Rinearn 2D & 3D Graphics Software Guide
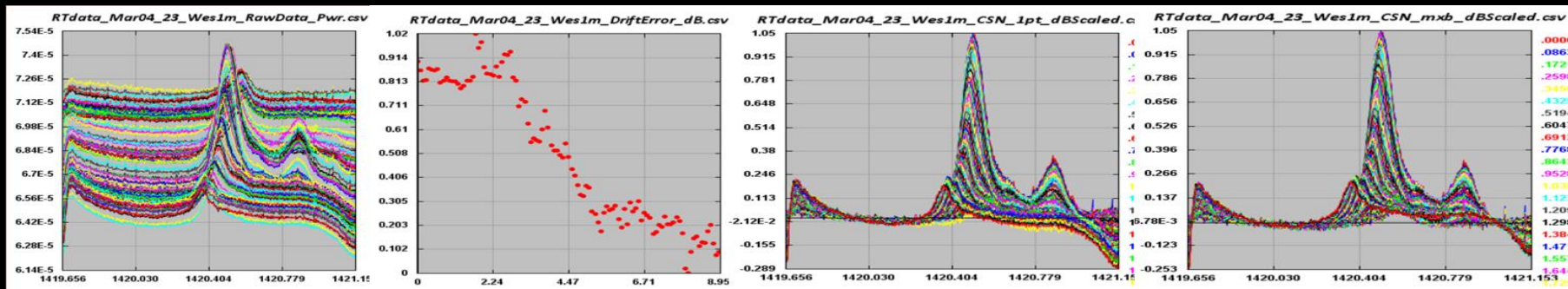

Raw Data Spectrum Set — RTdata_Mar04_23_Wes1m_RawData_Pwr.csv

Background Drift — RTdata_Mar04_23_Wes1m_DriftError_dB.csv

CSN Corrected Data Normalized to Cold Sky in dB
1 pt — RTdata_Mar04_23_Wes1m_CSN_1pt_dBScaled.csv

2 pt mx+b — RTdata_Mar04_23_Wes1m_CSN_mxb_dBScaled.csv

H_Line Data Set

24 Hour Drift Scan

@ Declination + 40°
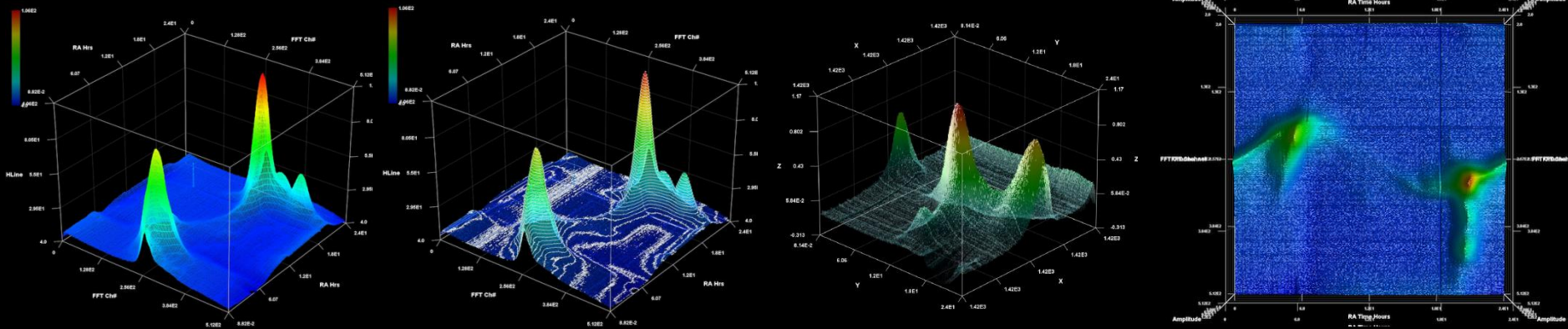
Graphics Software

JRE : Java Runtime Environment (Windows)

Java version(s): 8.0 Platform(s):

Windows 11, Windows 10, Windows 8, Windows 7, Windows Vista, Windows XP,

https://www.java.com/en/download/help/windows_offline_download.html

install JRE

Rinearn 2D & 3D Graphics Software

https://www.rinearn.com/en-us/graph2d/
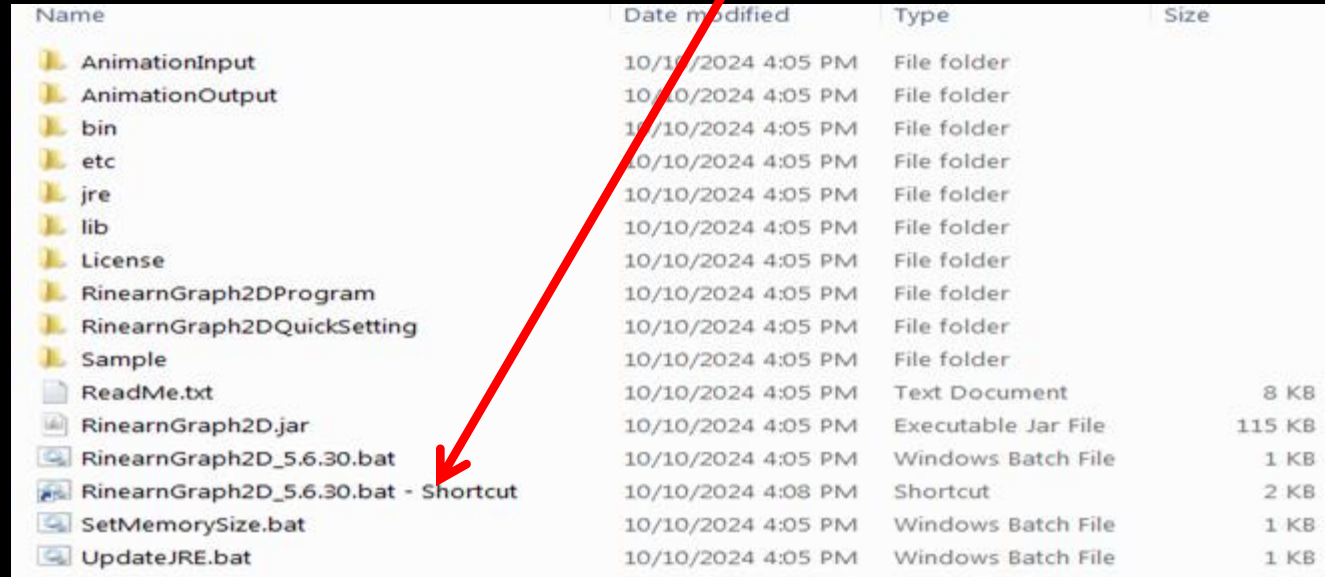**https://www.rinearn.com/en-us/graph3d/**

