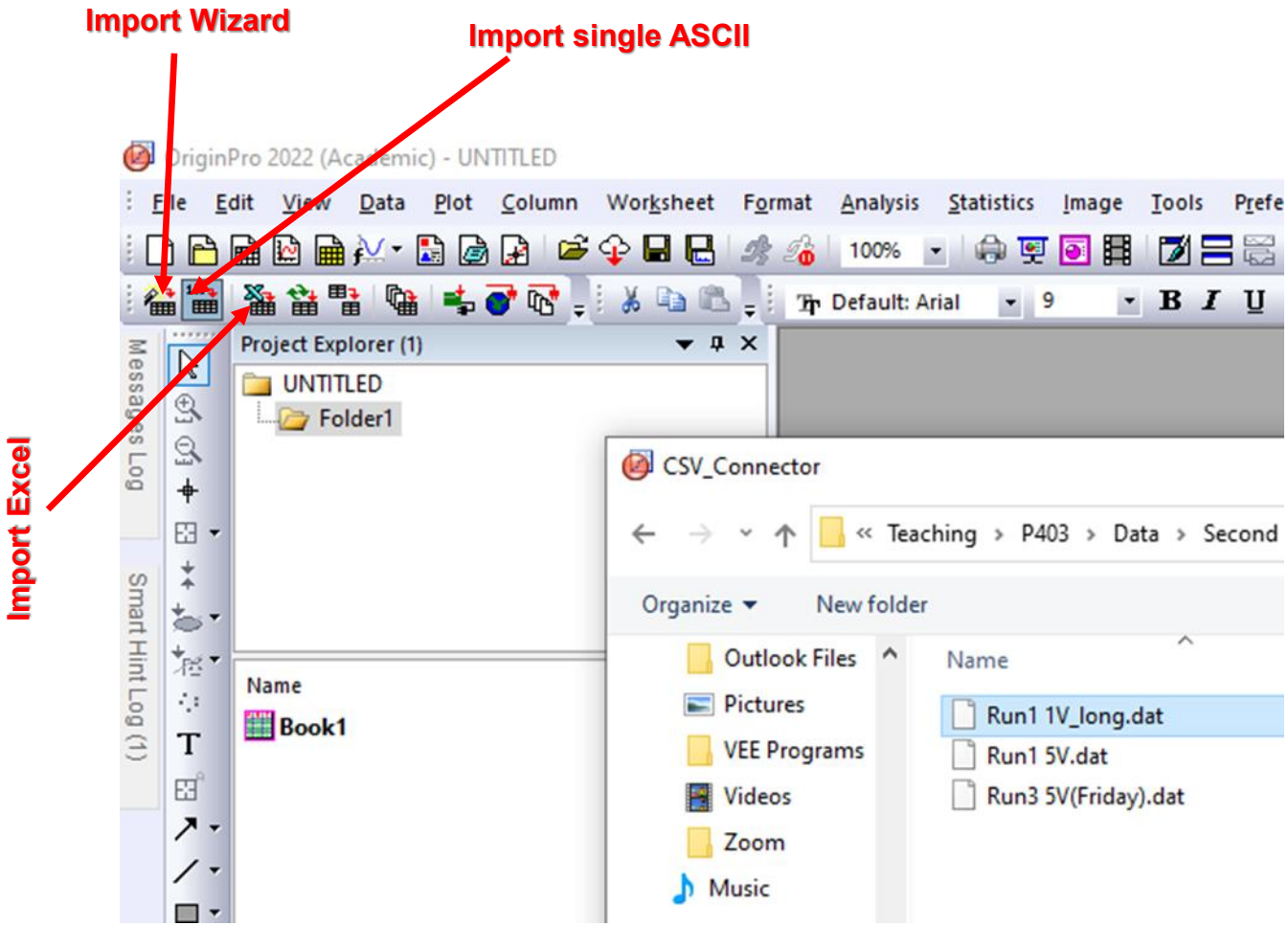
**Origin is on all Physics 403 computers.**
**What it can do:**

1. **Graphical presentation of data**
2. **Data analysis**
3. **Preparation of publication-quality figures**

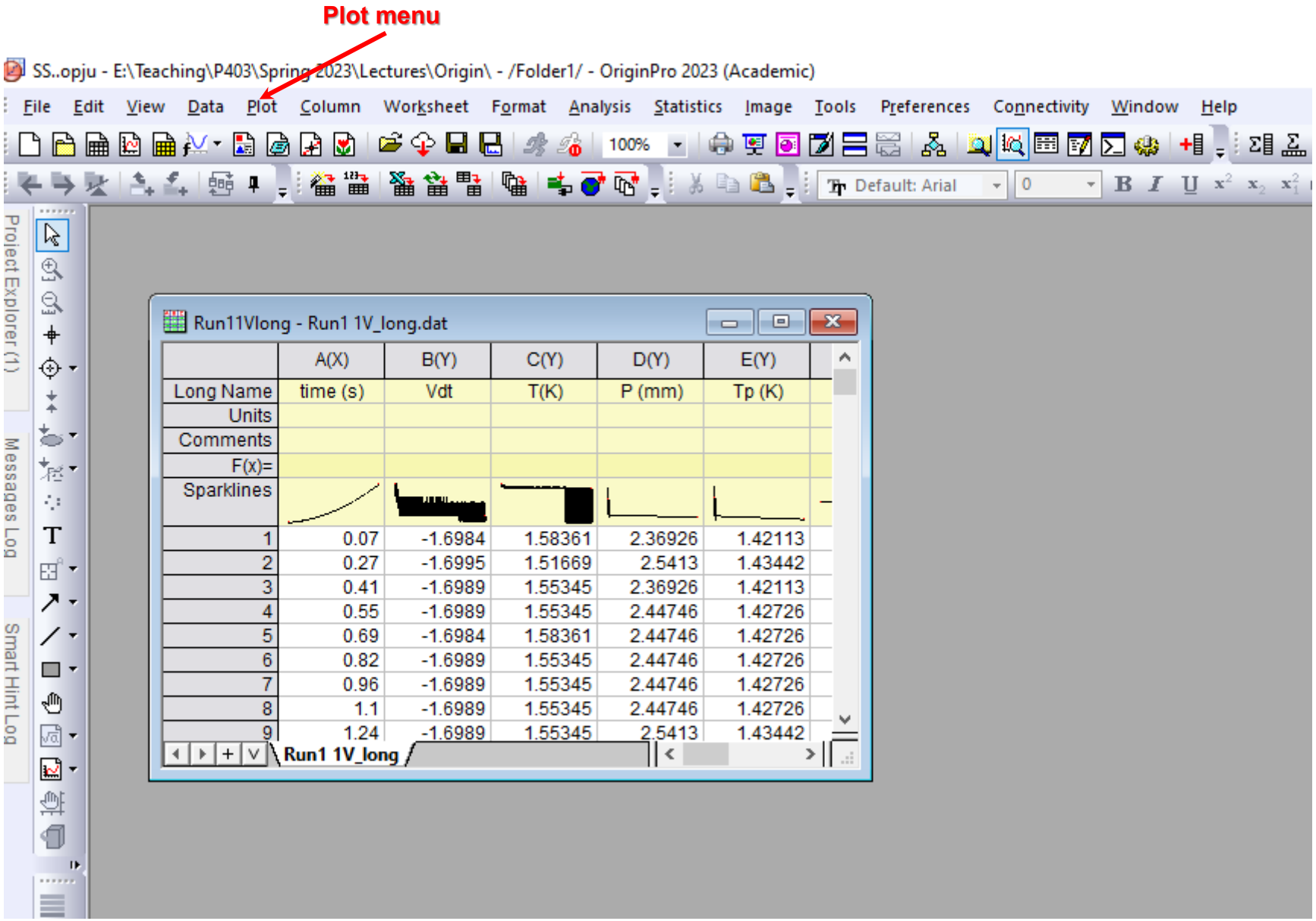
- **Specially designed for scientific graphics**
- **"Standard" Windows application, does not require knowledge of C++ or any other high level computer language**
- **Can write special functions or procedures using Origin programming tools**

