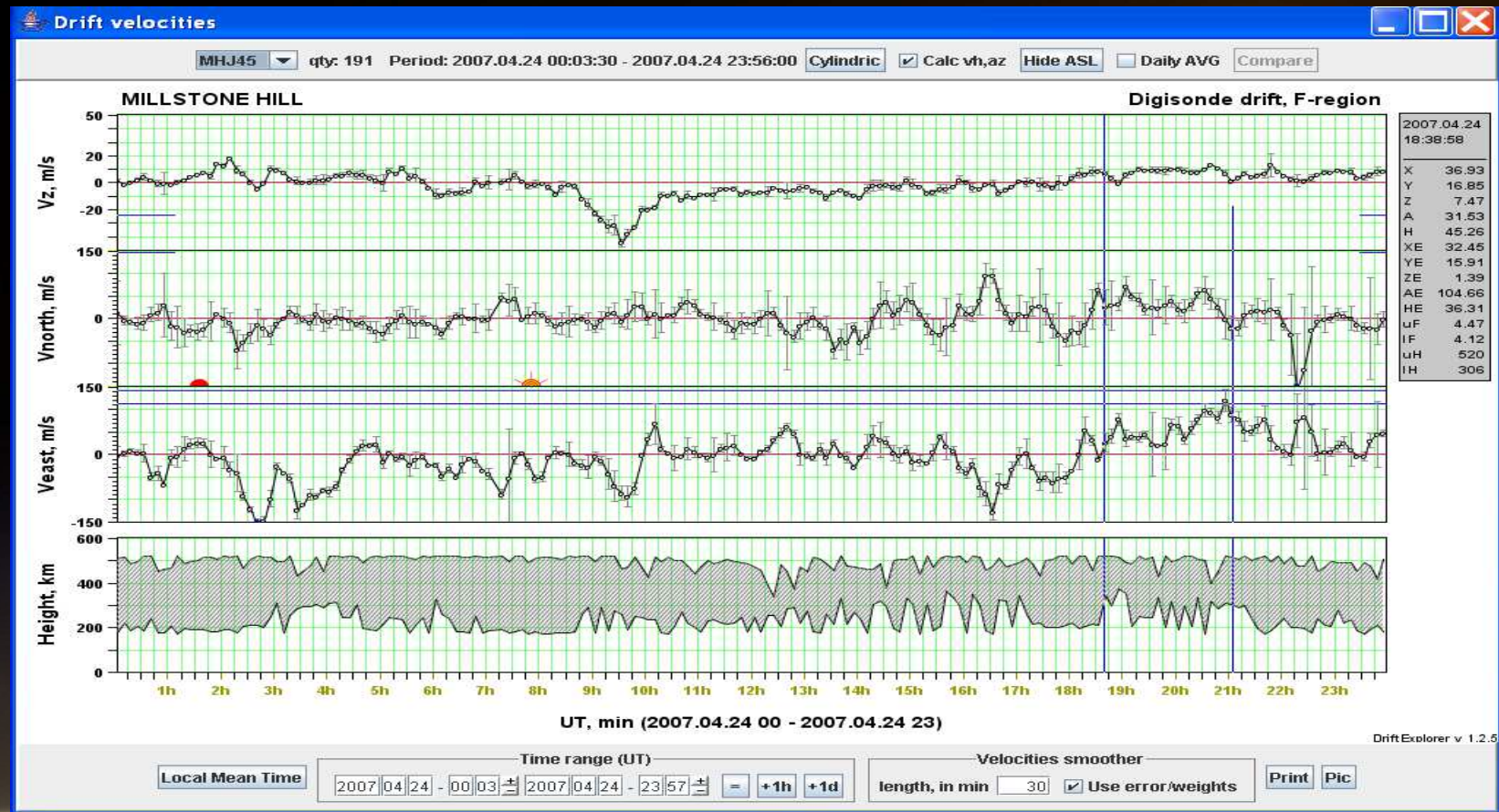
DVL View BoaVista av cmp



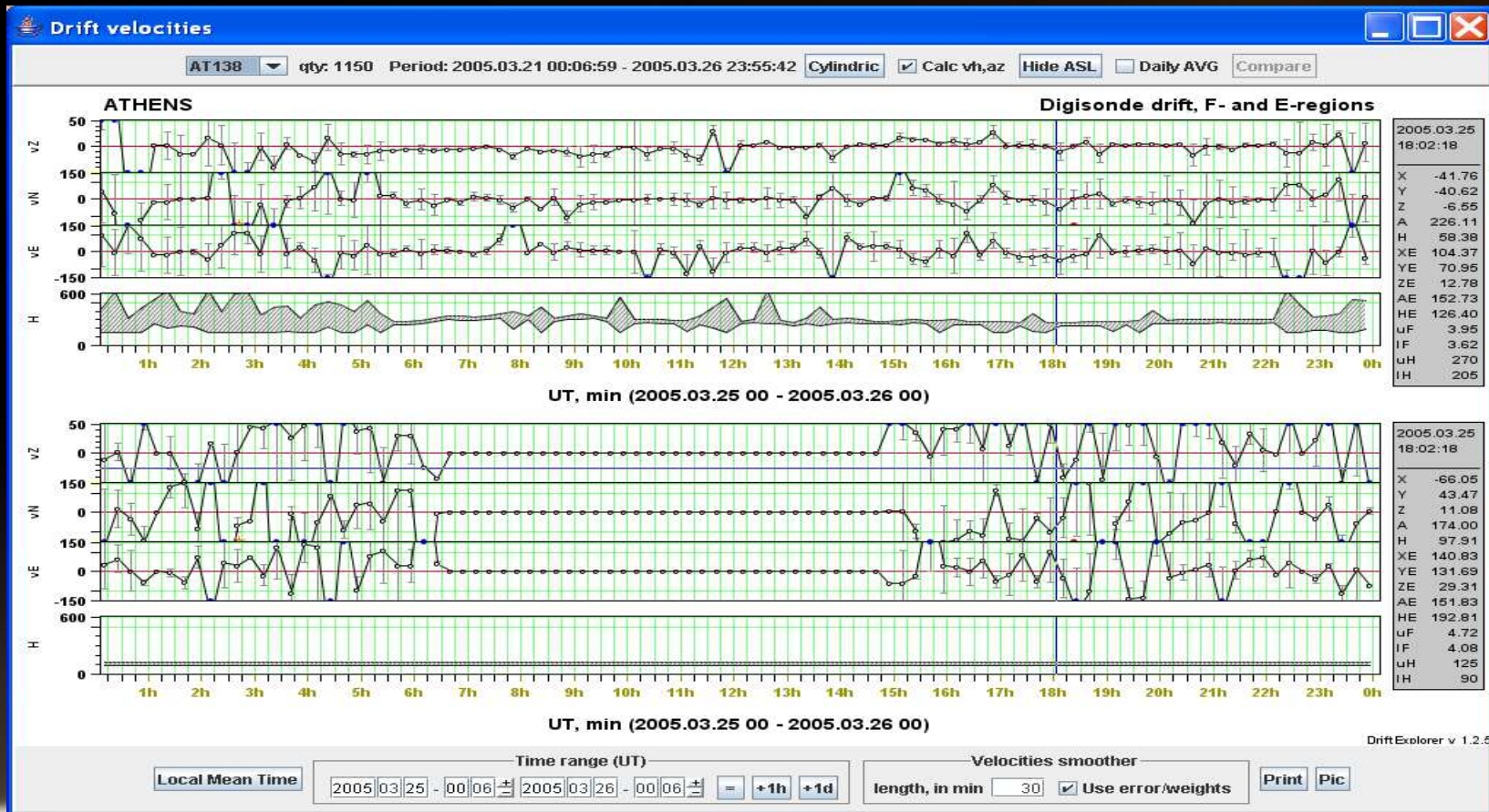
DVL View BoaVista cmp



DVL Millstone Hill, height range



DVL Athens, F and E layers



DFT Options Dialog

DFT Options [X]

☒ Printer color scheme
☐ Linear scale
single range [v] Presentation
☒ Global MPA
☒ Show title
☒ Show interior plot annotation
☒ Show info lines
☐ Local time for date/time range panel
☒ Show instant values
☐ Span over record boundary
☐ Show empty subcases
☐ Show null subcases

☐ Show header
☐ Show all doppler phases
1st [v] antenna for waterfall
6 Threshold
☒ Show local time
☒ Foreground interior plot annotation
☐ Show logotype
Local Mean Time [v] Local Time types
☒ Show cross-hair doppler line
☐ Cyclic behaviour
record [v] Browsing mode
☒ Presentation quality

2-polarization options
☒ show both interlacing
through **range** [v]
☒ only O ☐ only X

Save Picture Options
Width 800 XScale 1.00 Keep ratio ☒ Format **PNG** [v]
Height 600 YScale 1.00 Quality ☒ Use fixed sizes ☐
Millisec per frame 200 Max. days displayed 1

OK Cancel

SKY Options Dialog

SKY Options [X]

Image Options

☒ Printer color scheme
☒ Use Color Scale
☐ Use only strong sources
☐ Show local time
☒ Show color legend
☒ Show logotype
☒ Show Max Zenith
☒ Show frame
☒ Show velocity
☒ Presentation Quality

☐ Show amplitude
☒ Grey sky
☒ Show title
☒ Show info lines
 Circle diameter
☐ Show type of coordinates
☒ Show directions
☒ Show version
Local Mean Time [v] Local Time types

Color Scale options

Fix Doppler Scale Range ☐ Fix Amp Scale Range ☐