download and install 2D and 3D

Graphics Software

Rinearn   2D Graphics Software

From installation subdirectory , create Shortcut to *RinearnGraph2D_5.6.30.bat*
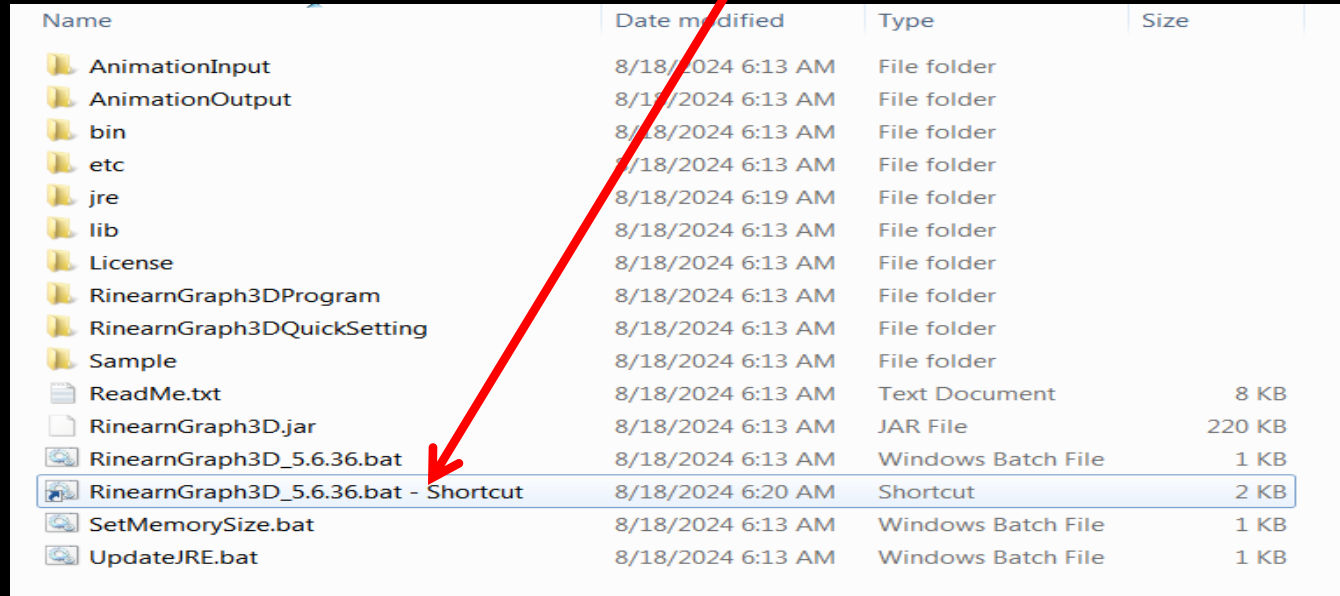**and Drag Shortcut to Desktop**