# Importing data



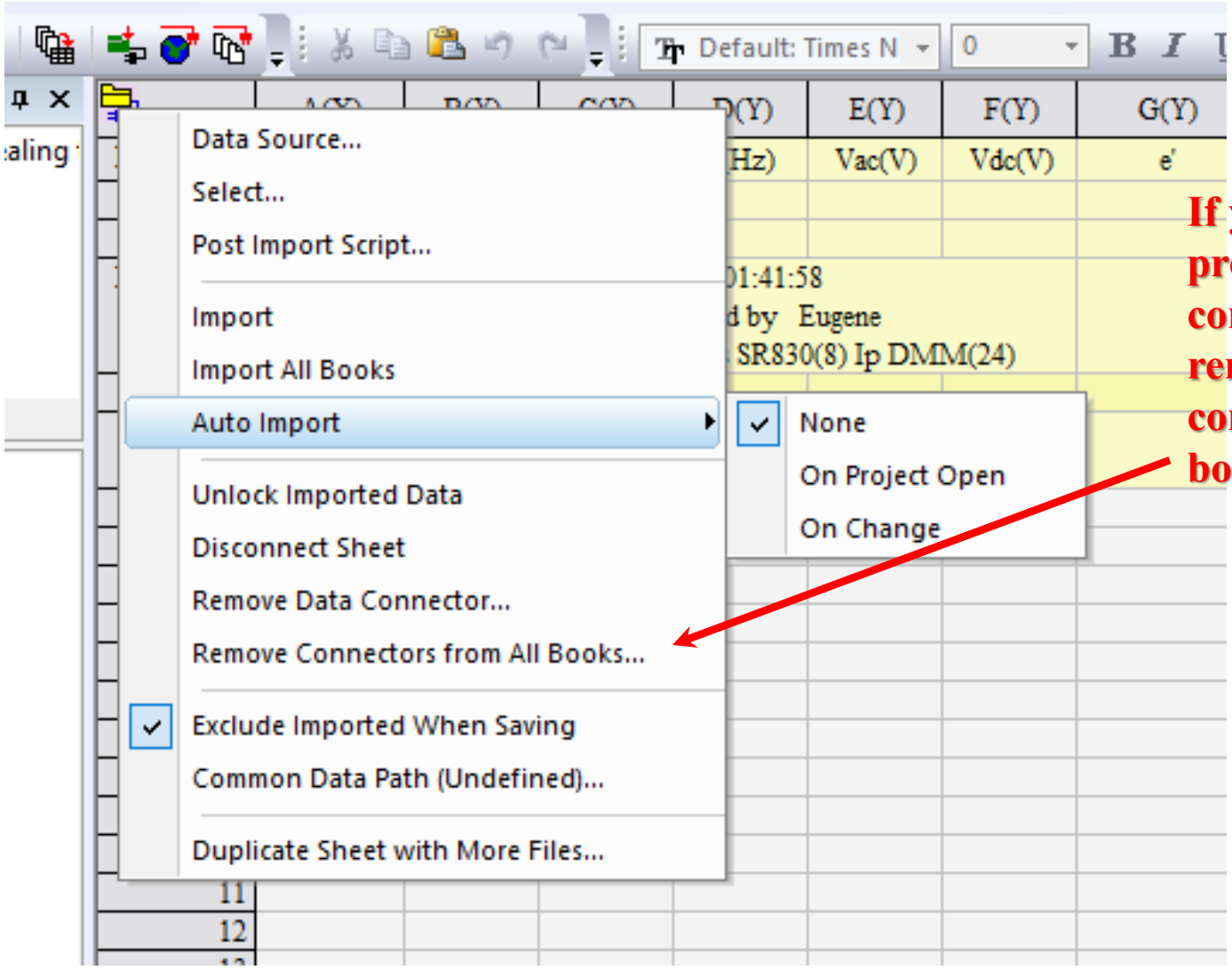

**Can drag and drop .dat or .txt files into empty spreadsheet**
**Or import files**

# Graphical presentation of data: Basic Plot

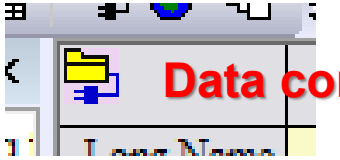



| | A(X) | B(Y) | C(Y) | D(Y) | E(Y) |
|---|---|---|---|---|---|
| Long Name | time (s) | Vdt | T(K) | P (mm) | Tp (K) |
| Units | | | | | |
| Comments | | | | | |
| F(x)= | | | | | |
| Sparklines | | | | | |
| 1 | 0.07 | -1.6984 | 1.58361 | 2.36926 | 1.42113 |
| 2 | 0.27 | -1.6995 | 1.51669 | 2.5413 | 1.43442 |
| 3 | 0.41 | -1.6989 | 1.55345 | 2.36926 | 1.42113 |
| 4 | 0.55 | -1.6989 | 1.55345 | 2.44746 | 1.42726 |
| 5 | 0.69 | -1.6984 | 1.58361 | 2.44746 | 1.42726 |
| 6 | 0.82 | -1.6989 | 1.55345 | 2.44746 | 1.42726 |
| 7 | 0.96 | -1.6989 | 1.55345 | 2.44746 | 1.42726 |
| 8 | 1.1 | -1.6989 | 1.55345 | 2.44746 | 1.42726 |
| 9 | 1.24 | -1.6989 | 1.55345 | 2.5413 | 1.43442 |

# Graphical presentation of data: Basic Plot

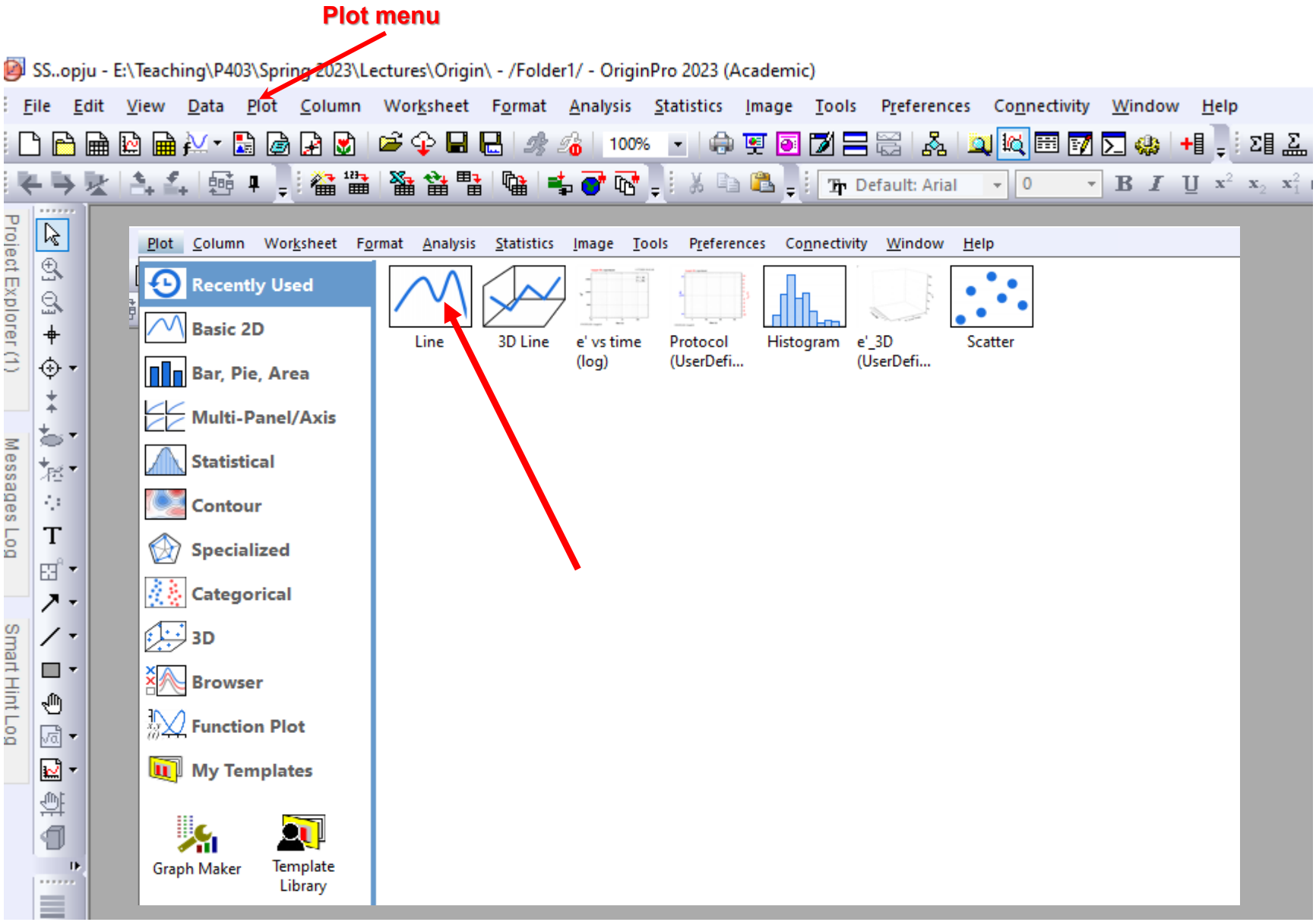



If you plan to use project on another computer, you need to remove the data connectors from all books

