

# Rinearn 2D & 3D Graphics Software Guide

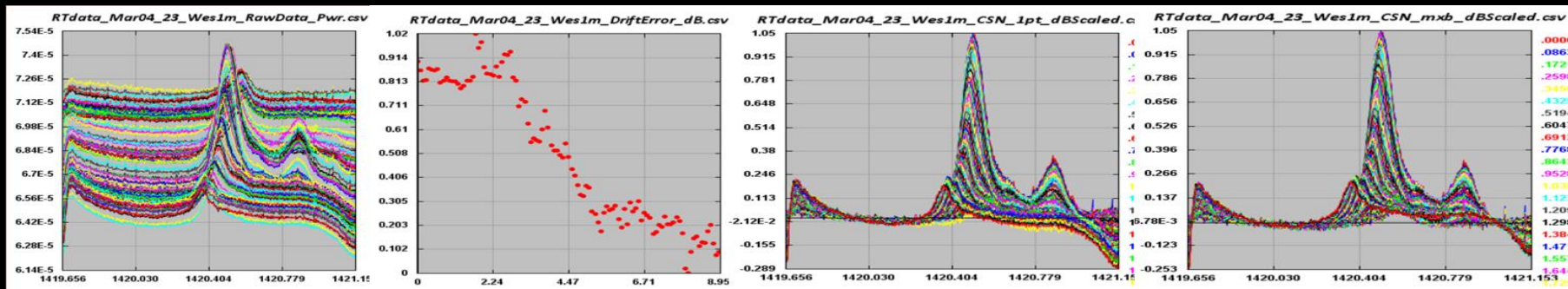
Raw Data Spectrum Set

Background Drift

CSN Corrected Data Normalized to Cold Sky in dB

1 pt

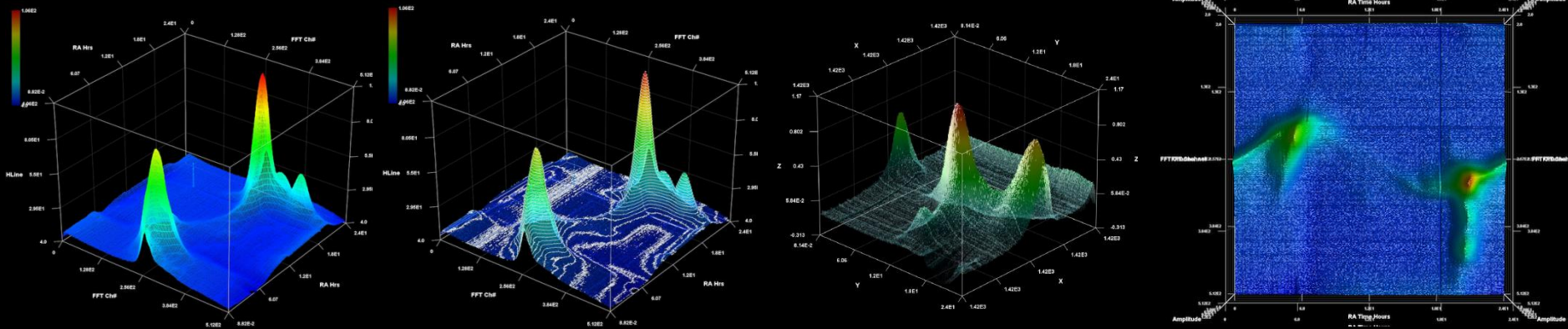
2 pt mx+b



H\_Line Data Set

24 Hour Drift Scan

@ Declination + 40°



**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](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/>

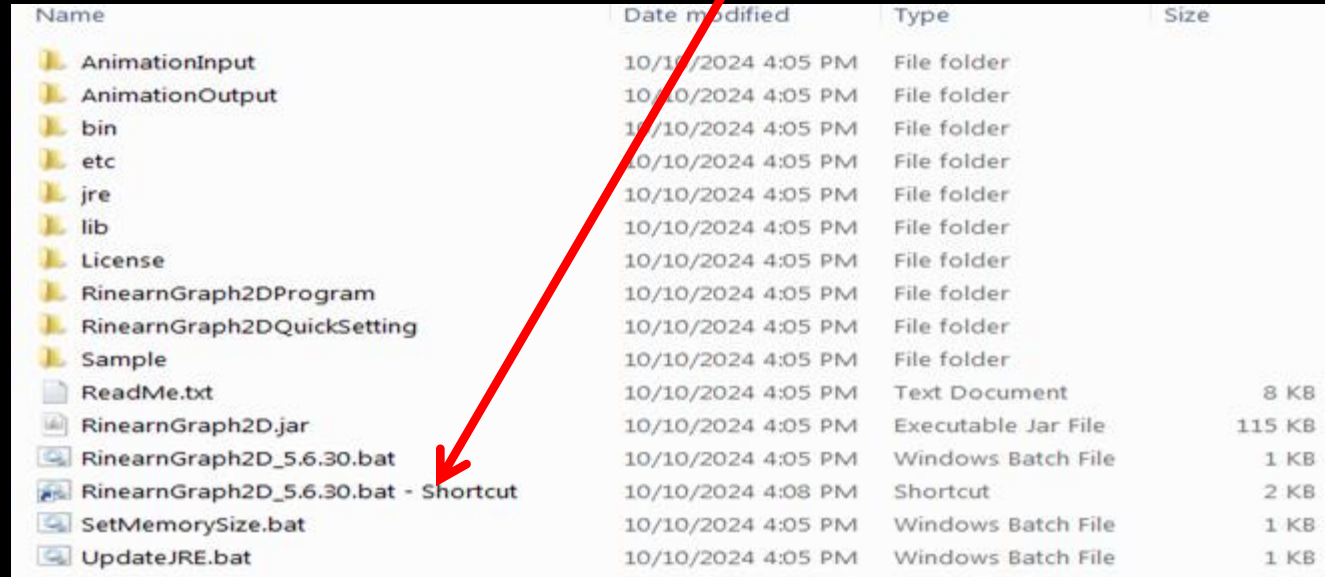
<https://www.rinearn.com/en-us/graph3d/>