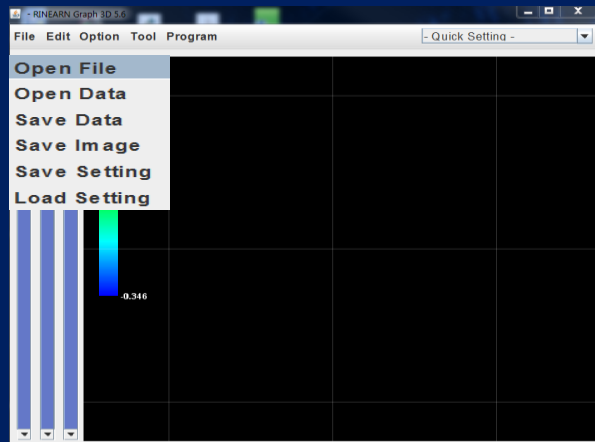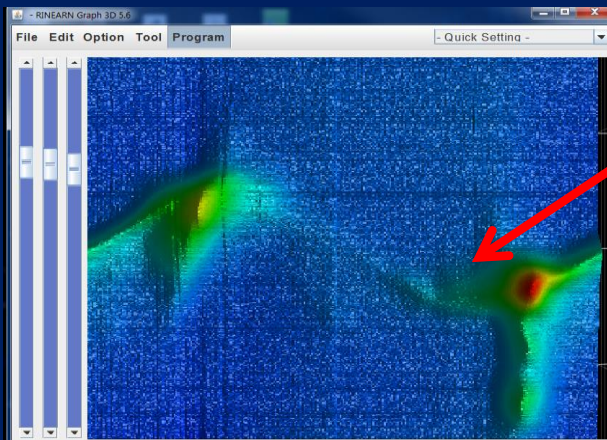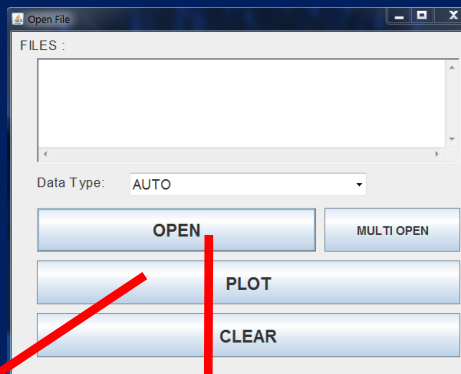| Name	Date modified	Type	Size
AnimationInput	10/10/2024 4:05 PM	File folder	
AnimationOutput	10/10/2024 4:05 PM	File folder	
bin	10/10/2024 4:05 PM	File folder	
etc	10/10/2024 4:05 PM	File folder	
jre	10/10/2024 4:05 PM	File folder	
lib	10/10/2024 4:05 PM	File folder	
License	10/10/2024 4:05 PM	File folder	
RinearnGraph2DProgram	10/10/2024 4:05 PM	File folder	
RinearnGraph2DQuickSetting	10/10/2024 4:05 PM	File folder	
Sample	10/10/2024 4:05 PM	File folder	
ReadMe.txt	10/10/2024 4:05 PM	Text Document	8 KB
RinearnGraph2D.jar	10/10/2024 4:05 PM	Executable Jar File	115 KB
RinearnGraph2D_5.6.30.bat	10/10/2024 4:05 PM	Windows Batch File	1 KB
RinearnGraph2D_5.6.30.bat - Shortcut	10/10/2024 4:08 PM	Shortcut	2 KB
SetMemorySize.bat	10/10/2024 4:05 PM	Windows Batch File	1 KB
UpdateJRE.bat	10/10/2024 4:05 PM	Windows Batch File	1 KB

Graphics Software

Rinearn   3D Graphics Software

From installation subdirectory , create Shortcut to *RinearnGraph3D_5.6.36.bat*
and Drag Shortcut to Desktop

Name	Date modified	Type	Size
AnimationInput	8/18/2024 6:13 AM	File folder	
AnimationOutput	8/18/2024 6:13 AM	File folder	
bin	8/18/2024 6:13 AM	File folder	
etc	8/18/2024 6:13 AM	File folder	
jre	8/18/2024 6:19 AM	File folder	
lib	8/18/2024 6:13 AM	File folder	
License	8/18/2024 6:13 AM	File folder	
RinearnGraph3DProgram	8/18/2024 6:13 AM	File folder	
RinearnGraph3DQuickSetting	8/18/2024 6:13 AM	File folder	
Sample	8/18/2024 6:13 AM	File folder	
ReadMe.txt	8/18/2024 6:13 AM	Text Document	8 KB
RinearnGraph3D.jar	8/18/2024 6:13 AM	JAR File	220 KB
RinearnGraph3D_5.6.36.bat	8/18/2024 6:13 AM	Windows Batch File	1 KB
RinearnGraph3D_5.6.36.bat - Shortcut	8/18/2024 6:20 AM	Shortcut	2 KB
SetMemorySize.bat	8/18/2024 6:13 AM	Windows Batch File	1 KB
UpdateJRE.bat	8/18/2024 6:13 AM	Windows Batch File	1 KB

Rinearn 3D Software Guide

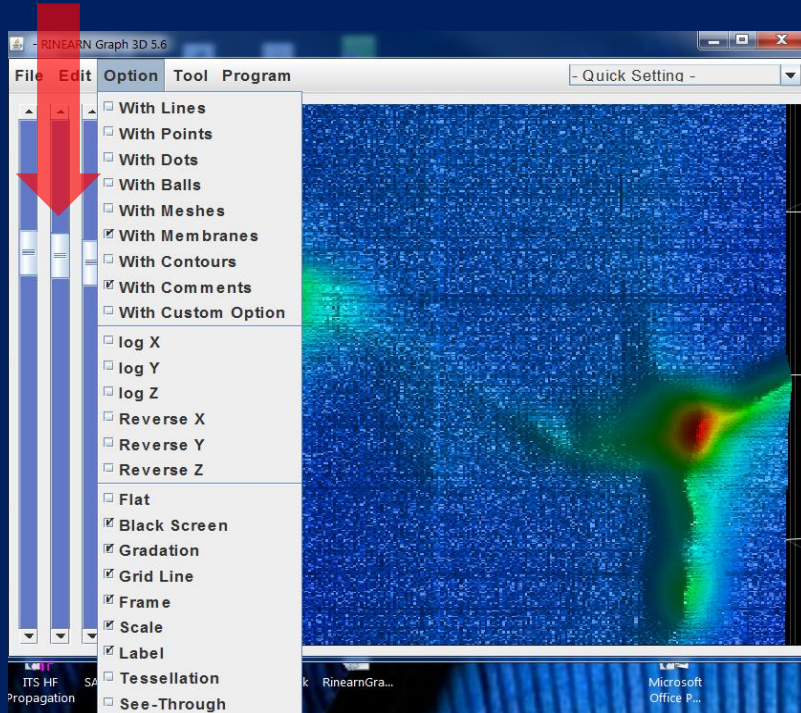**Open File : OPEN** (locate *.CSV file), Select , **PLOT**