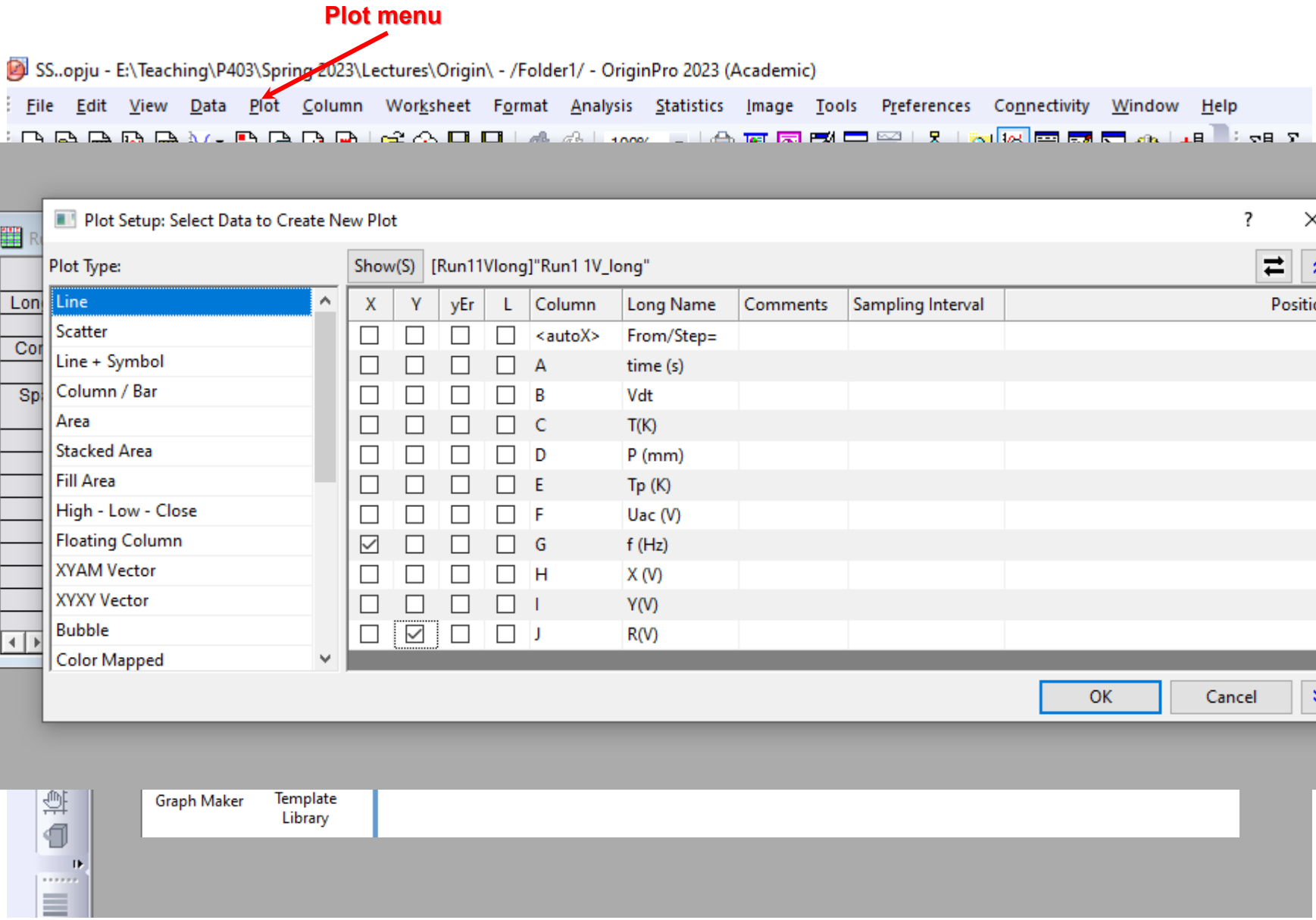


Data connector - new option in 2025, 2026 versions

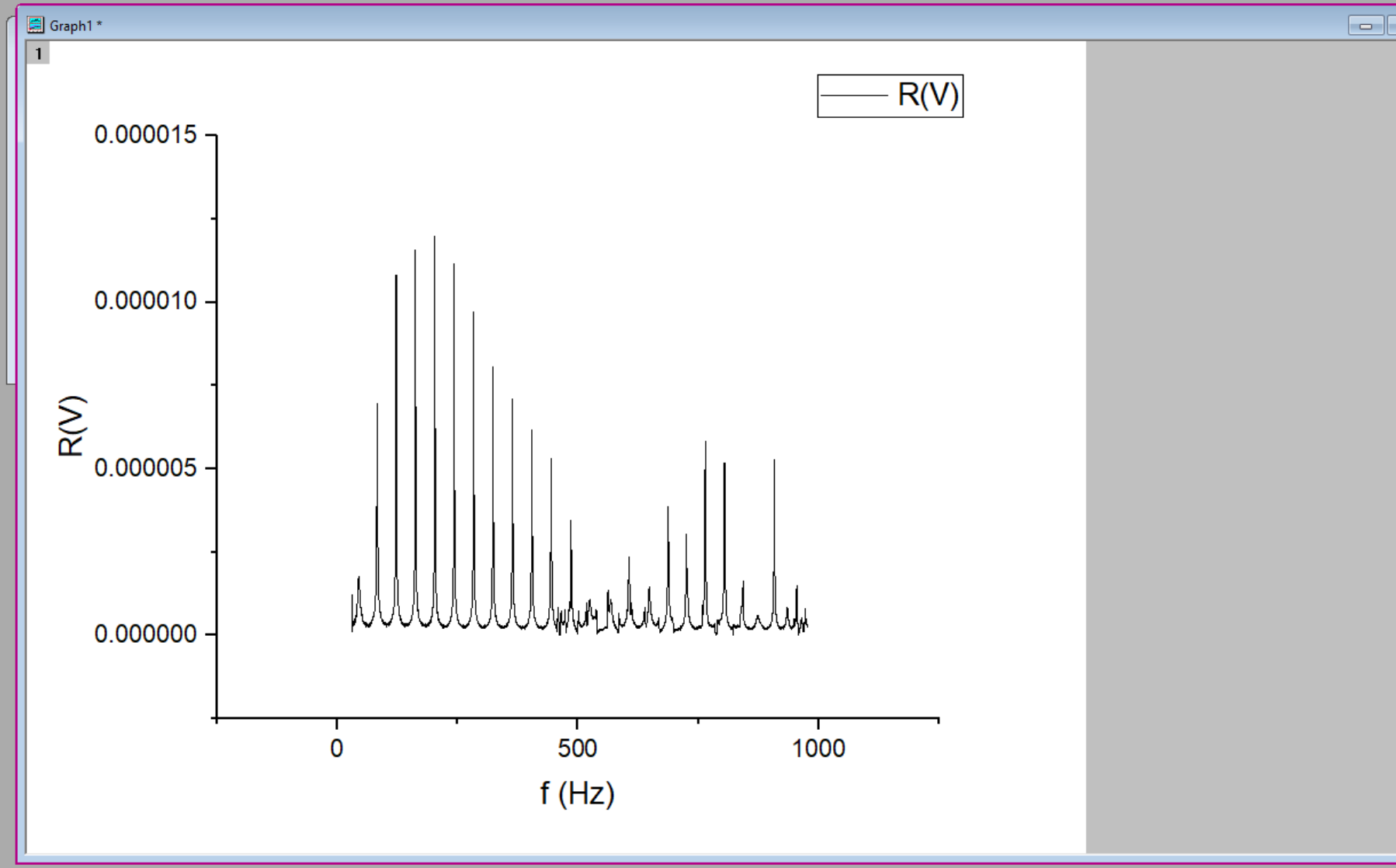
# Graphical presentation of data: Basic Plot



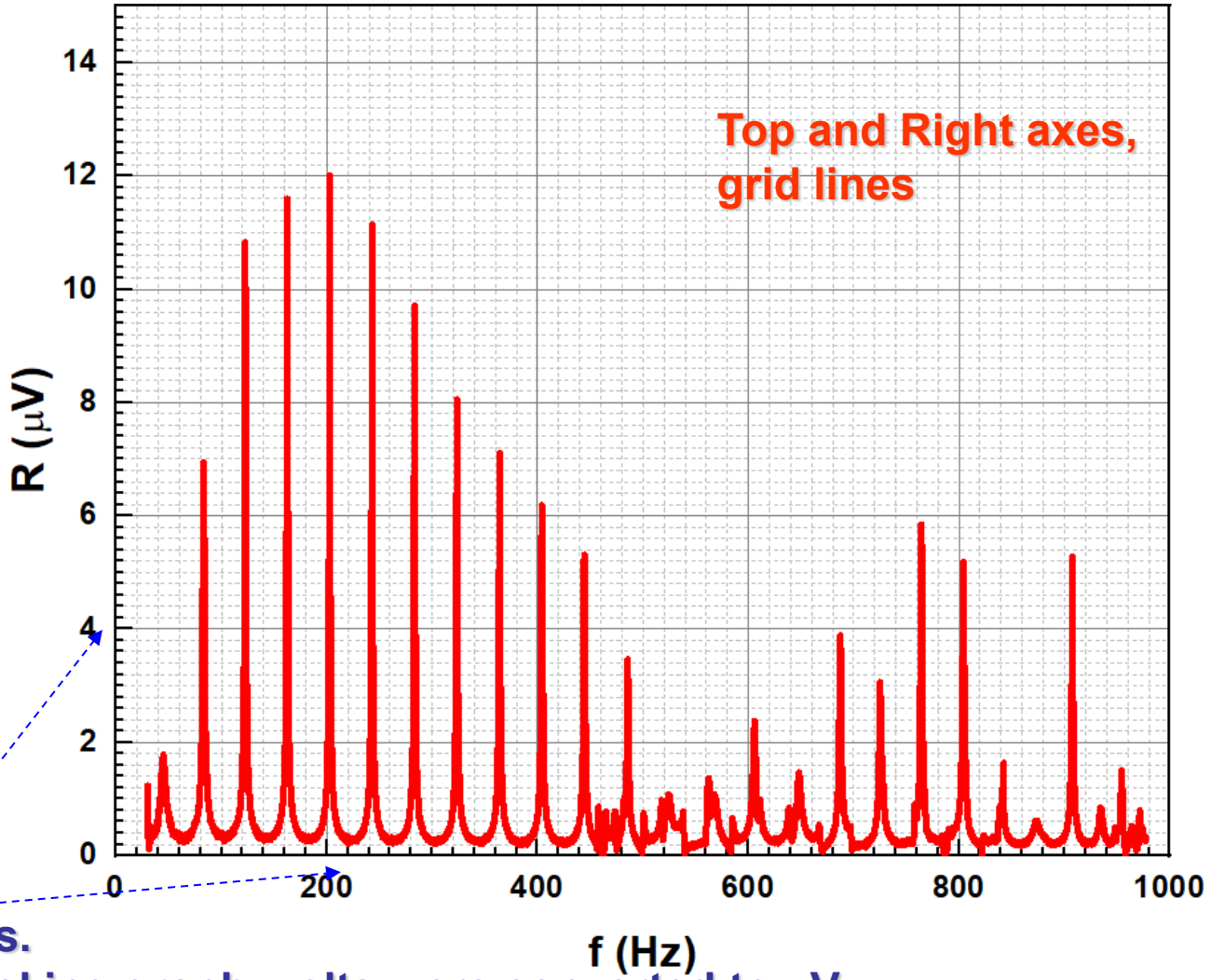
# Graphical presentation of data: Basic Plot