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

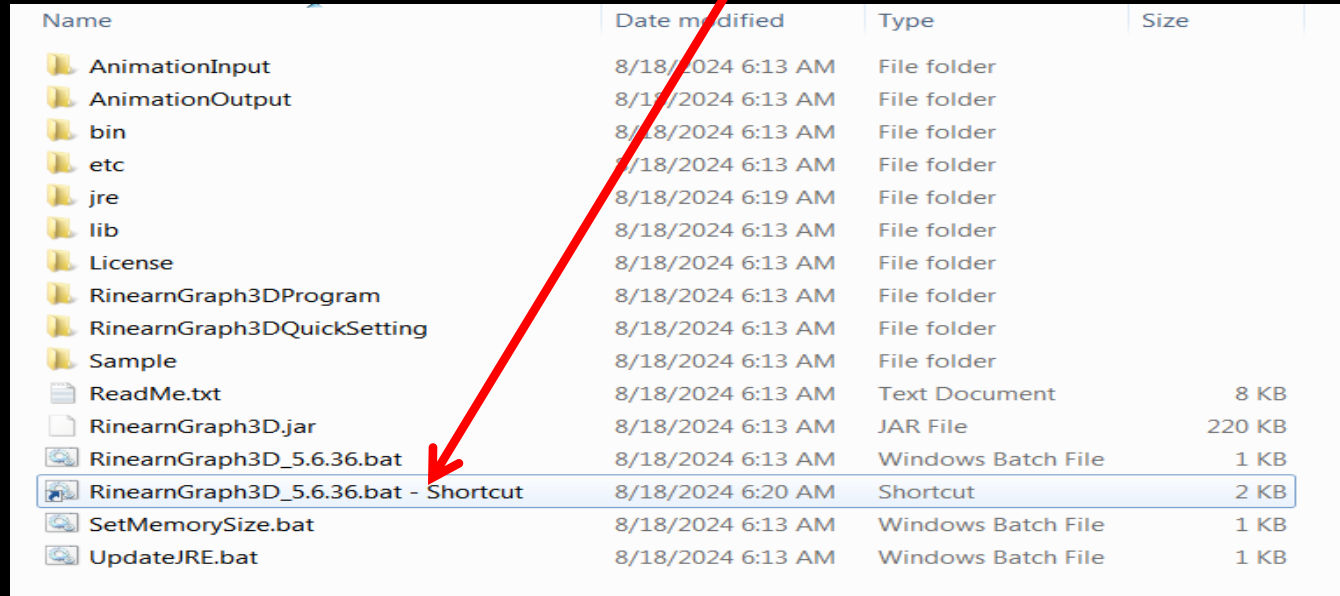


| Name                                 | Date modified      | Type                | Size   |
|--------------------------------------|--------------------|---------------------|--------|
| AnimationInput                       | 10/10/2024 4:05 PM | File folder         |        |
| AnimationOutput                      | 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

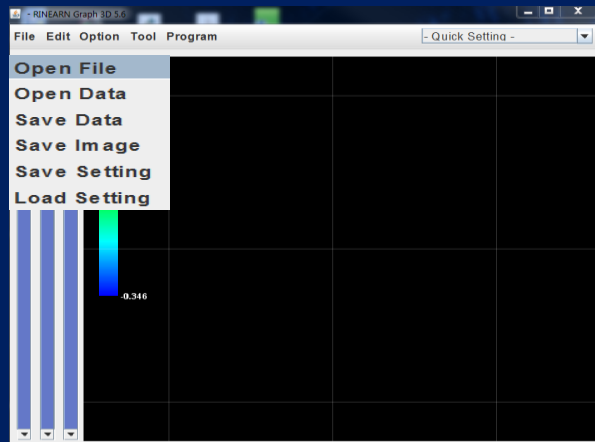
### Rinearn 3D Graphics Software

From installation subdirectory , **create Shortcut** to *RinearnGraph3D\_5.6.36.bat* and Drag Shortcut to Desktop

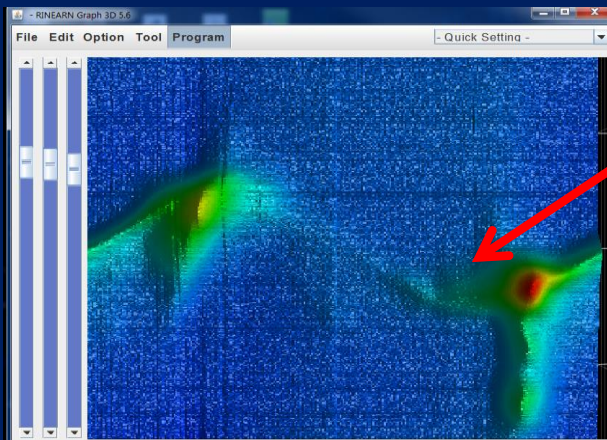
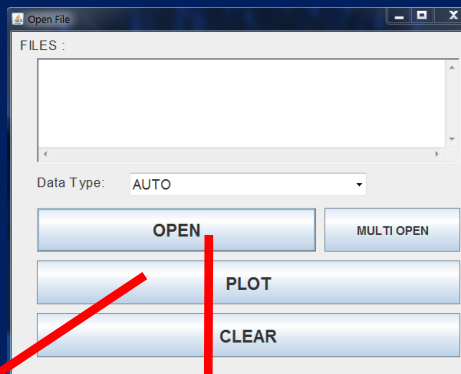


| Name                                 | Date modified     | Type               | Size   |
|--------------------------------------|-------------------|--------------------|--------|
| AnimationInput                       | 8/18/2024 6:13 AM | File folder        |        |
| AnimationOutput                      | 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