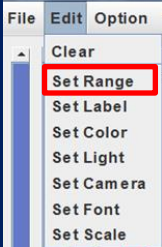**Option panel** : typical selections
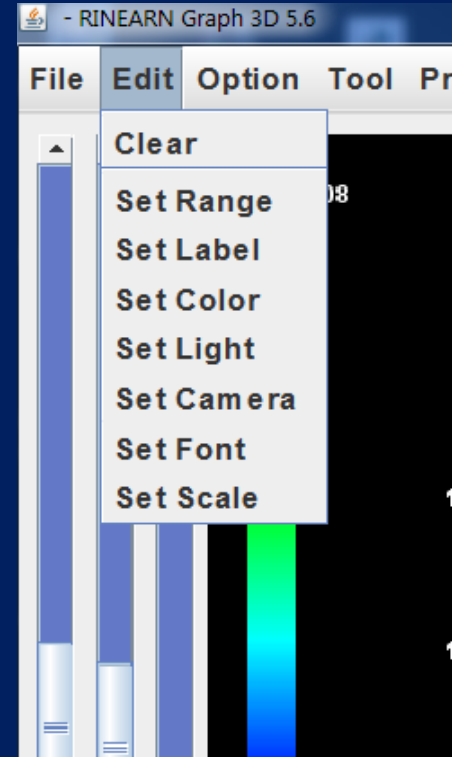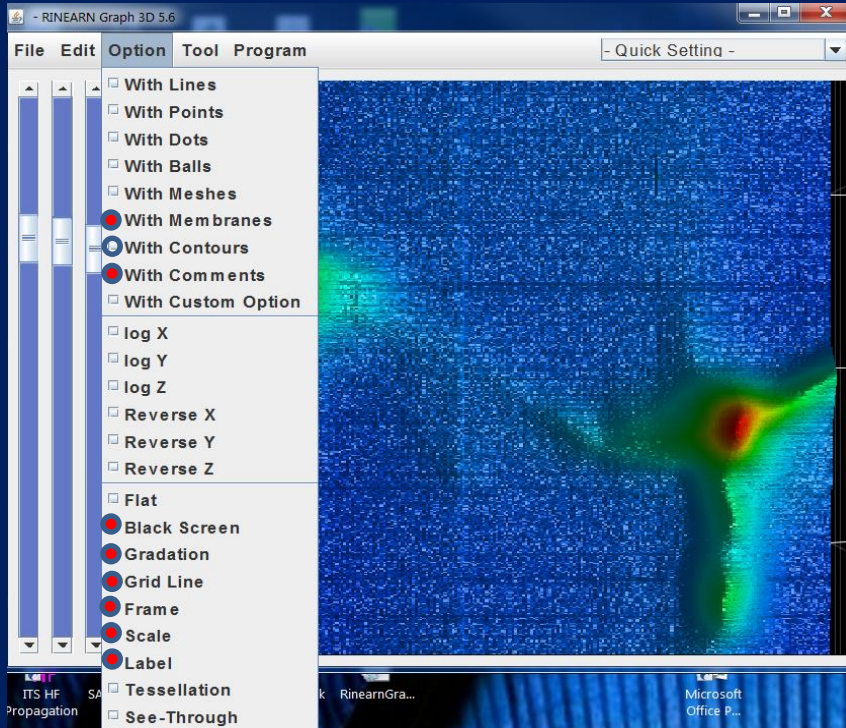
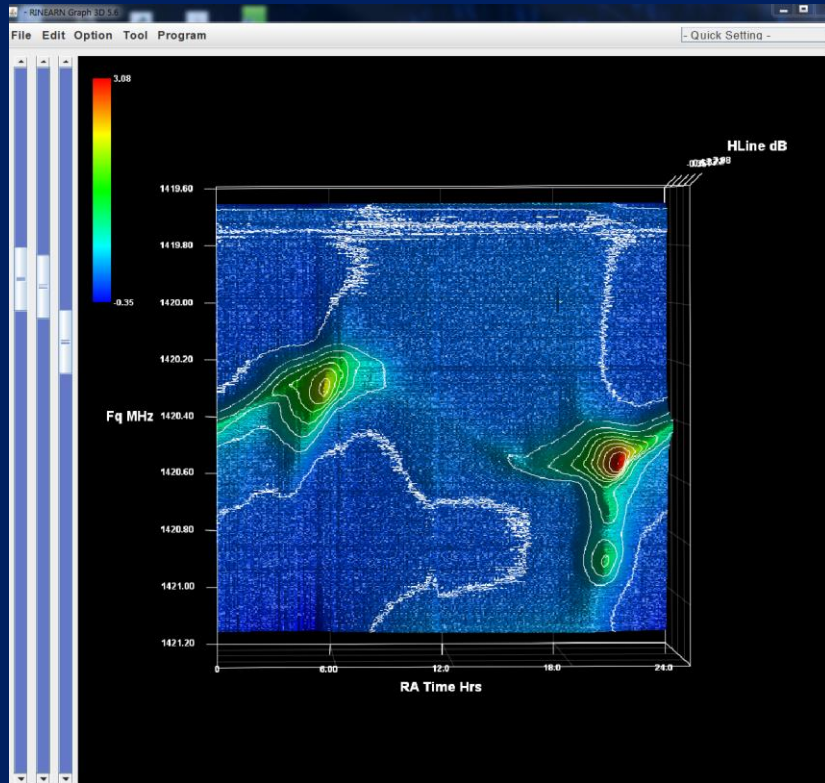**Sliders** Change the Size of the Displayed Plot