# Graphical presentation of data: Basic Plot



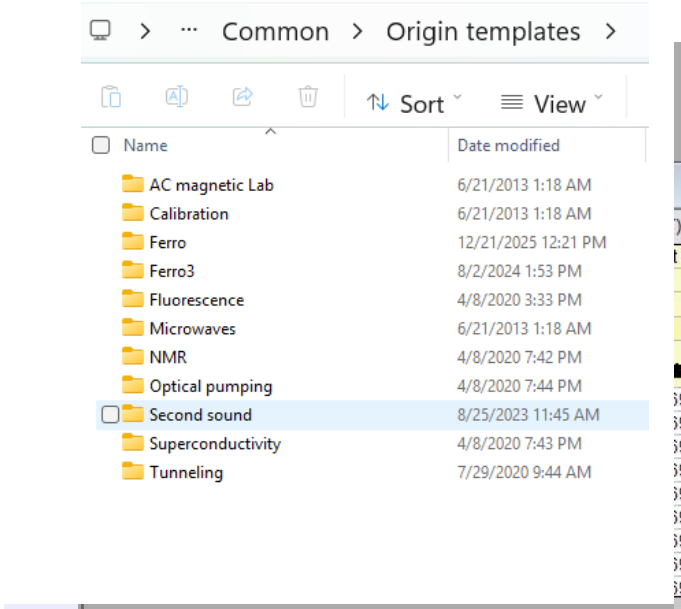
# Graphical presentation of data: Basic Plot

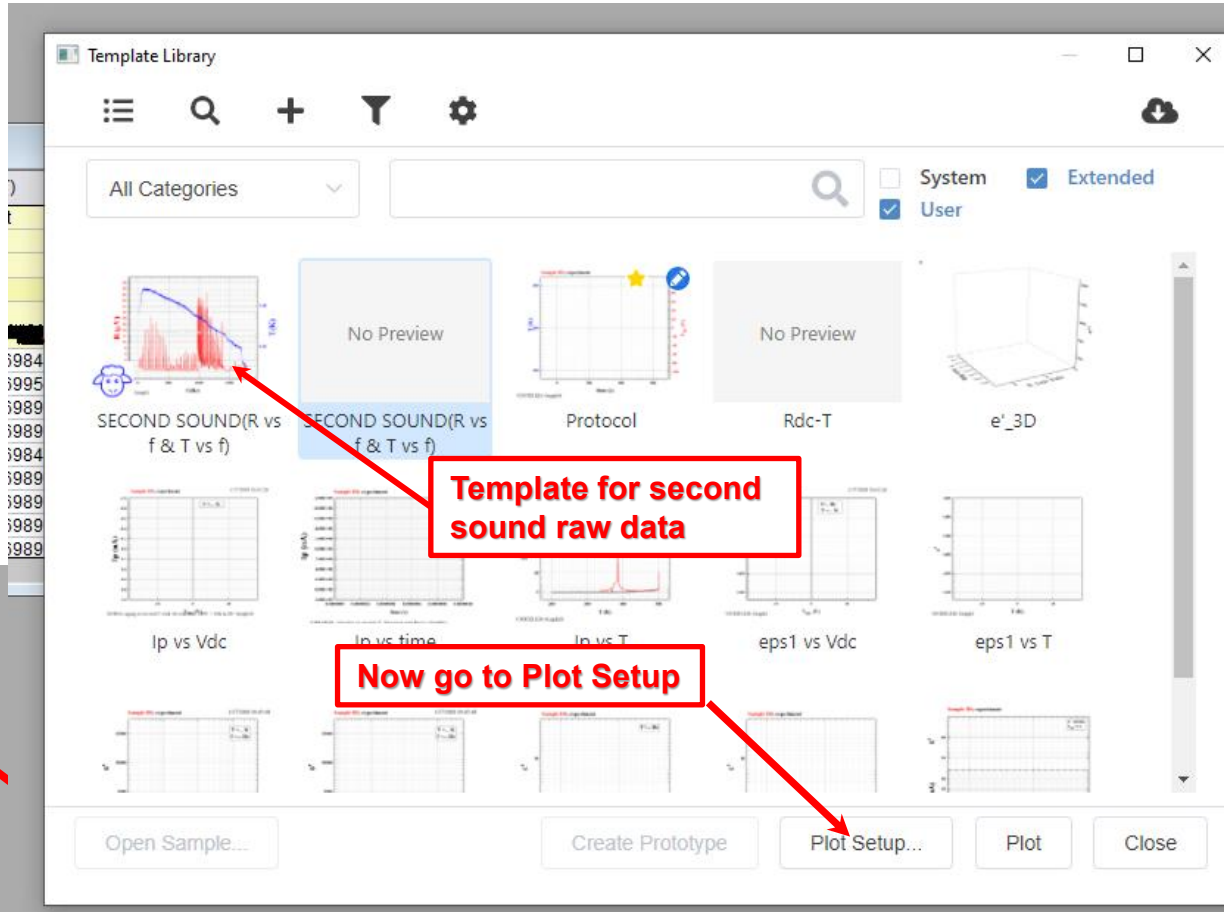



Bold tick labels.