Doppler range, Hz Amp range, Hz

2-polarization options

☒ show both ☒ overlaid
☒ only O ☐ only X

Velocity options

☒ Show H-comp arrow m/s per 1 deg for H ☒ Show H-comp value ☐ Smoothed H-comp
☐ Show Z-comp arrow m/s per 1 deg for Z ☒ Show Z-comp value ☐ Smoothed Z-comp

Save Picture Options

Width XScale Keep ratio ☒ Format
Height YScale Quality ☒ Use fixed sizes ☐

Amp threshold Zenith Max Zenith grid step

Other Options

☐ Show header ☐ Local time for date/time range panel
 Max. days Millisec per frame

OK Cancel

SKY Survey Options Dialog

SKY Survey Options

Common Options

Number of rows: 5 Number of columns: 5
Pivot position: start Local time: ☐

Image Options

☒ Printer color scheme ☐ Show amplitude
☒ Use Color Scale ☒ Grey sky
☐ Use only strong sources ☐ Show title
☐ Show local time ☐ Show info lines
☐ Show color legend Circle diameter
☐ Show logotype ☐ Show type of coordinates
☐ Show Max Zenith ☐ Show directions
☐ Show frame ☐ Show version
☒ Show velocity Local Mean Time Local Time types
☒ Presentation Quality

Color Scale options

Fix Doppler Scale Range ☐ Fix Amp Scale Range ☐
Doppler range, Hz: 6.0 Amp range, Hz: 50

2-polarization options

☒ show both ☒ overlaid
☐ only O ☐ only X

Velocity options

☒ Show H-comp arrow 20 m/s per 1 deg for H ☐ Show H-comp value ☐ Smoothed H-comp
☐ Show Z-comp arrow 5 m/s per 1 deg for Z ☐ Show Z-comp value ☐ Smoothed Z-comp

Save Picture Options

Width: 600 XScale: 1.00 Keep ratio: ☒ Format: PNG
Height: 600 YScale: 1.00 Quality: ☒ Use fixed sizes: ☐
Amp threshold: 0 Zenith Max: 40.0 Zenith grid step: 10.00