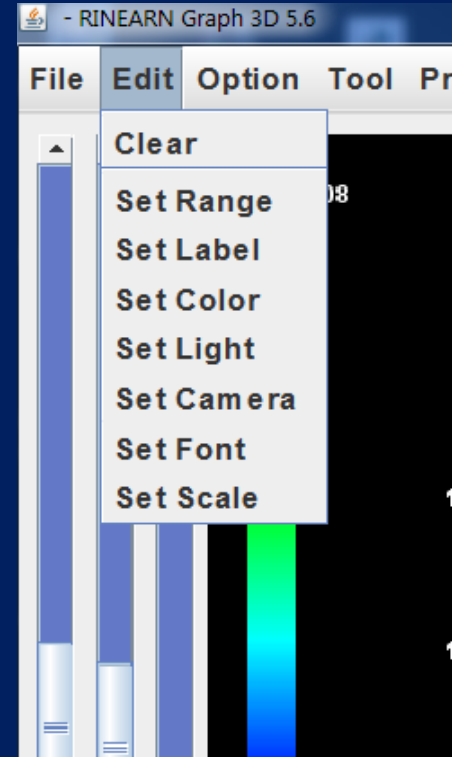
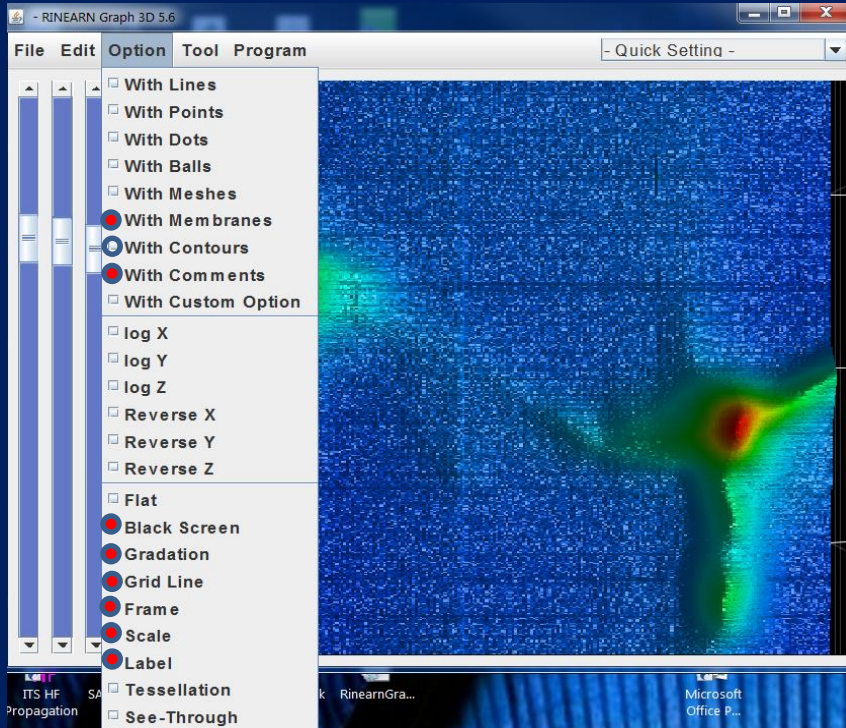


Open File : OPEN ( locate \*.CSV file ), Select , PLOT



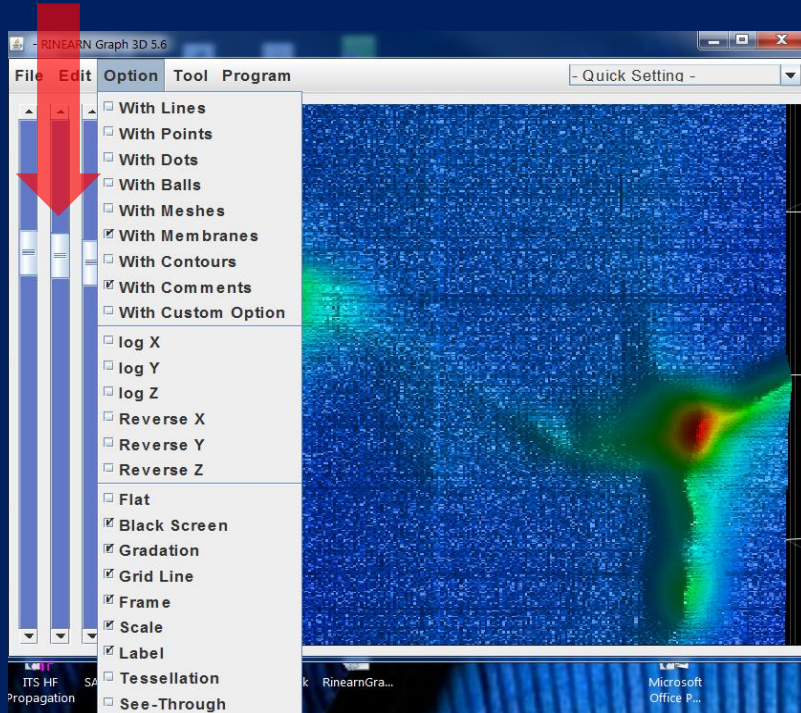
|  |                    |  |          |
|--|--------------------|--|----------|
| D40_RA00_0272.txt                          | 3/31/2023 12:50 PM | Text Document                                      | 15 KB    |
| D40_RA00_0273.txt                          | 3/31/2023 12:55 PM | Text Document                                      | 15 KB    |
| D40_RA00_0273.zip                          | 9/28/2023 10:34 AM | Compressed (zipped)...                             | 962 KB   |
| Mar30_23_Dec40RA00_2D_corrected.csv        | 10/2/2024 10:08 AM | Microsoft Office Exce...                           | 2,809 KB |
| Mar30_23_Dec40RA00_2D_corrections.csv      | 10/2/2024 10:08 AM | Microsoft Office Exce...                           | 11 KB    |
| Mar30_23_Dec40RA00_2D_raw.csv              | 10/2/2024 10:08 AM | Microsoft Office Excel Comma Separated Values File | 1,362 KB |
| Mar30_23_Dec40RA00_JA06Oct_correc          | 10/2/2024 10:08 AM | Microsoft Office Exce...                           | 1,572 KB |
| Mar30_23_Dec40RA00_JA06Oct_corrections.csv | 10/6/2024 6:08 AM  | Microsoft Office Exce...                           | 7 KB     |