Edit / Set Range

Disable all **'Auto'** options
Select **'Else'** and enter formats as shown below
to properly label frequencies & Time
Set **max min** to round numbers for better labeling

Edit / Set Label

Label the X Y Z axes as appropriate
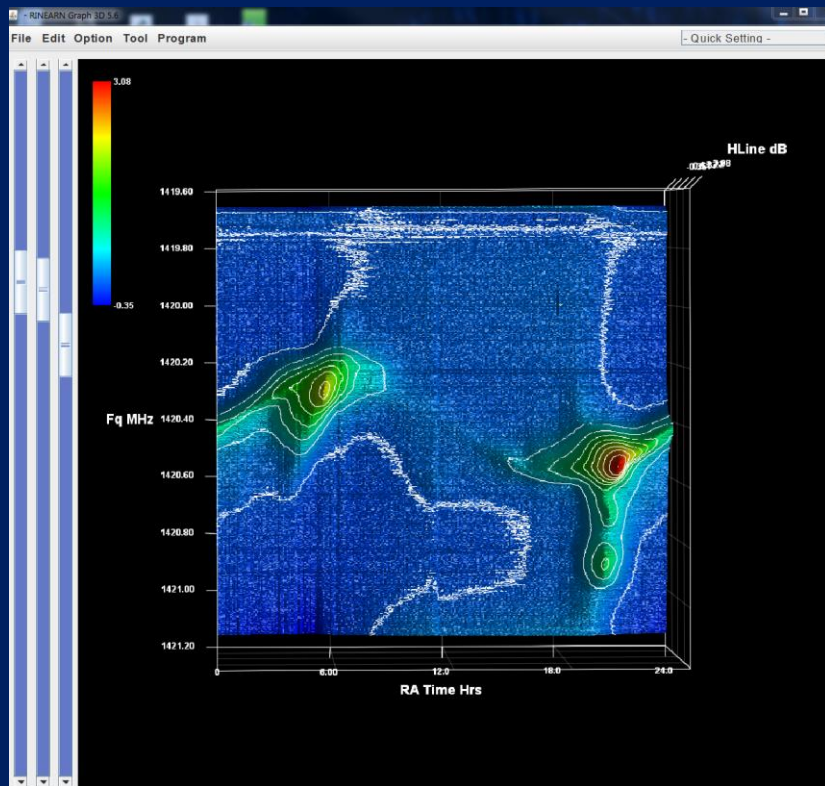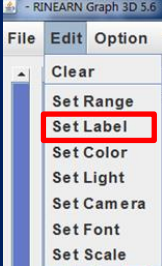
Edit / Set Color

Color Settings are useful for **2D** graphics,
But seem to have no effect on the **3D** display
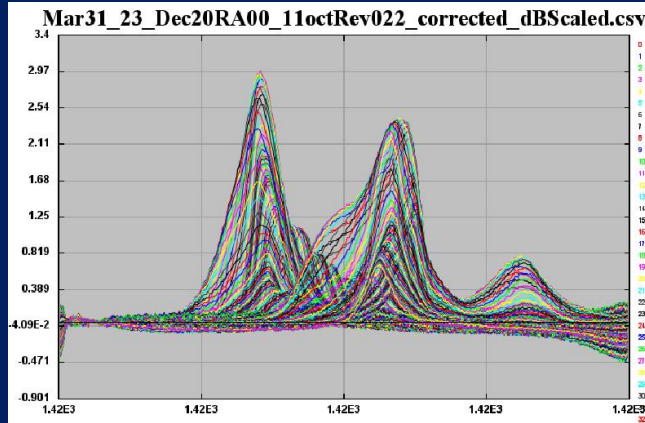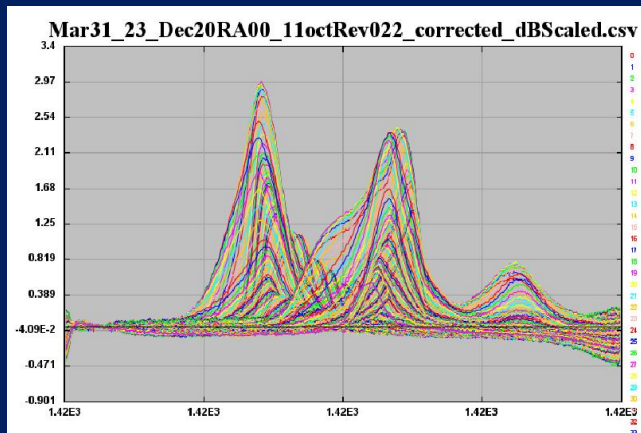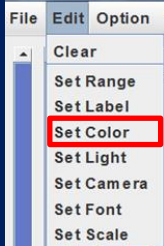
Edit / Set Light