OK Cancel

DVL Options Dialog

DVL Options

<input checked="" type="checkbox"/> Printer color scheme	<input type="checkbox"/> Local time	<input checked="" type="checkbox"/> Show sunrise/sunset	<input checked="" type="checkbox"/> Cartesian
<input checked="" type="checkbox"/> Cal vh, az	<input checked="" type="checkbox"/> Anti-sunward line	<input checked="" type="checkbox"/> Show error bars	<input checked="" type="checkbox"/> Show out of range cases
<input type="checkbox"/> Show coordinates type	<input type="text" value="4"/> Circle diameter	<input type="checkbox"/> Fill circles	<input checked="" type="checkbox"/> Connect circles
<input type="text" value="3"/> Connection factor	<input type="checkbox"/> force MPI value	<input type="text" value="5"/> Forced MPI (in min)	<input checked="" type="checkbox"/> Show V-East/V-azimuth plot
<input checked="" type="checkbox"/> Show V-Nort/V-horizontal plot	<input checked="" type="checkbox"/> Show V-vertical plot	Show region(s):	Local Time type:
<input type="checkbox"/> Show height plot	<input type="text" value="150"/> Max E-region height (in km)	<input type="text" value="measured"/> ▼	<input type="text" value="Local Mean Time"/> ▼
<input type="checkbox"/> Show frequency plot	<input checked="" type="checkbox"/> Show time axes	<input checked="" type="checkbox"/> Show extra time axes	<input type="checkbox"/> Show time in title
<input checked="" type="checkbox"/> Show value axes	<input checked="" type="checkbox"/> Show value label	<input checked="" type="checkbox"/> Show title	<input checked="" type="checkbox"/> Show plot grid
<input type="checkbox"/> Show logotype	<input checked="" type="checkbox"/> Show version	<input checked="" type="checkbox"/> Show cross-hair time line	<input checked="" type="checkbox"/> Show cross-hair value line
<input type="checkbox"/> Stick to exact measurement	<input checked="" type="checkbox"/> Show instant values	<input type="checkbox"/> Show entries	<input checked="" type="checkbox"/> Presentation quality

Height max <input type="text" value="600"/>	Velocity ranges		Time Axis	
Freq max <input type="text" value="10.0"/>	Vel East m/s <input type="text" value="150"/>	Vel Vert m/s <input type="text" value="50"/>	<input type="checkbox"/> Force Time Measure	<input checked="" type="checkbox"/> Use rollover notation
	Vel North m/s <input type="text" value="150"/>	Vel Hrzn m/s <input type="text" value="500"/>	<input type="text" value="hour"/> ▼	<input checked="" type="checkbox"/> Show time label

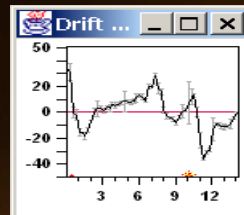
Velocity Tolerable errors			
Vel East m/s <input type="text" value="5.0"/>	Vel Hrzn m/s <input type="text" value="7.0"/>		
Vel North m/s <input type="text" value="5.0"/>	Vel Azim deg <input type="text" value="9.0"/>		
Vel Vert m/s <input type="text" value="3.0"/>			

Save Picture Options				Mag. Latitude Options	
Width <input type="text" value="800"/>	Height multiplier <input type="text" value="2.0"/>	XScale <input type="text" value="1.00"/>	Keep ratio <input checked="" type="checkbox"/>	Format <input type="text" value="PNG"/> ▼	High latitude <input type="text" value="60"/>
Height <input type="text" value="600"/>		YScale <input type="text" value="1.00"/>	Quality <input checked="" type="checkbox"/>	Use fixed sizes <input type="checkbox"/>	Low latitude <input type="text" value="30"/>

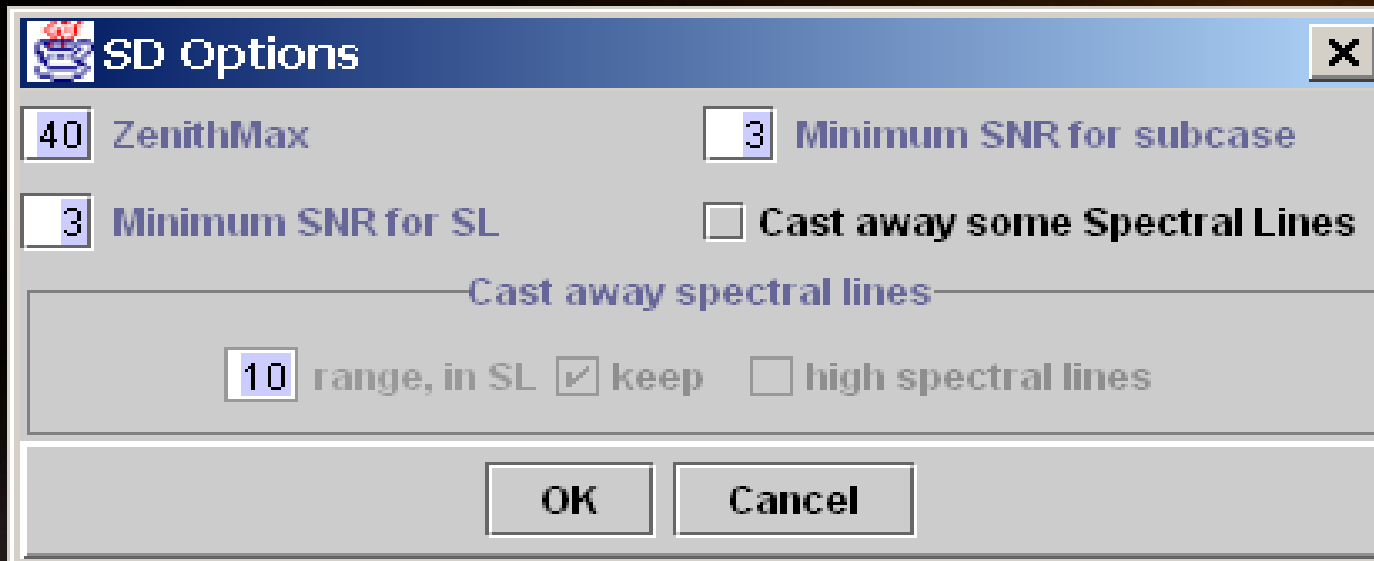
Velocities smoother		When station selected	
smoothing window length, in min <input type="text" value="30"/>		Max. days displayed <input type="text" value="1"/>	
<input checked="" type="checkbox"/> Use error/weights		<input type="checkbox"/> Show full days	

OK Cancel

DVL View Jicamarca small



Source Detector Options Dialog



The dialog box is titled "SD Options" and features a close button (X) in the top right corner. It contains several input fields and checkboxes. The "ZenithMax" field is set to 40, and the "Minimum SNR for subcase" field is set to 3. The "Minimum SNR for SL" field is set to 3, and the "Cast away some Spectral Lines" checkbox is unchecked. A section titled "Cast away spectral lines" contains a field set to 10, followed by the text "range, in SL". Below this, there are two checkboxes: "keep" (checked) and "high spectral lines" (unchecked). At the bottom, there are "OK" and "Cancel" buttons.