## Option panel : typical selections

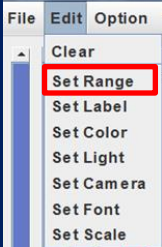




**Sliders** Change the Size of the Displayed Plot



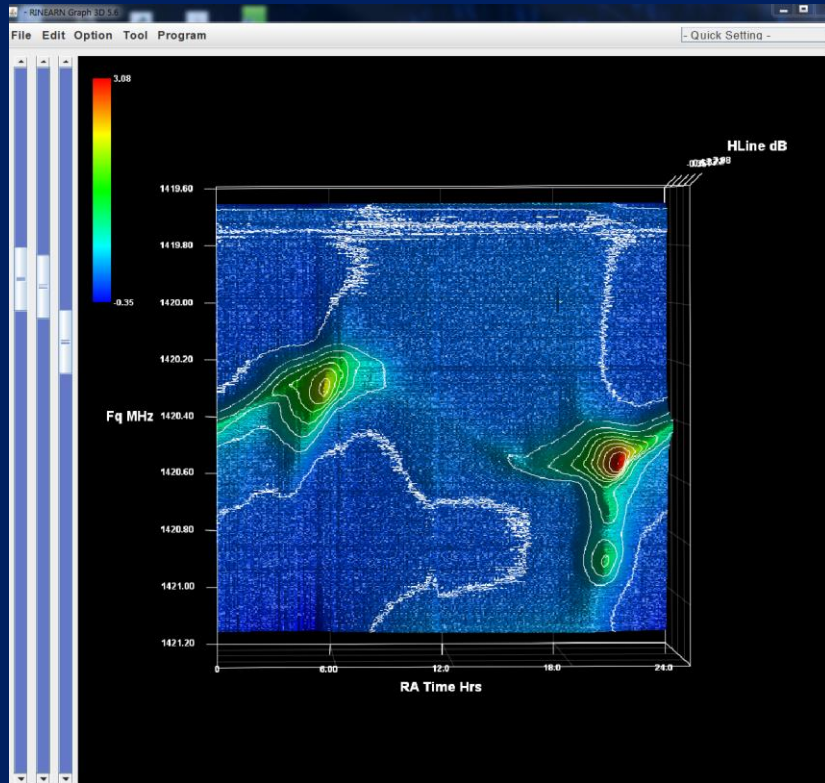
# Edit / Set Range



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



Set Range

- X Axis -

☒ Auto Ranging

X-max: 1421.2

X-min: 1419.6

- Y Axis -

☒ Auto Ranging

Y-max: 24.0

Y-min: 0.0

- Z Axis -

☒ Auto Ranging

Z-max: 3.080445463

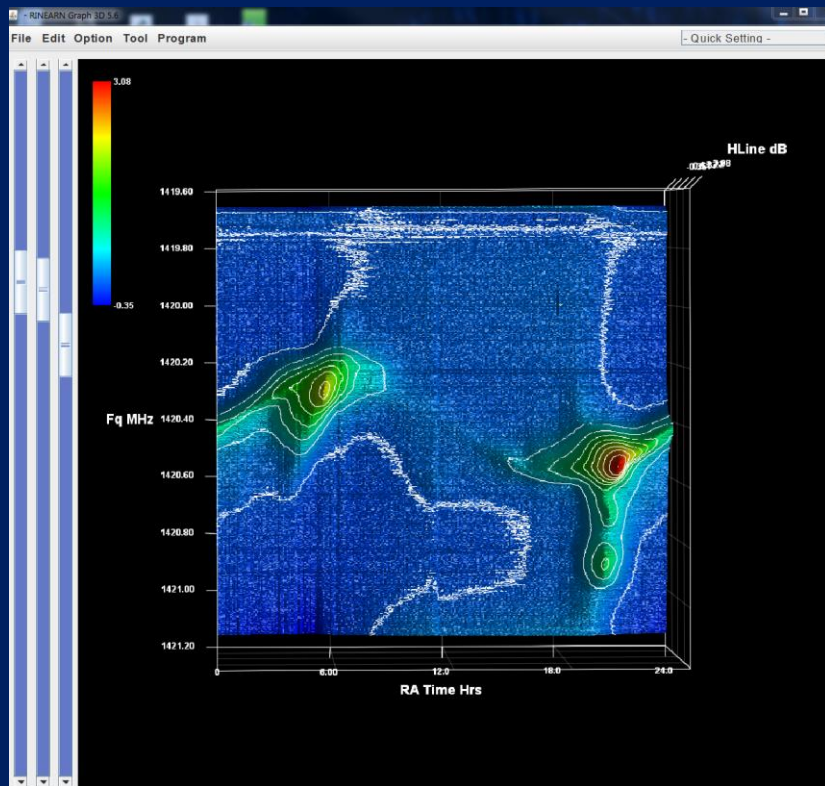
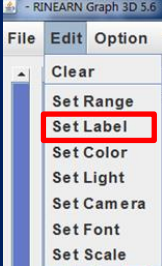
Z-min: -0.346393353