This is an interesting set of 3D display controls
Experiment !
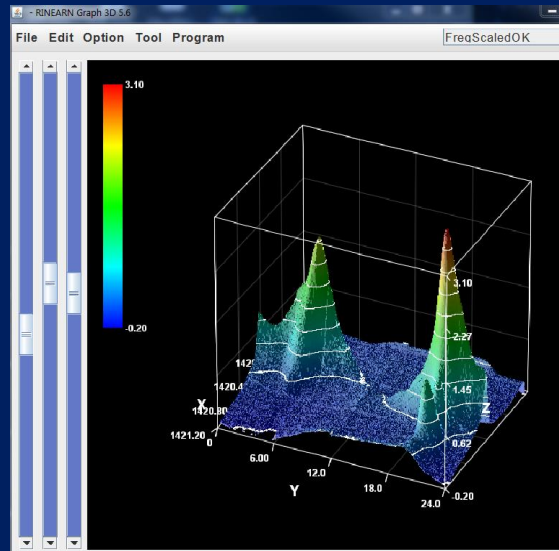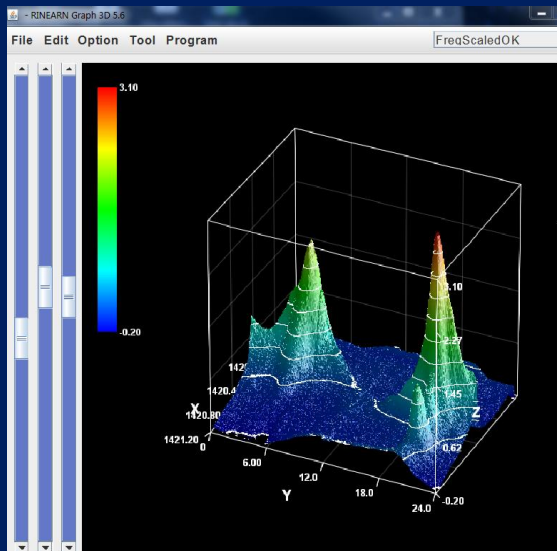
Edit / Camera

Camera set the
Viewing Position from which the 3D Graph is seen
Try different options
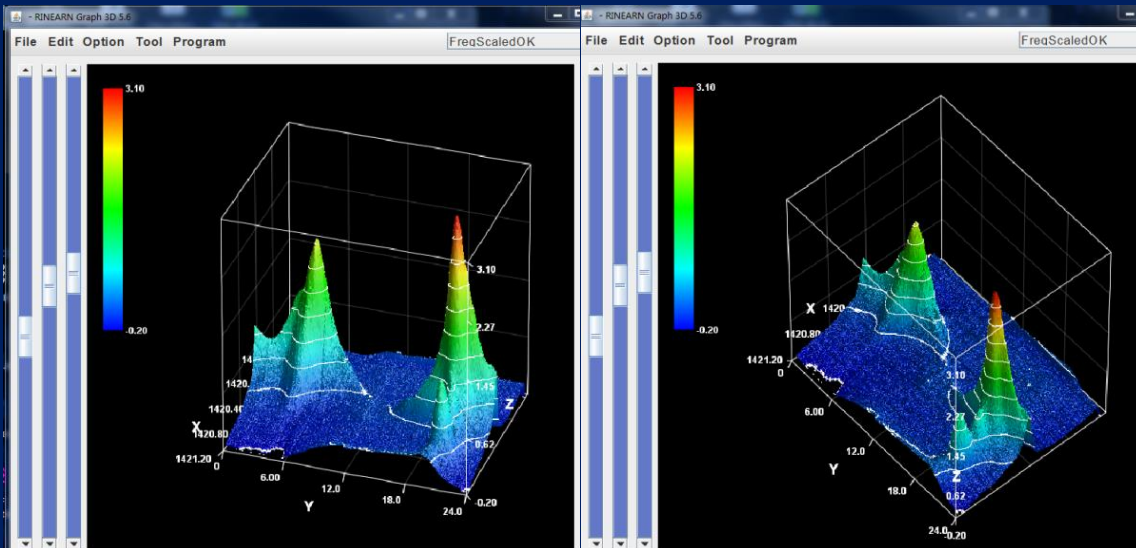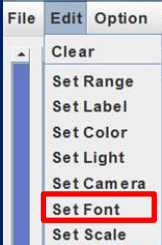
Edit / Set Font

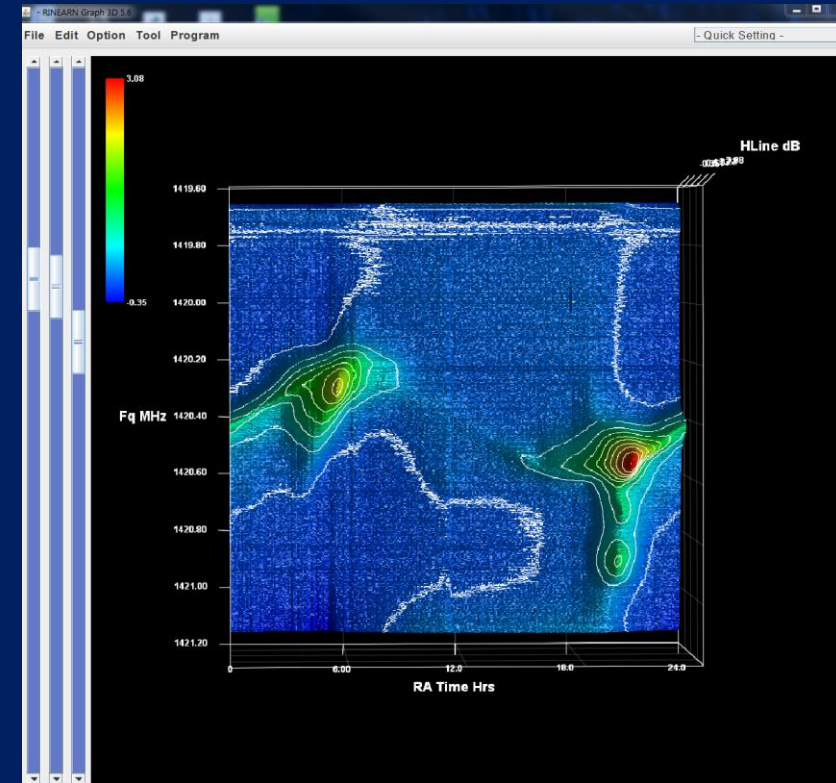Select **Font** parameters as you wish .