SD Options

ZenithMax Minimum SNR for subcase

Minimum SNR for SL ☐ Cast away some Spectral Lines

Cast away spectral lines

range, in SL ☒ keep ☐ high spectral lines

OK Cancel

Velocity Calculator Options Dialog

Velocity Calculator Options

ZenithMax ☐ Use Zenith Max from Skymap

Min range Max range

Min No of Sources ☒ Divide Weight Factor by RMS

☐ Cast away some Spectral Lines

Cast away spectral lines

range, in SL ☒ keep ☐ high spectral lines

Weight Factor:

Sources Sorting Order:

Freq-Range Binning:

Vr Source Filtering:

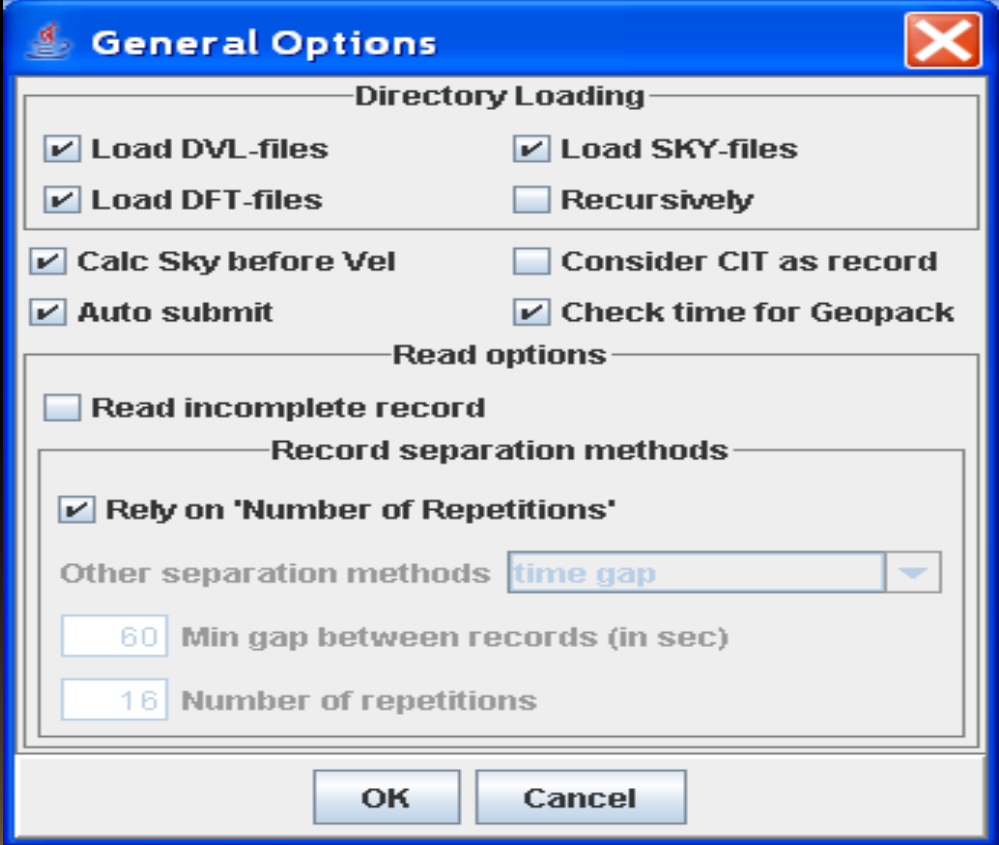
Subcase SNR Minimum Signal

Positional Error ☐ Use Maximum Positional Error

How far below peak, dB ☐ Use 'How Far Below Peak'

Max Radial Velocity Error, m/s ☐ Use Maximum Radial Velocity Error

General Options Dialog



The image shows a Windows-style dialog box titled "General Options" with a blue title bar and a red close button. The dialog is divided into several sections. The "Directory Loading" section contains four checkboxes: "Load DVL-files" (checked), "Load SKY-files" (checked), "Load DFT-files" (checked), and "Recursively" (unchecked). Below this is another set of checkboxes: "Calc Sky before Vel" (checked), "Consider CIT as record" (unchecked), "Auto submit" (checked), and "Check time for Geopack" (checked). The "Read options" section has a single checkbox "Read incomplete record" which is unchecked. The "Record separation methods" section contains a checked checkbox "Rely on 'Number of Repetitions'", a dropdown menu for "Other separation methods" currently showing "time gap", a text input field with "60" for "Min gap between records (in sec)", and a text input field with "16" for "Number of repetitions". At the bottom are "OK" and "Cancel" buttons.

General Options

Directory Loading

- ☒ Load DVL-files
- ☒ Load SKY-files
- ☒ Load DFT-files
- ☐ Recursively

☒ Calc Sky before Vel

☐ Consider CIT as record

☒ Auto submit

☒ Check time for Geopack

Read options

- ☐ Read incomplete record

Record separation methods

- ☒ Rely on 'Number of Repetitions'