For a better-looking graph, volts were converted to μV

# Graphical presentation of data: Templates

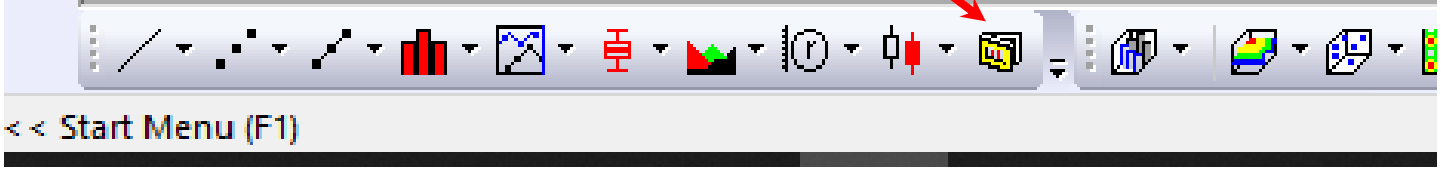


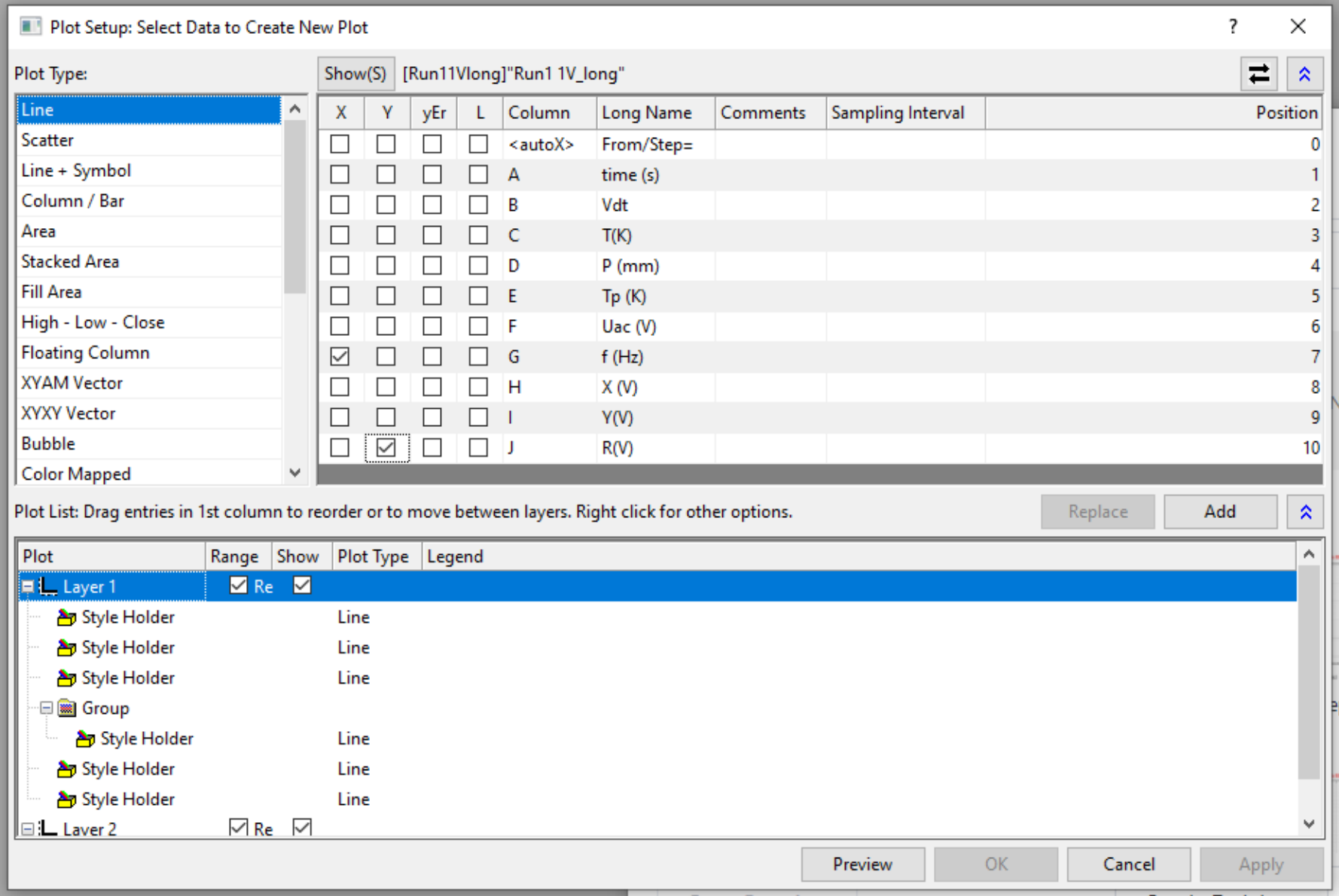

**Templates Library**

**Template for second sound raw data**

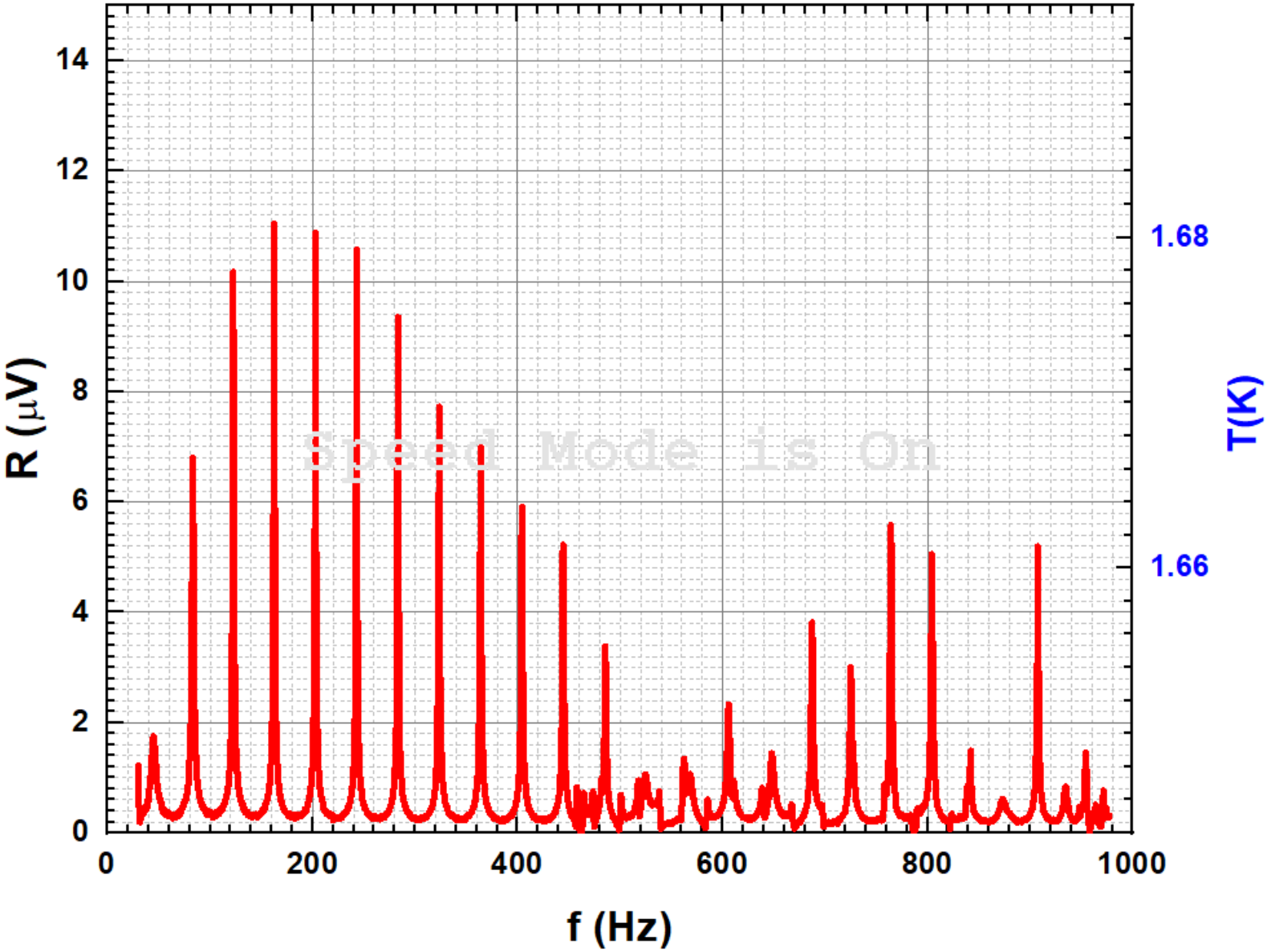
**Now go to Plot Setup**



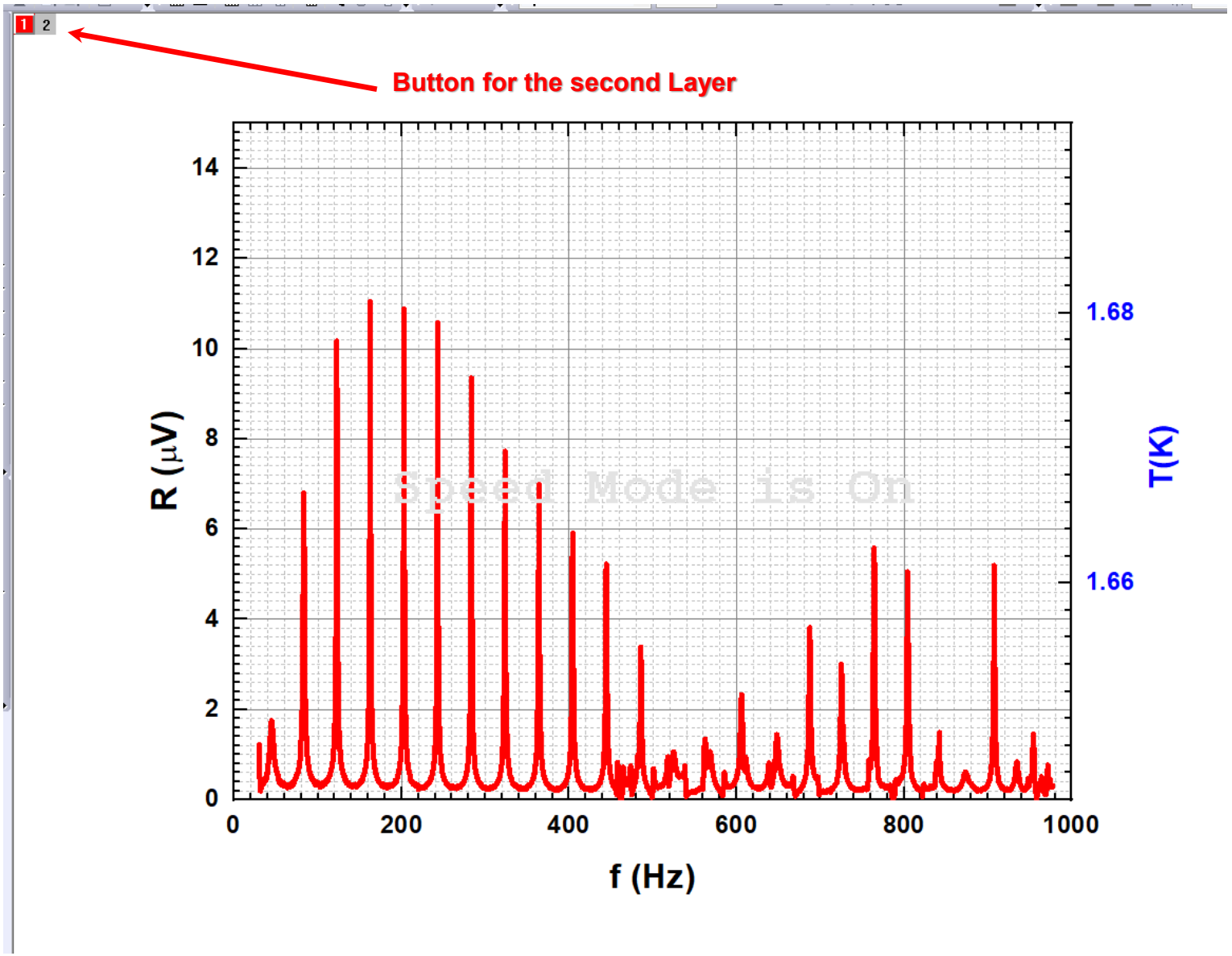
# Graphical presentation of data: Templates

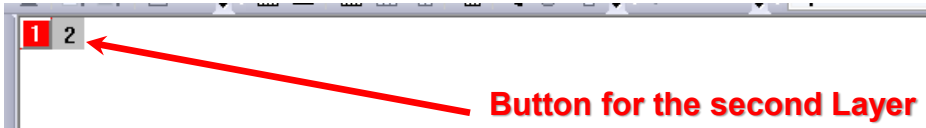


# Graphical presentation of data: Templates



# Graphical presentation of data: Extra Layer






Plot Setup: Configure Data Plots in Layer

Plot Type:

- Line
- Scatter
- Line + Symbol
- Column / Bar
- Area
- Stacked Area
- Fill Area
- High - Low - Close
- Floating Column
- XYAM Vector
- XYXY Vector
- Bubble
- Color Mapped
- Bubble + Color Mapped

Show(S) [Run11Vlong]"Run1 1V_long"

| X | Y | yEr | L | Column | Long Name | Comments | Sampling Interval | Position |
|---|---|---|---|---|---|---|---|---|
| ☐ | ☐ | ☐ | ☐ | <autoX> | From/Step= | | | 0 |
| ☐ | ☐ | ☐ | ☐ | A | time (s) | | | 1 |
| ☐ | ☐ | ☐ | ☐ | B | Vdt | | | 2 |
| ☐ | ☑ | ☐ | ☐ | C | T(K) | | | 3 |
| ☐ | ☐ | ☐ | ☐ | D | P (mm) | | | 4 |
| ☐ | ☐ | ☐ | ☐ | E | Tp (K) | | | 5 |
| ☐ | ☐ | ☐ | ☐ | F | Uac (V) | | | 6 |
| ☑ | ☐ | ☐ | ☐ | G | f (Hz) | | | 7 |
| ☐ | ☐ | ☐ | ☐ | H | X (V) | | | 8 |
| ☐ | ☐ | ☐ | ☐ | I | Y(V) | | | 9 |
| ☐ | ☐ | ☐ | ☐ | J | R(V) | | | 10 |