SET



## *Edit / Set Label*

Label the X Y Z axes as appropriate



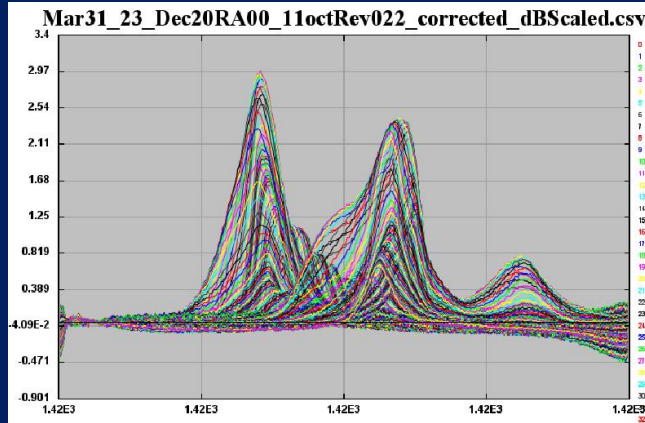
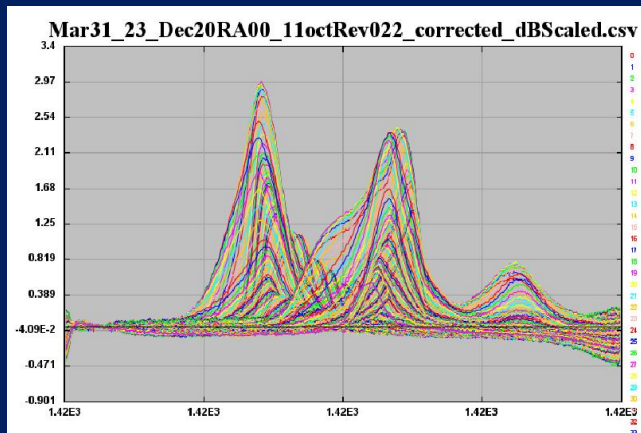
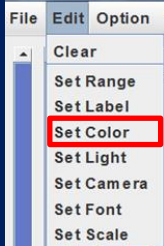
The 'Set Label' dialog box is shown, allowing users to label the X, Y, and Z axes. The dialog has three sections: '- X Axis -', '- Y Axis -', and '- Z Axis -'. Each section has a 'Label:' text box. The X-axis label is 'Freq MHz', the Y-axis label is 'FileFrame No', and the Z-axis label is 'H Line dB'. A large 'SET' button is at the bottom.

| Axis       | Label        |
|------------|--------------|
| - X Axis - | Freq MHz     |
| - Y Axis - | FileFrame No |
| - Z Axis - | H Line dB    |

SET

# Edit / Set Color

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



The 'Set Color' dialog box allows users to configure colors for 8 channels. The settings are as follows:

| Channel    | Color   |
|------------|---------|
| COLOR No.1 | RED     |
| COLOR No.2 | BLUE    |
| COLOR No.3 | GREEN   |
| COLOR No.4 | MAGENTA |
| COLOR No.5 | YELLOW  |
| COLOR No.6 | CYAN    |
| COLOR No.7 | PINK    |
| COLOR No.8 | ORANGE  |

Buttons: SET

Additional settings shown below the main dialog:

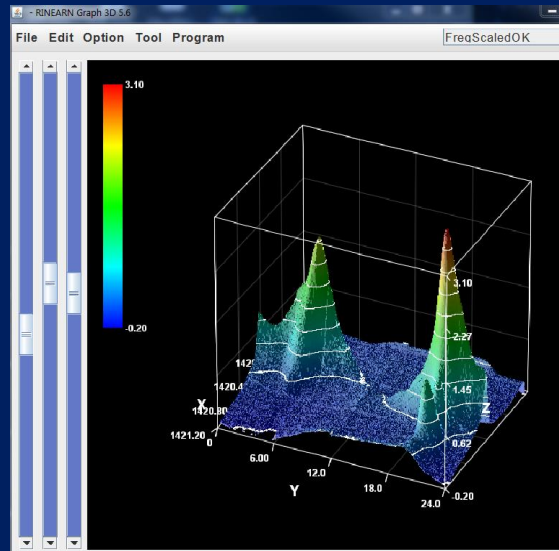
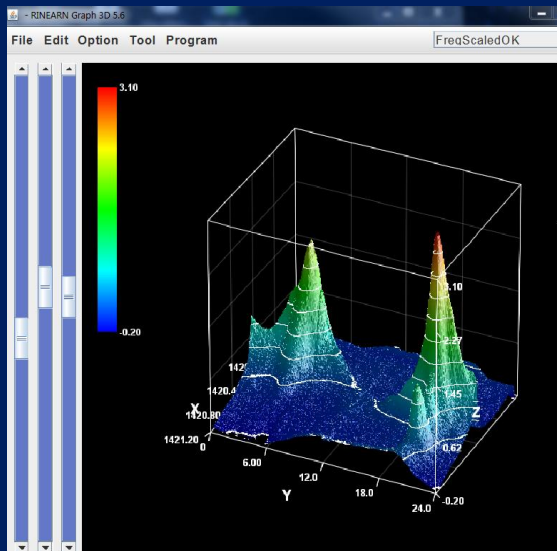
| Channel    | Color |
|------------|-------|
| COLOR No.7 | GRAY  |
| COLOR No.8 | BLACK |