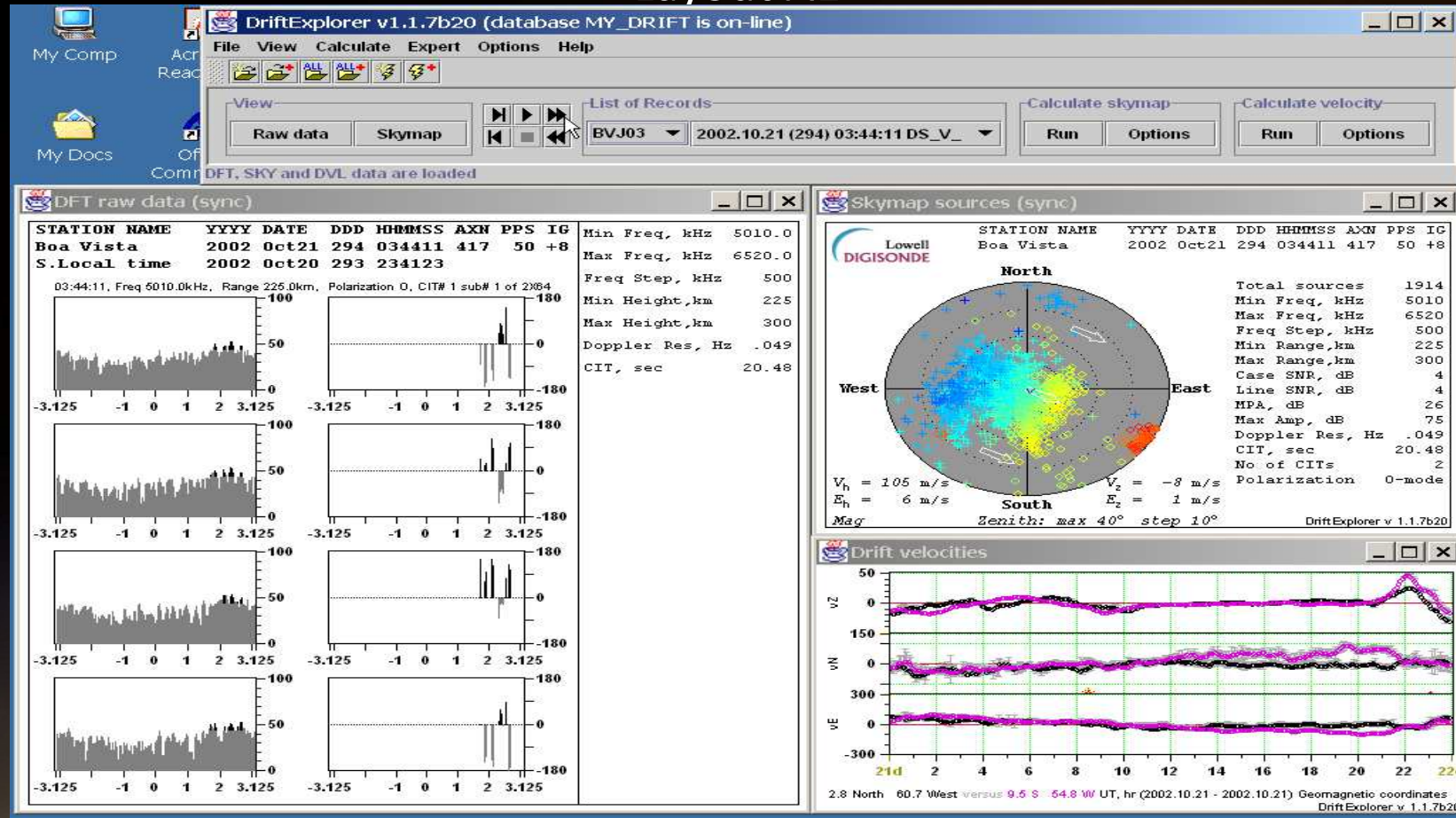
Other separation methods:

Min gap between records (in sec)