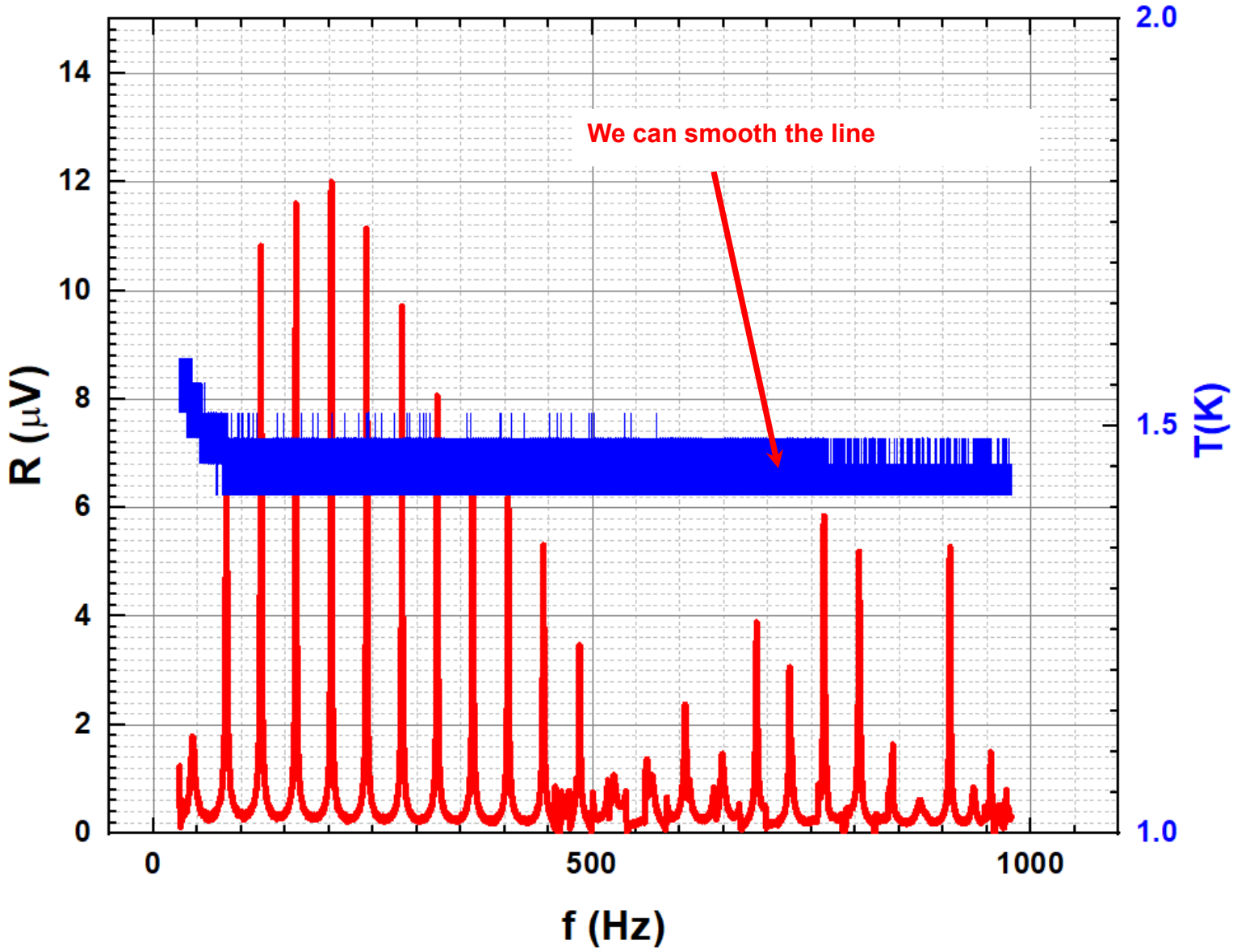
Plot List: Drag entries in 1st column to reorder or to move between layers. Right click for other options.

Replace Add

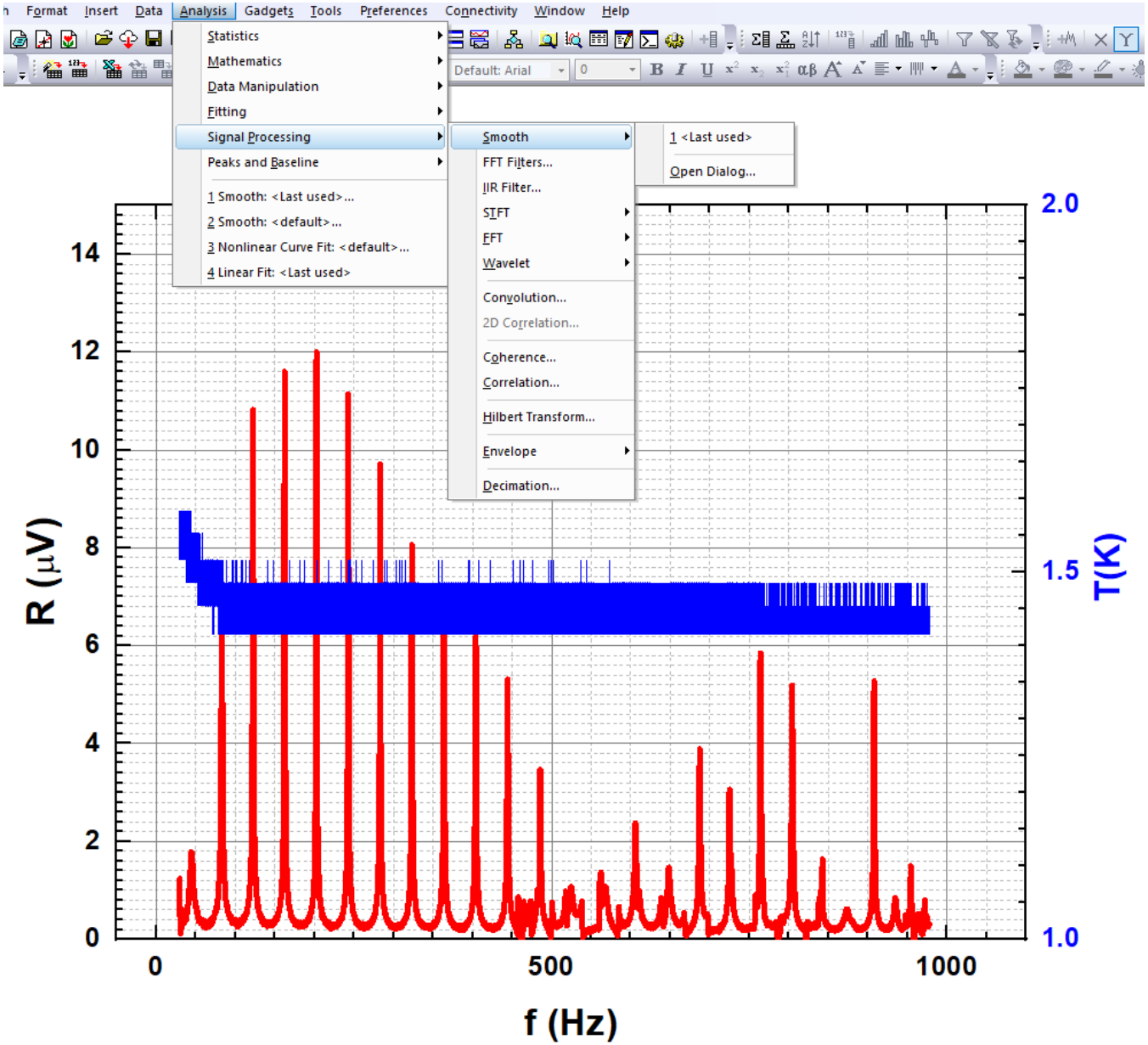
| Plot | Range | Show | Plot Type | Legend |
|---|---|---|---|---|
| Layer 1 | ☐ Rescale | ☑ | | |
| [Run1 1V_long.dat]Run1 1V_long! "f (Hz)"(X), "R(V)"(Y) | [1*:94707*] 30.01 < X < 977.07 , 0 < Y < 1.20039E-5 | ☑ | Line | R(V) |
| Layer 2 | ☑ Rescale | ☑ | | |
| [Run1 1V_long.dat]Run1 1V_long! "f (Hz)"(X), "T(K)"(Y) | [1*:94707*] 30.01 < X < 977.07 , 0 < Y < 1.58361 | ☑ | Line | T(K) |