Buttons: SET

- Clear
- Set Range
- Set Label
- Set Color
- Set Light**
- Set Camera
- Set Font
- Set Scale

## Edit / Set Light

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



Set Light

**- Reflection -**

Ambient :

Directional :

Diffractional :

Shininess :

Shiny Angle :

**- Light Angle -**

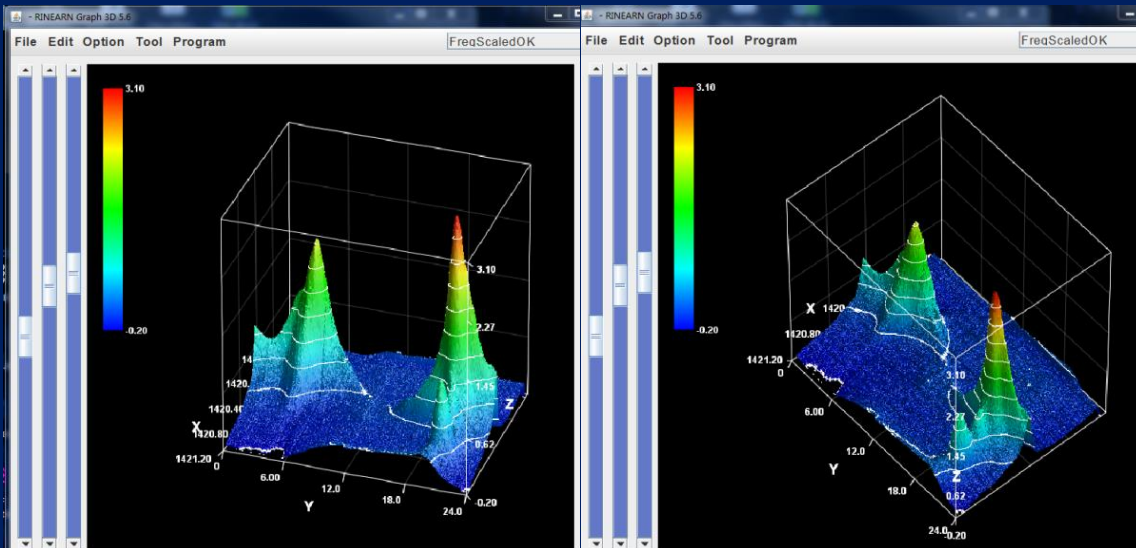
Horizontal Angle :

Vertical Angle :



## Edit / Camera

Camera set the  
Viewing Position from which the 3D Graph is seen  
Try different options



Set Camera

**- Camera Angle -**

Horizontal Angle [rad] :

Vertical Angle [rad] :

Zenith Axis :

**- Camera Distance -**

Camera Distance :

Magnification :

☒ Perspective

**- Screen -**

Center offset X [pixel] :

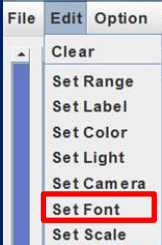
Center offset Y [pixel] :

Width  Height

☒ High Quality Rendering (Antialiasing)

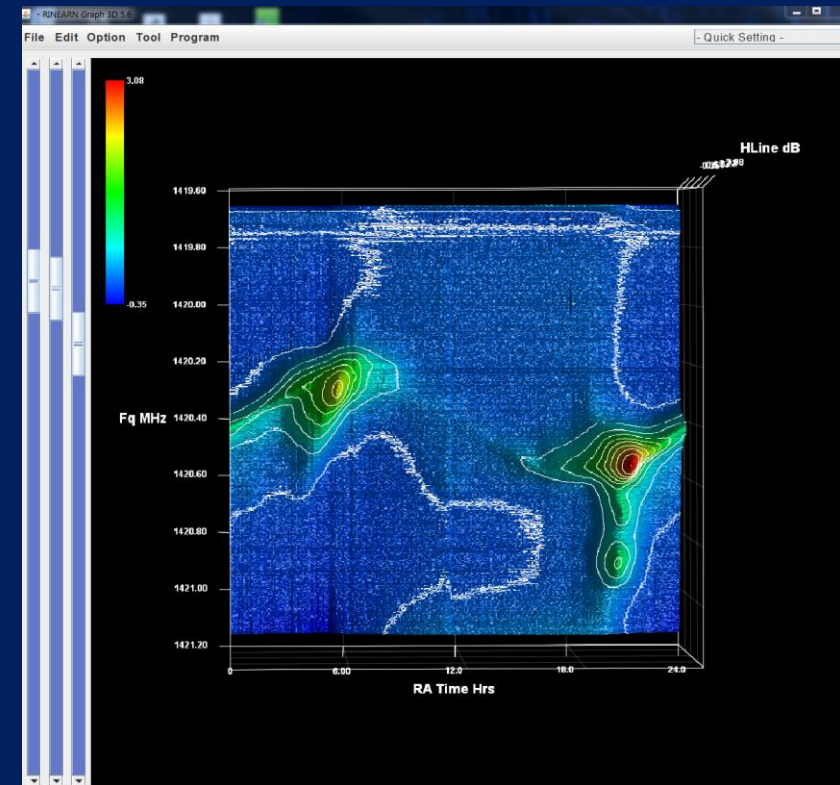
**SET**

# Edit / Set Font



Select **Font** parameters as you wish .