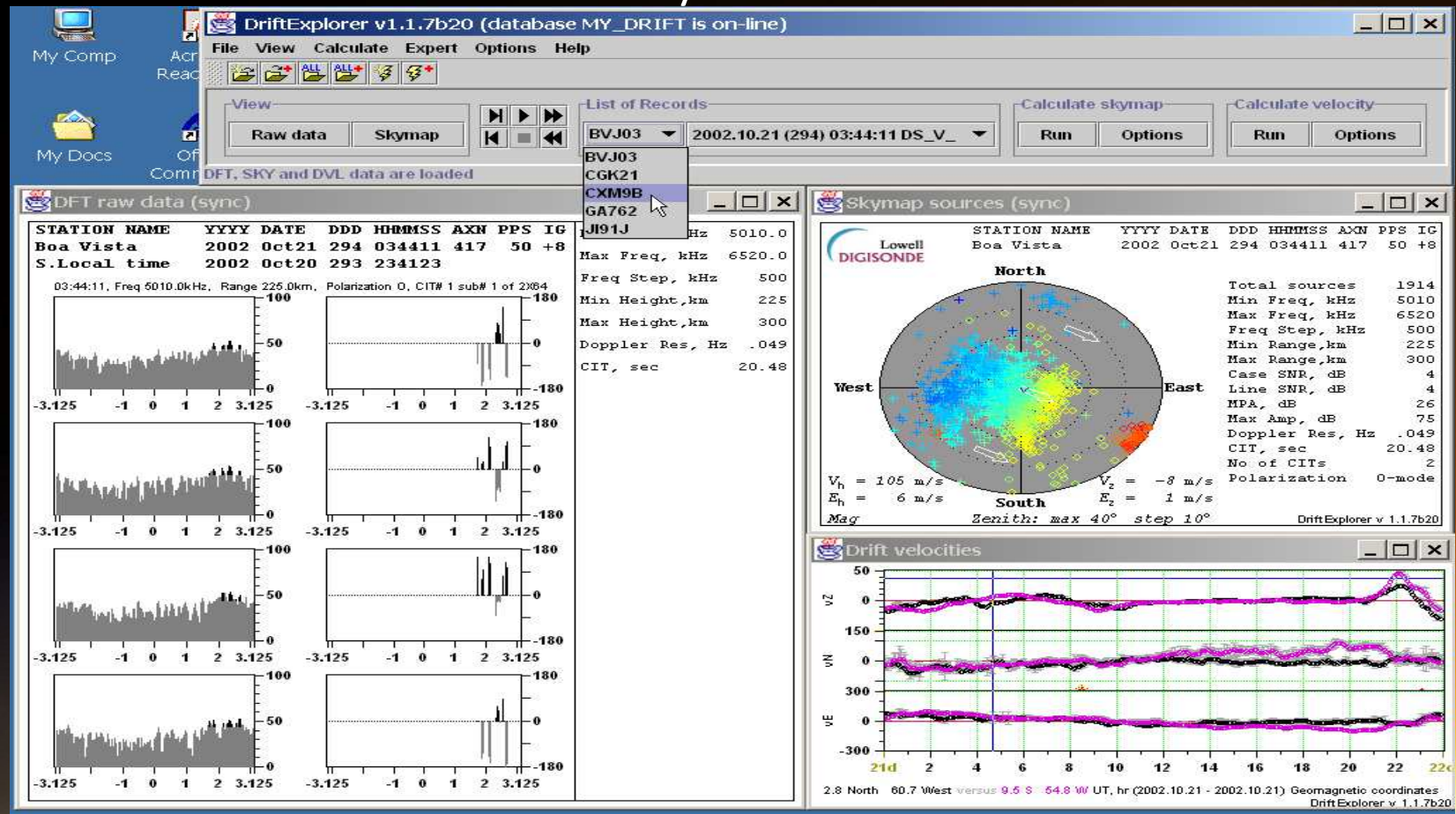
Number of repetitions

OK Cancel

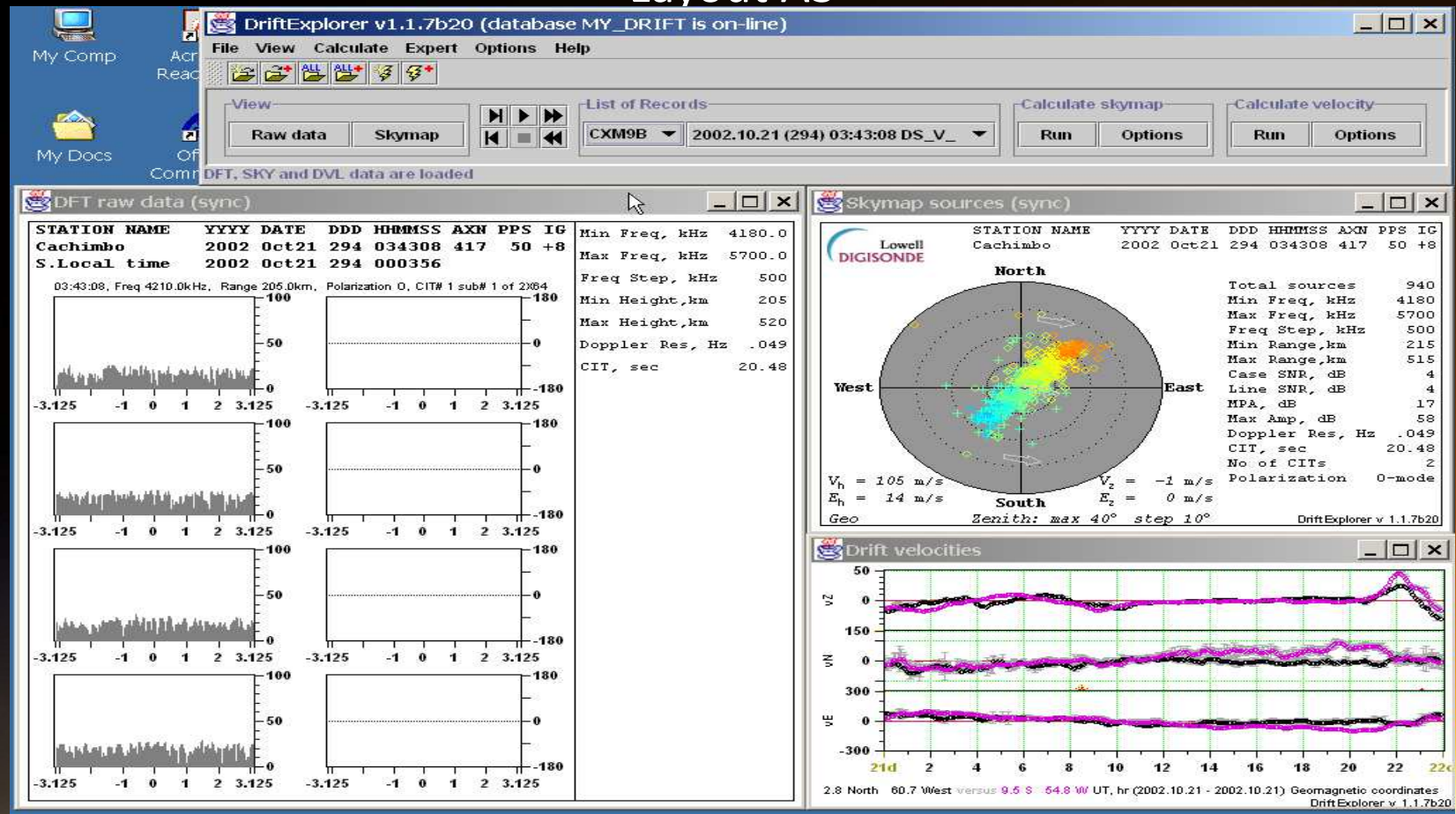
Layout A1



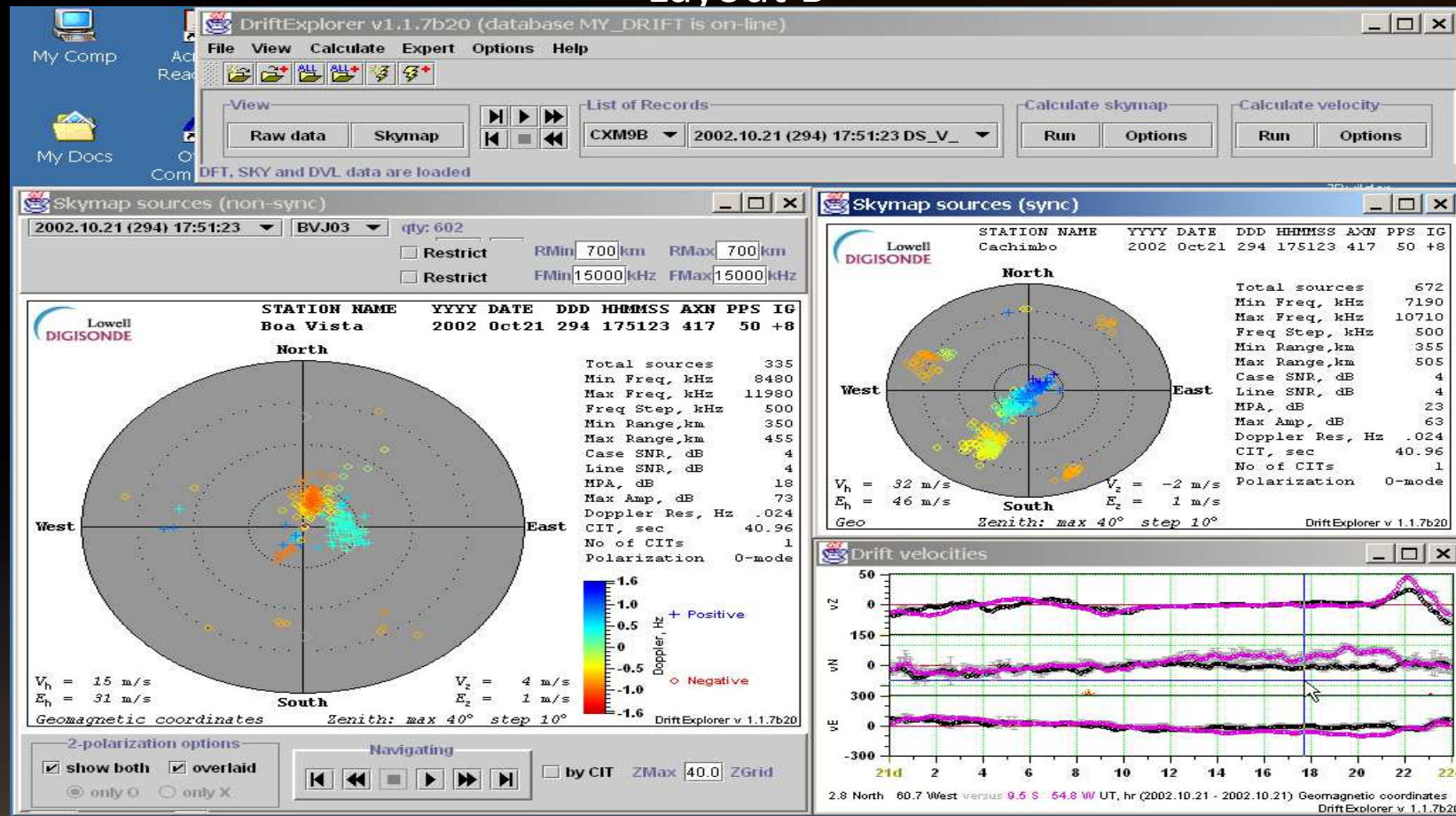
Layout A2



Layout A3



Layout B



Connect Dialog

Connecting to DFDB

Connection property editor

Alias:

Database URL:

User name:



Password:

List of Databases



DRIFT (DRIFT) 129.63.134.45//ext2/db/ib/dfdb
NONE ()
NONE ()
NONE ()
NONE ()
NONE ()