Preview OK Cancel Apply

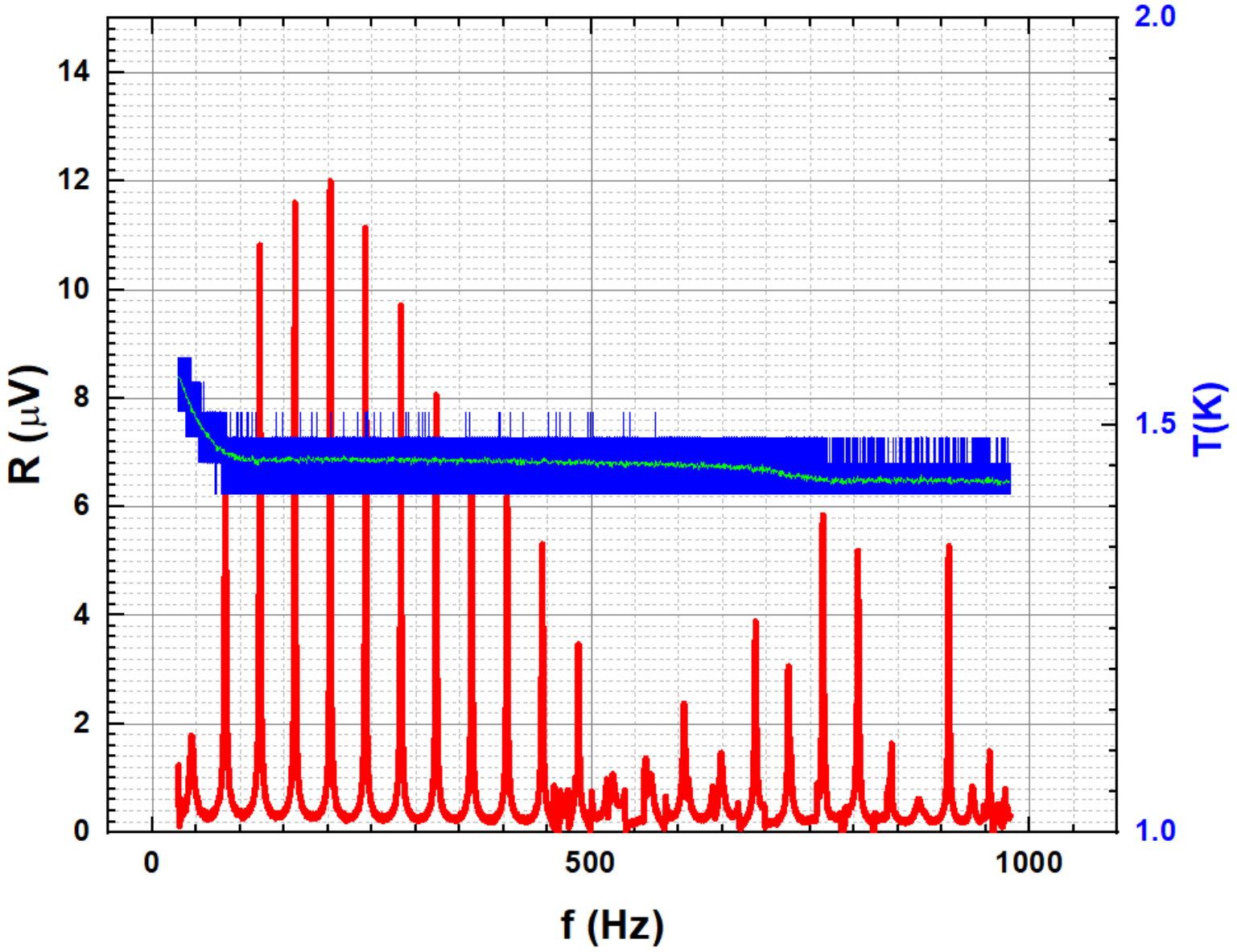
# Graphical presentation of data: Extra Layer



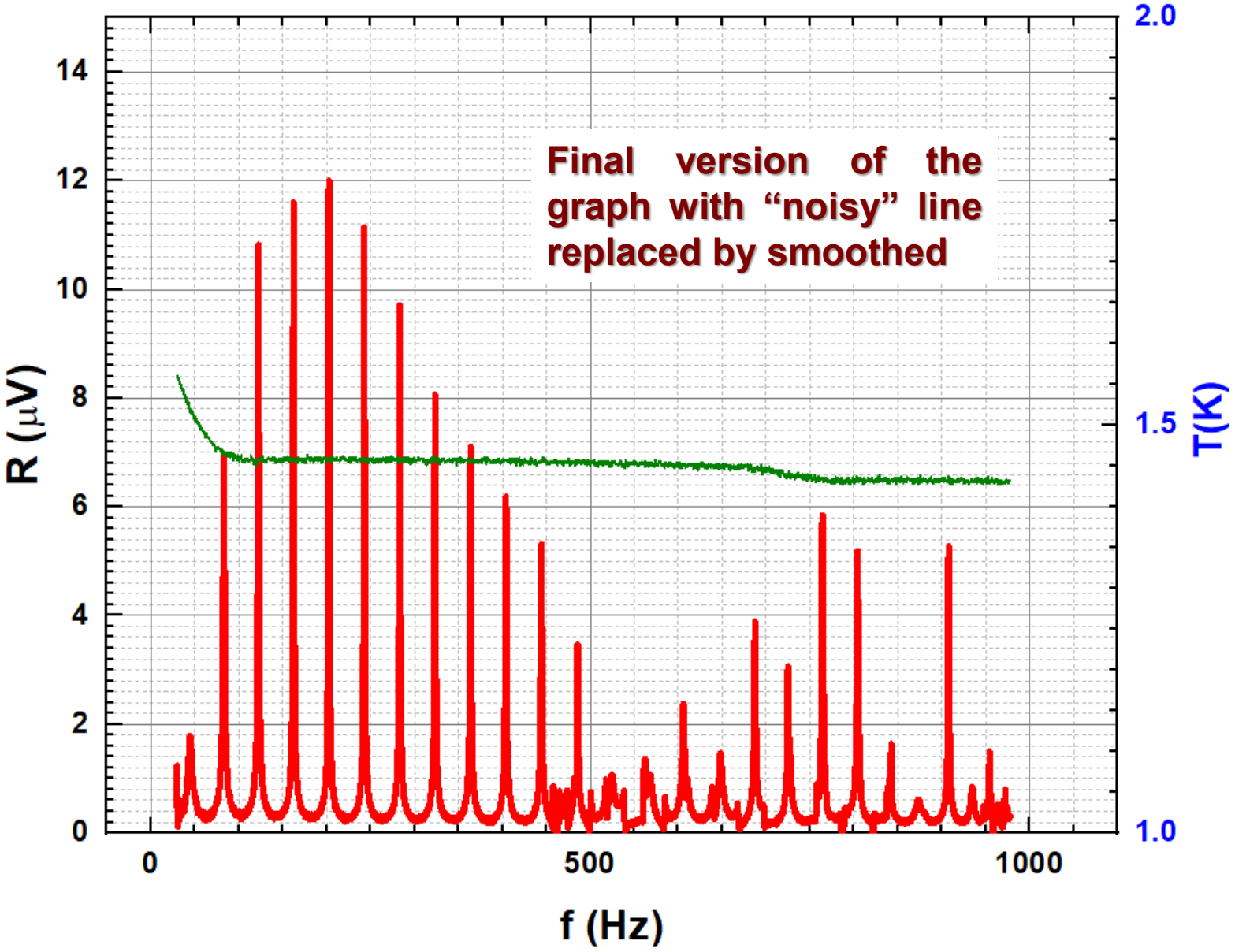
# Graphical presentation of data: Extra Layer