## Select Fonts



Set Font

**- Scale Font -**  
☒ Bold  
Font Name   
Font Size

**- Label Font -**  
☒ Bold  
Font Name   
Font Size

**- Comment Font -**  
☒ Bold  
Font Name   
Font Size

**- Marker Font -**  
Font Name

SET



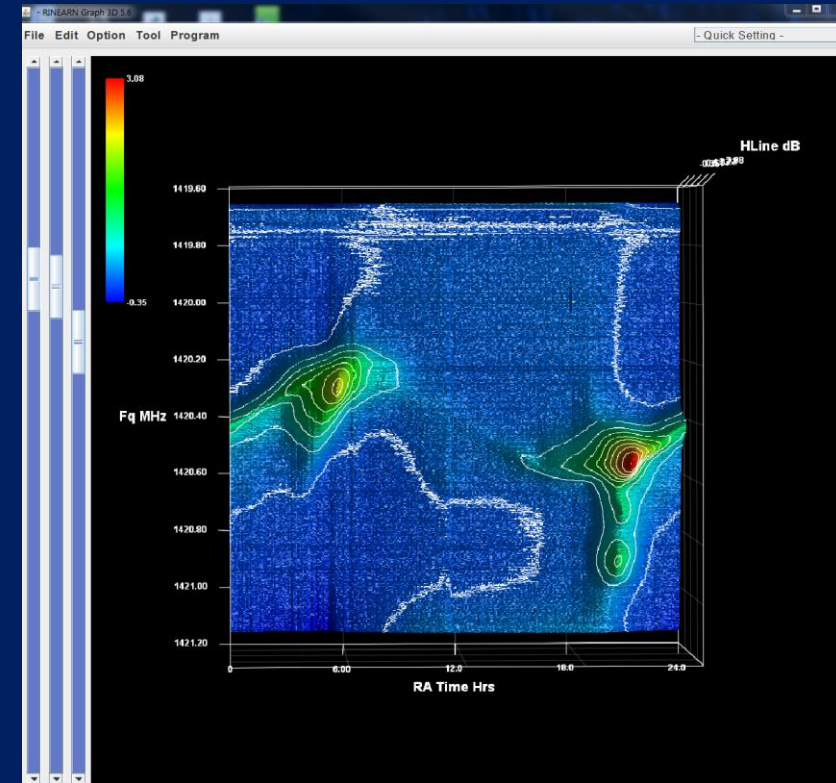
## *Edit / Set Scale*

## 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 )



**- Design -**

Frame:

BOX TYPE ▾

Margin of Numbers:  
0.05

Length of Ticks:  
0.05

☐ Draw inside

Line Width:  
1.0

Number of Sections(X):  
8

Number of Sections(Y):  
4

Number of Sections(Z):  
4

Number of Sections(Color B...)  
1

**- Format(X) -**

☐ Auto

0.1 ~ 10: 0.00

Else: 0.00

**- Format(Y) -**

☐ Auto

0.1 ~ 10: 0.00

Else: 00.0

**- Format(Z) -**

☐ Auto

0.1 ~ 10: 0.00

Else: 0.00

**- Visibility(X) -**

☐ Auto

☒ Scale-X0

☐ Scale-X1

☐ Scale-X2

☐ Scale-X3

**- Visibility(Y) -**

☐ Auto

☐ Scale-Y0

☒ Scale-Y1

☐ Scale-Y2

☐ Scale-Y3

**- Visibility(Z) -**

☐ Auto

☐ Scale-Z0

☒ Scale-Z1

☐ Scale-Z2

☐ Scale-Z3

**- Image -**

X-Y Plane (Floor):

[ ] OPEN

( [ 140 ] x [ 140 ] px )

X-Y Plane (Ceil):

[ ] OPEN

( [ 140 ] x [ 140 ] px )

Y-Z Plane (at Min-X):

[ ] OPEN

( [ 140 ] x [ 140 ] px )

Y-Z Plane (at Max-X):

[ ] OPEN

( [ 140 ] x [ 140 ] px )

Z-X Plane (at Min-Y):

[ ] OPEN

( [ 140 ] x [ 140 ] px )

Z-X Plane (at Max-Y):

[ ] OPEN

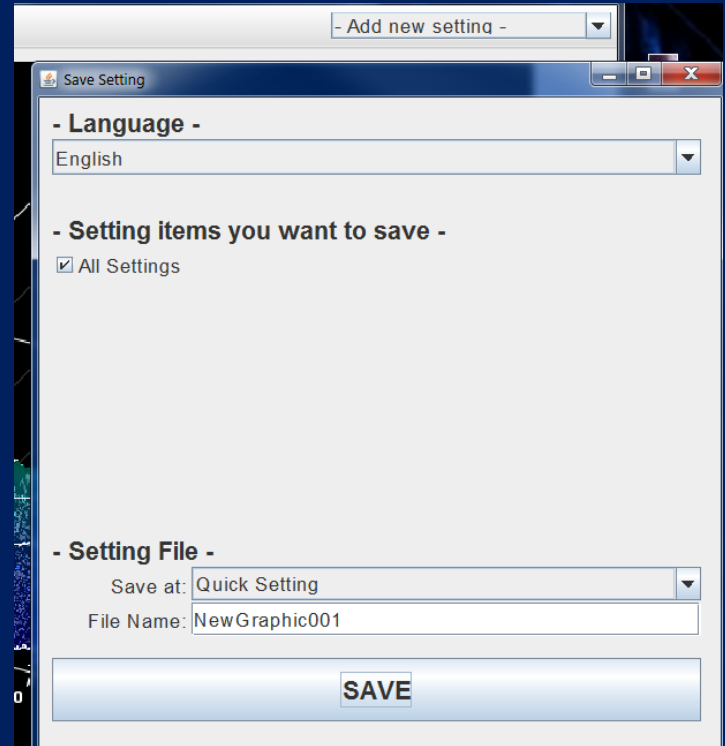
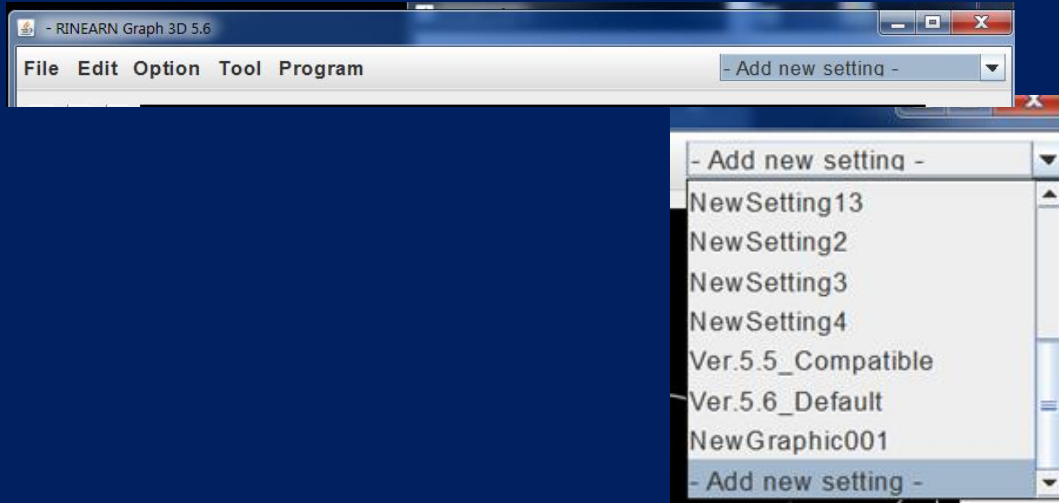
( [ 140 ] x [ 140 ] px )