Select Fonts
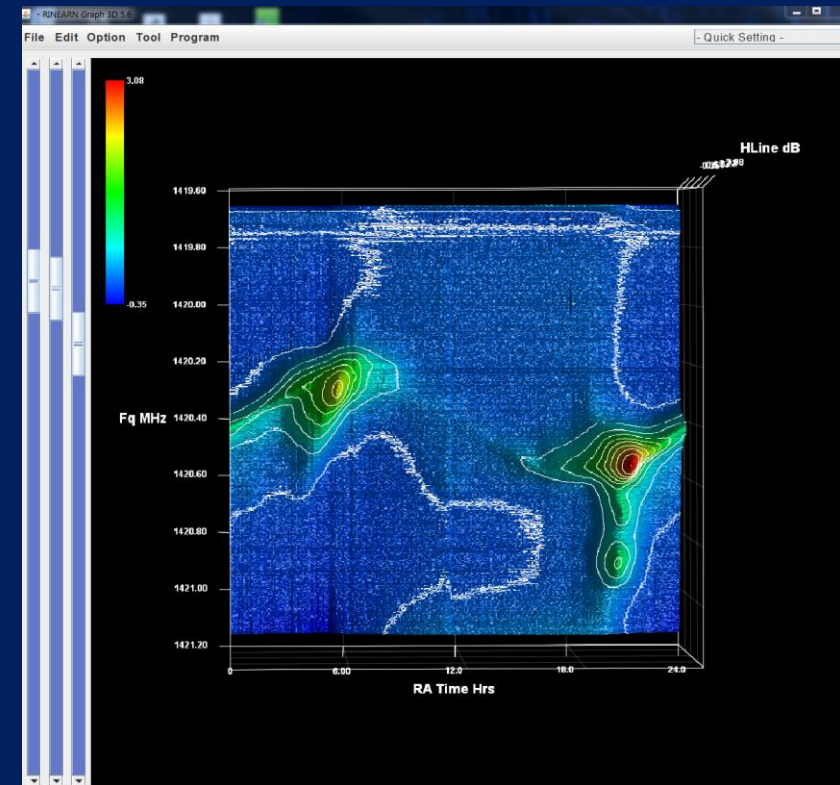
Edit / Set Scale

Disable all **'Auto'** options
Select **'Else'** and enter formats as shown below
to properly label frequencies & Time

Select the **Number of Sections** to make the plot increments
Show 'round' numbers.

(**Image** allow you to display a photo at a location)
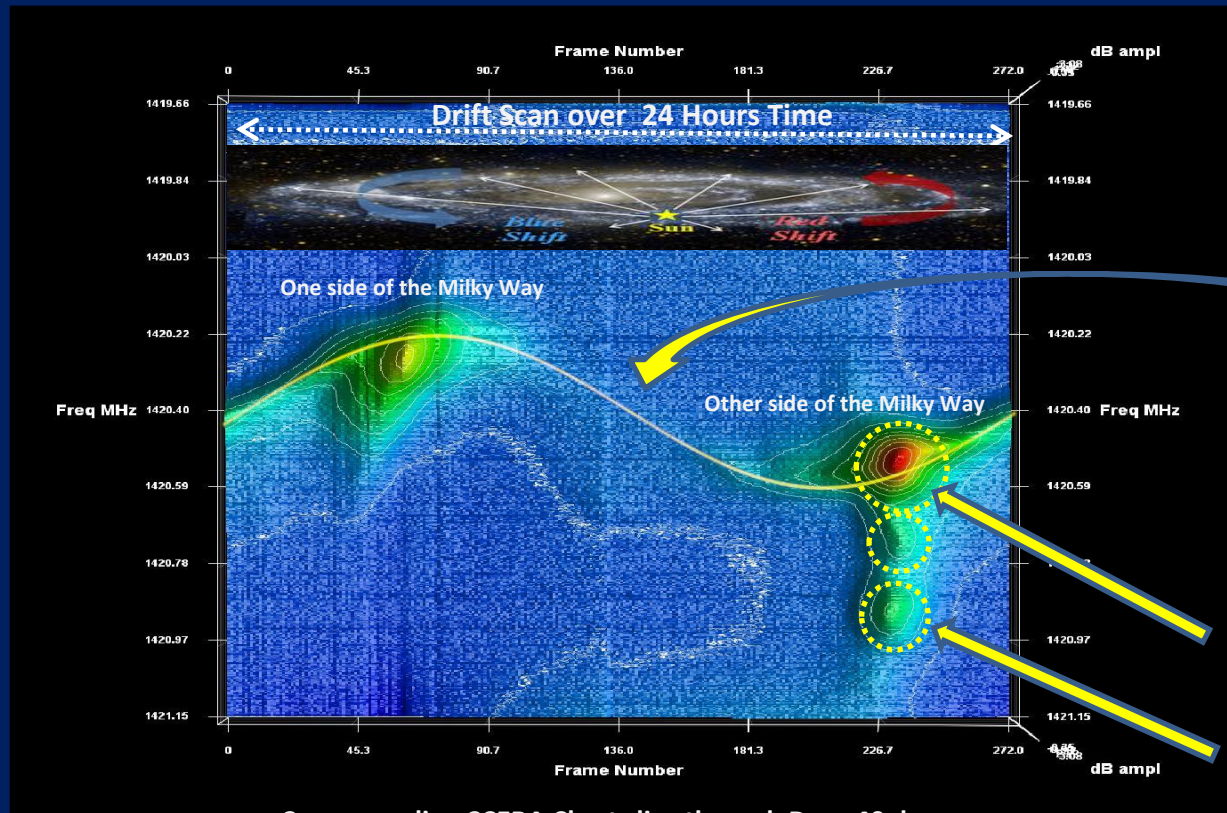
Add new setting