Status: tried to connect to DRIFT



Query Dialog

 **Query dialog** 

Time Interval, UT

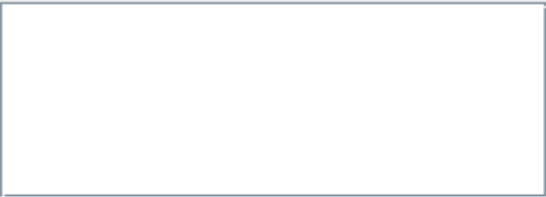


from 2002 10 21 - 00 00  to 2002 10 26 - 00 00  = +1h +1d

Data source





CXM9B CACHIMBO 2002.09.28 2002.12.10  



☐ Load multiple stations ☐ Load all stations

Stations selected for loading

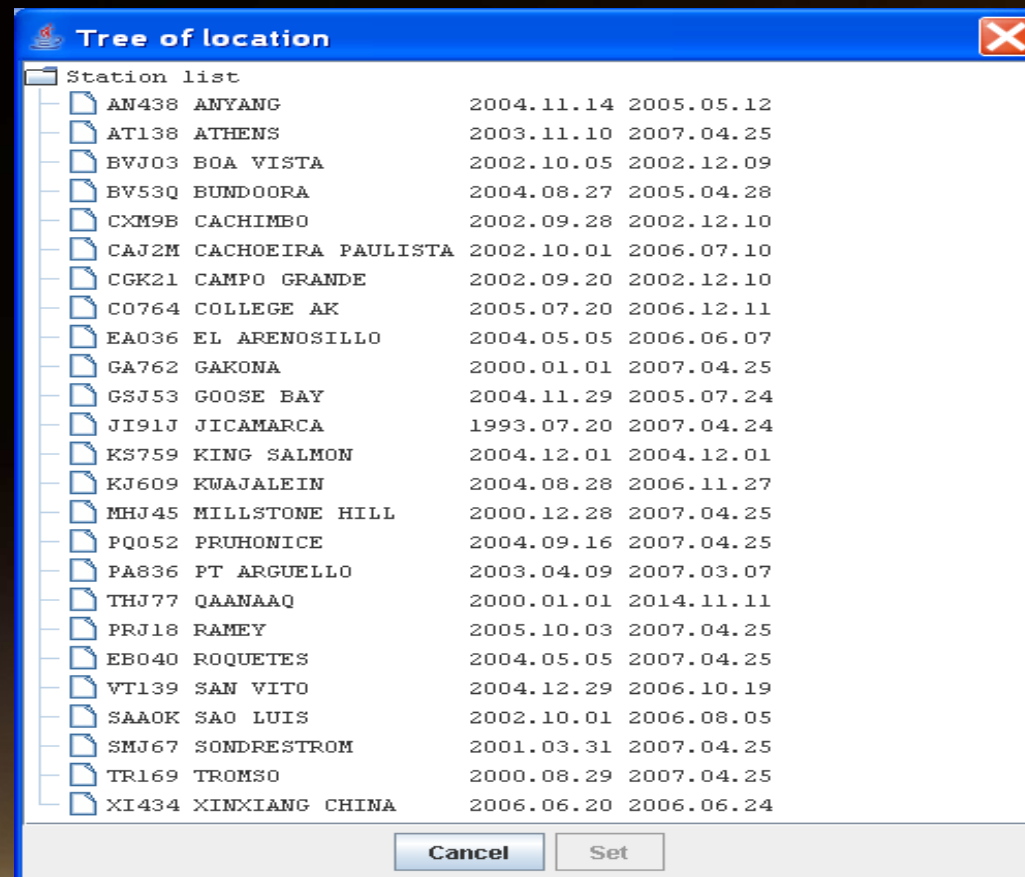
  

DFDB Inventory

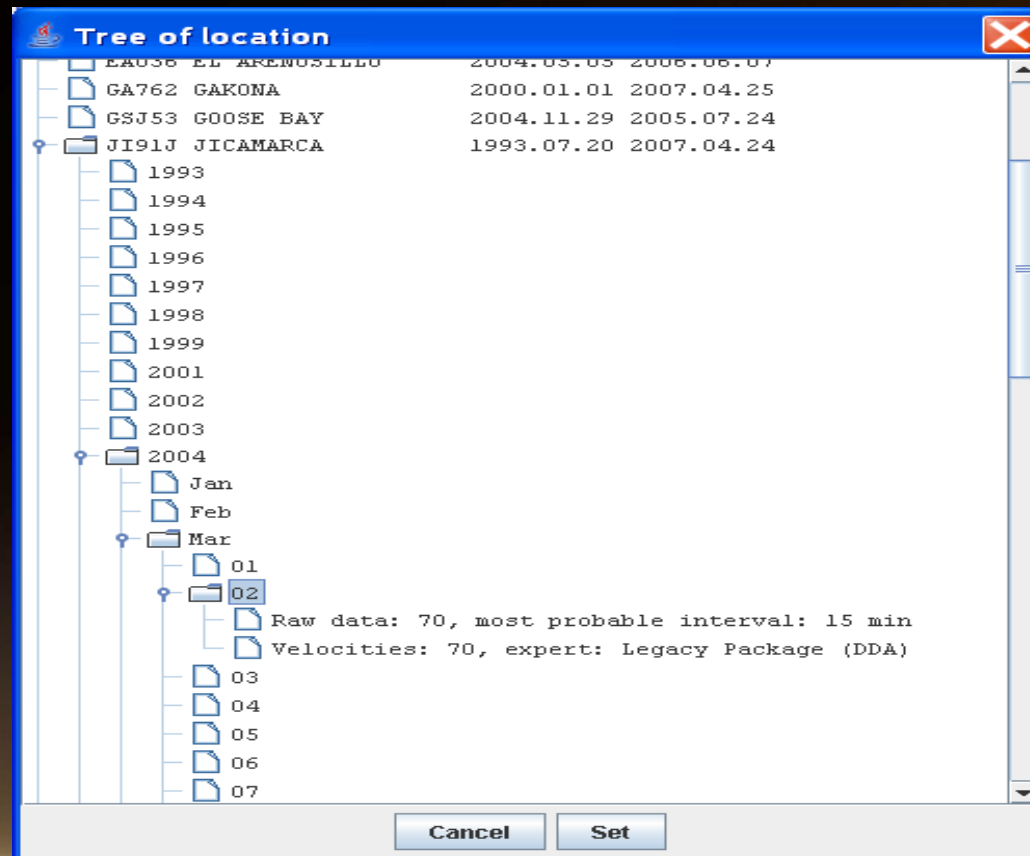
Tree Of Locations 1



The screenshot shows a window titled "Tree of location" with a close button in the top right corner. Inside the window, there is a "Station list" section containing a table of data. The table has three columns: a small icon, a station name, and a date. The stations are listed in descending order of their first date. At the bottom of the window, there are "Cancel" and "Set" buttons.

Station list		
	AN438 ANYANG	2004.11.14 2005.05.12
	AT138 ATHENS	2003.11.10 2007.04.25
	BVJ03 BOA VISTA	2002.10.05 2002.12.09
	BV53Q BUNDOORA	2004.08.27 2005.04.28
	CXM9B CACHIMBO	2002.09.28 2002.12.10
	CAJ2M CACHOEIRA PAULISTA	2002.10.01 2006.07.10
	CGK21 CAMPO GRANDE	2002.09.20 2002.12.10
	CO764 COLLEGE AK	2005.07.20 2006.12.11
	EA036 EL ARENOSILLO	2004.05.05 2006.06.07
	GA762 GAKONA	2000.01.01 2007.04.25
	GSJ53 GOOSE BAY	2004.11.29 2005.07.24
	JI91J JICAMARCA	1993.07.20 2007.04.24
	KS759 KING SALMON	2004.12.01 2004.12.01
	KJ609 KWAJALEIN	2004.08.28 2006.11.27
	MHJ45 MILLSTONE HILL	2000.12.28 2007.04.25
	PQ052 PRUHONICE	2004.09.16 2007.04.25
	PA836 PT ARGUELLO	2003.04.09 2007.03.07
	THJ77 QAANAAQ	2000.01.01 2014.11.11
	PRJ18 RAMEY	2005.10.03 2007.04.25
	EB040 ROQUETES	2004.05.05 2007.04.25
	VT139 SAN VITO	2004.12.29 2006.10.19
	SAA0K SAO LUIS	2002.10.01 2006.08.05
	SMJ67 SONDRESTROM	2001.03.31 2007.04.25
	TR169 TROMSO	2000.08.29 2007.04.25
	XI434 XINXIANG CHINA	2006.06.20 2006.06.24

Tree Of Locations 2



Dalu

감사합니다

Gracias Danke Ευχαριστίες

THANK YOU

Obrigado

Köszönöm

Tack Grazie Спасибо Dank 谢谢 Merci ありがとう

IGF 2014

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