☒ Inside Only

**SET**

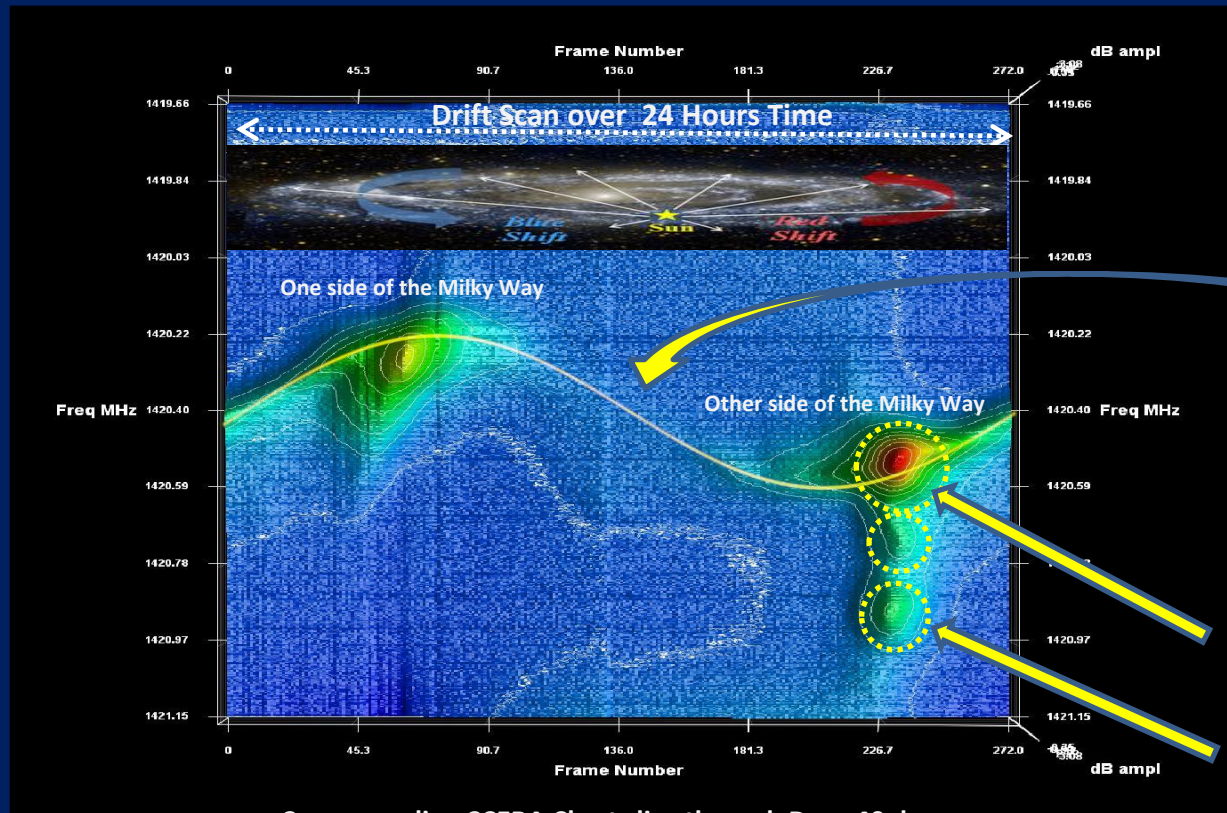
# *Add new setting*

You can save **All** graphic **Settings** to Named **Quick Settings**

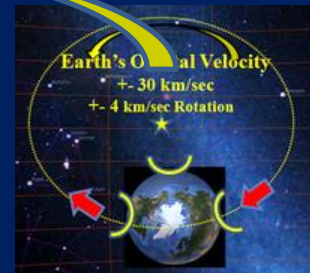


# Understanding the 3D Graphics PLOT

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



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



This Doppler Frequency Shifted Spectrum is from measuring Arms of the MW moving at Different Velocities WRT Earth



Corresponding CCERA Chart slice through Dec +40 dg