You can save **All** graphic **Settings** to Named **Quick Settings**
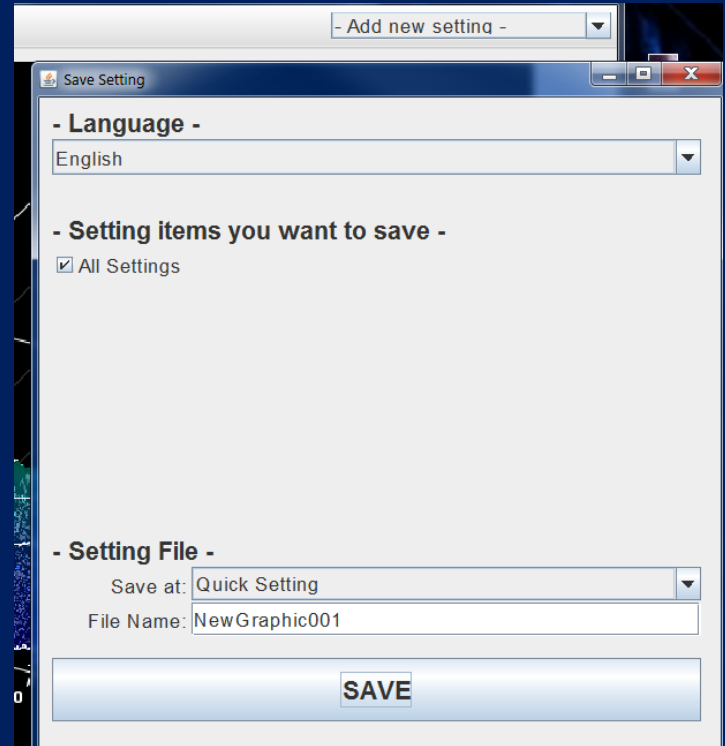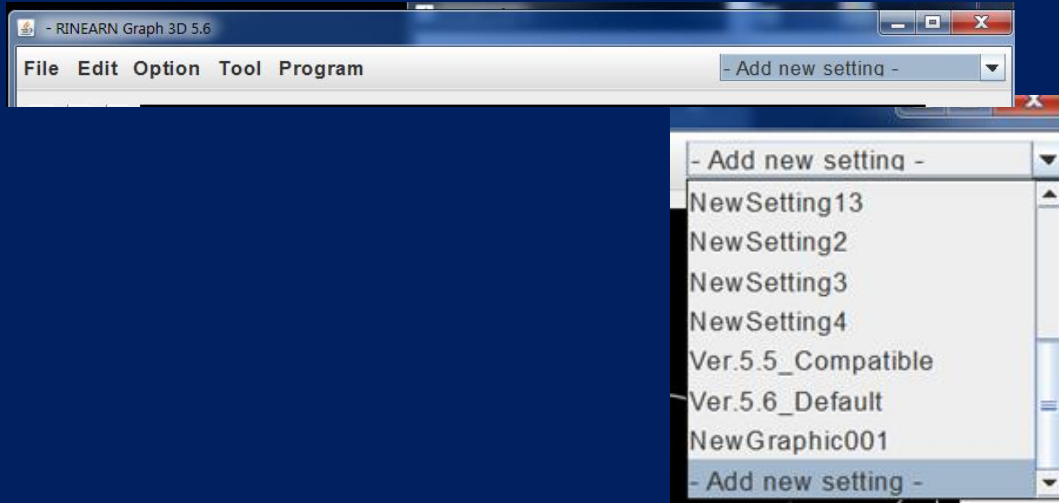
Understanding the 3D Graphics PLOT

This is not intended to be a detailed explanation, but a starting point for researching the topics

Drift Scan over 24 Hours Time

Blue Shift   Sun   Red Shift

One side of the Milky Way

Other side of the Milky Way

Frame Number

dB ampl

Freq MHz

Corresponding CCERA Chart slice through Dec +40 dg

Canadian Center Amateur Radio Astronomy

Hours RA

This Sinusoidal Curve is primarily the result of your antenna pointing Towards and then 12 hours later Away From Earth's high Orbital Velocity around the Sun

Earth's Orbital Velocity
+- 30 km/sec
+- 4 km/sec Rotation
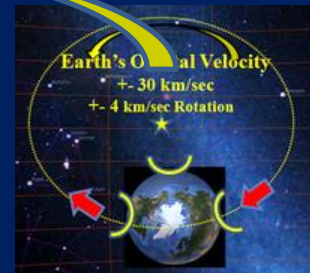
This Doppler Frequency Shifted Spectrum is from measuring Arms of the MW moving at Different Velocities WRT Earth