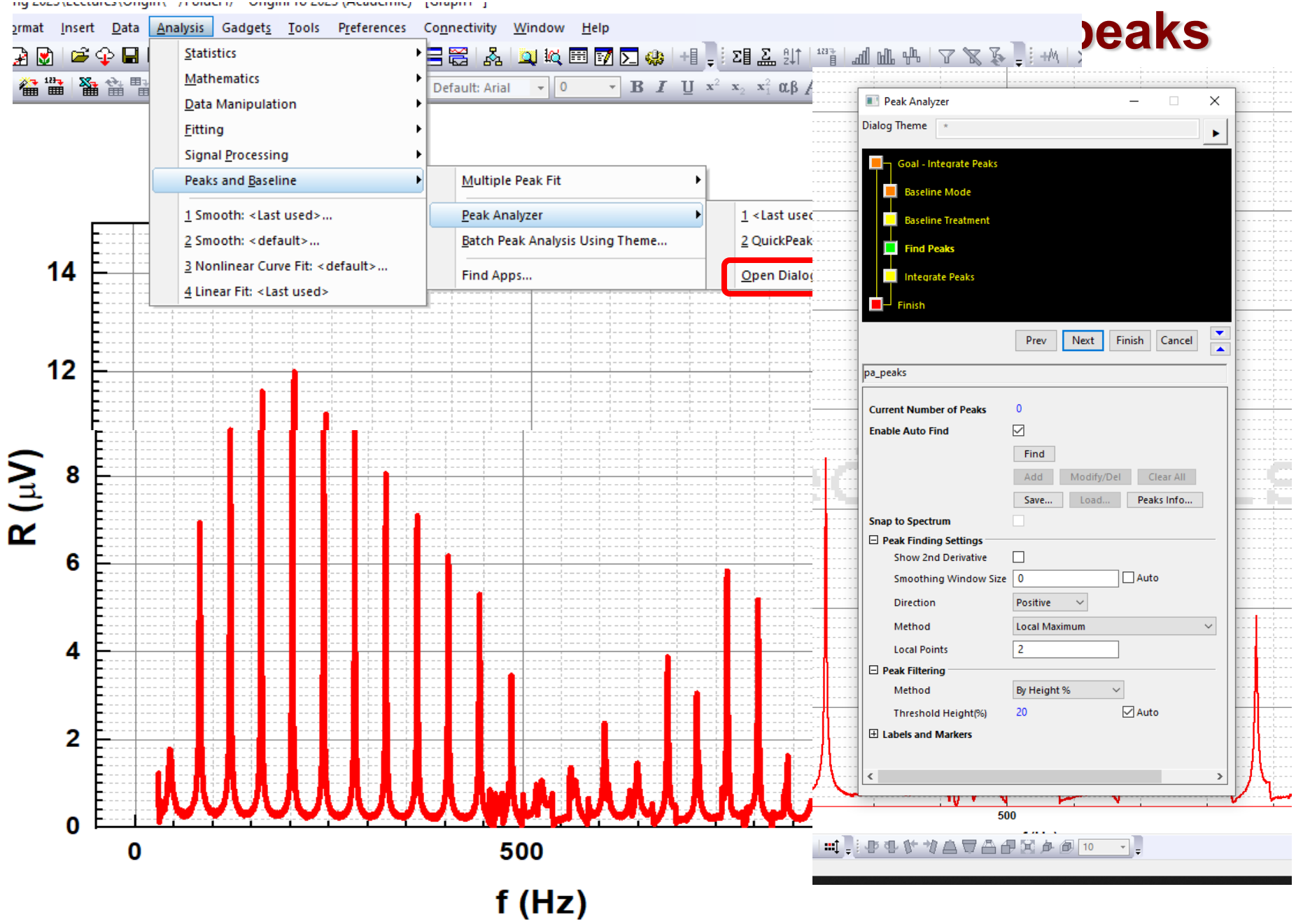


# Graphical presentation of data: Extra Layer

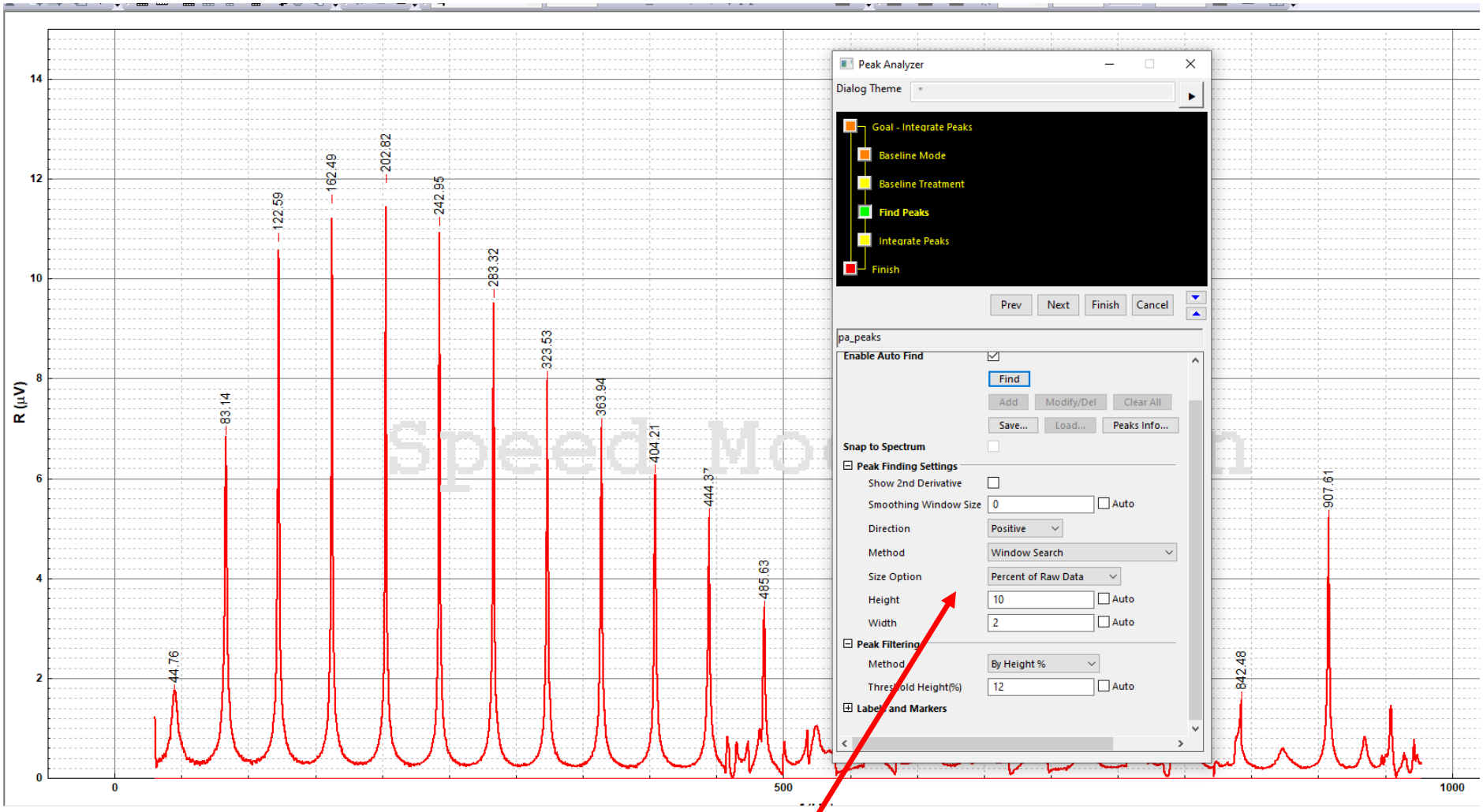


# Graphical presentation of data: Extra Layer



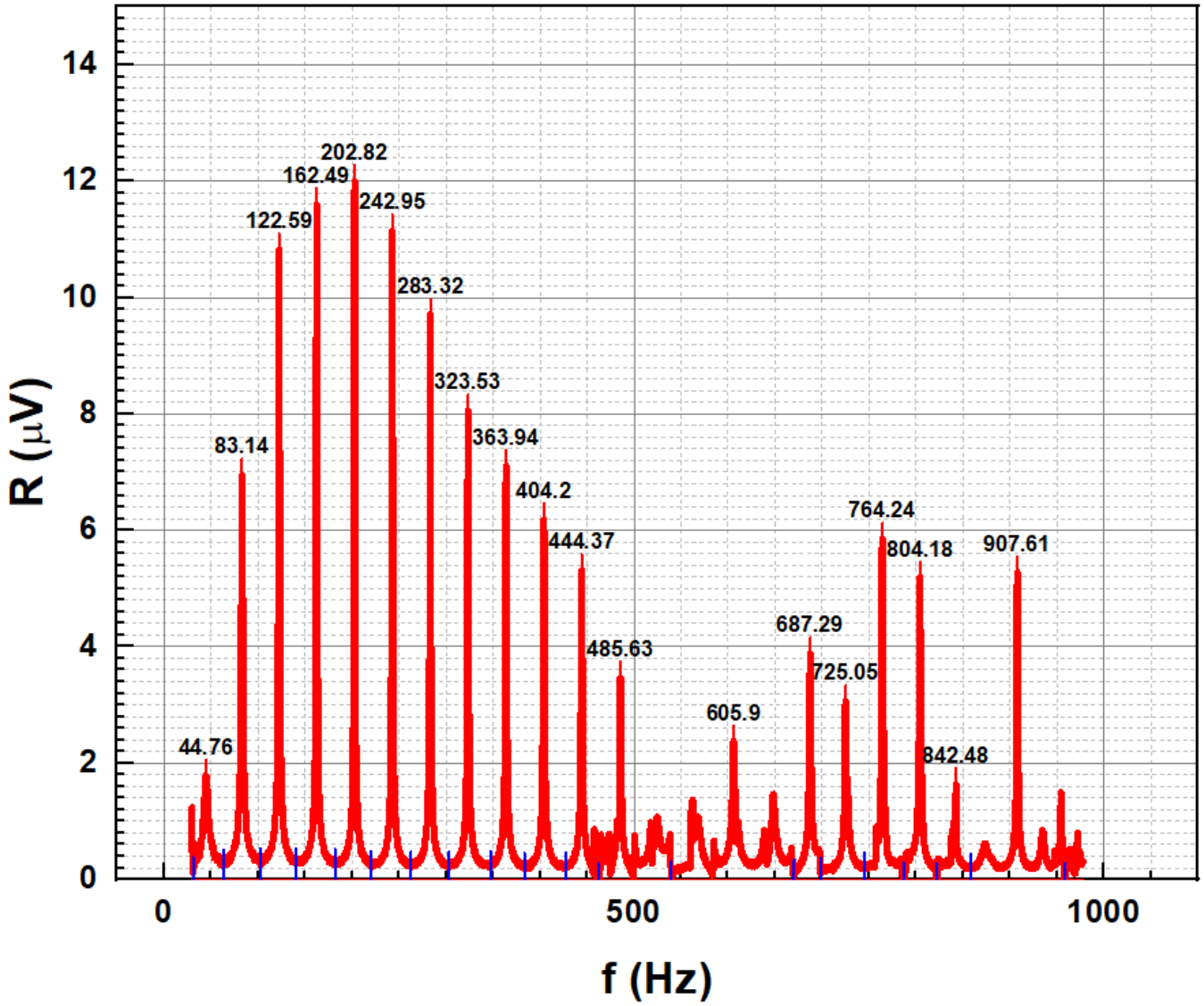

Format Insert Data Analysis Gadgets Tools Preferences Connectivity Window Help
Statistics
Mathematics
Data Manipulation
Fitting
Signal Processing
Peaks and Baseline
1 Smooth: <Last used>...
2 Smooth: <default>...
3 Nonlinear Curve Fit: <default>...
4 Linear Fit: <Last used>
Multiple Peak Fit
Peak Analyzer
Batch Peak Analysis Using Theme...
Find Apps...
1 <Last used
2 QuickPeak
Open Dialog
Peak Analyzer
Dialog Theme
Goal - Integrate Peaks
Baseline Mode
Baseline Treatment
Find Peaks
Integrate Peaks
Finish
Prev
Next
Finish
Cancel
pa_peaks
Current Number of Peaks 0
Enable Auto Find
Find
Add
Modify/Del
Clear All
Save...
Load...
Peaks Info...
Snap to Spectrum
Peak Finding Settings
Show 2nd Derivative
Smoothing Window Size 0 Auto
Direction Positive
Method Local Maximum
Local Points 2
Peak Filtering
Method By Height %
Threshold Height(%) 20 Auto
Labels and Markers
R (μV)
f (Hz)
0
2
4
6
8
12
14
0
500
500

# Graphical presentation of data: Finding peaks

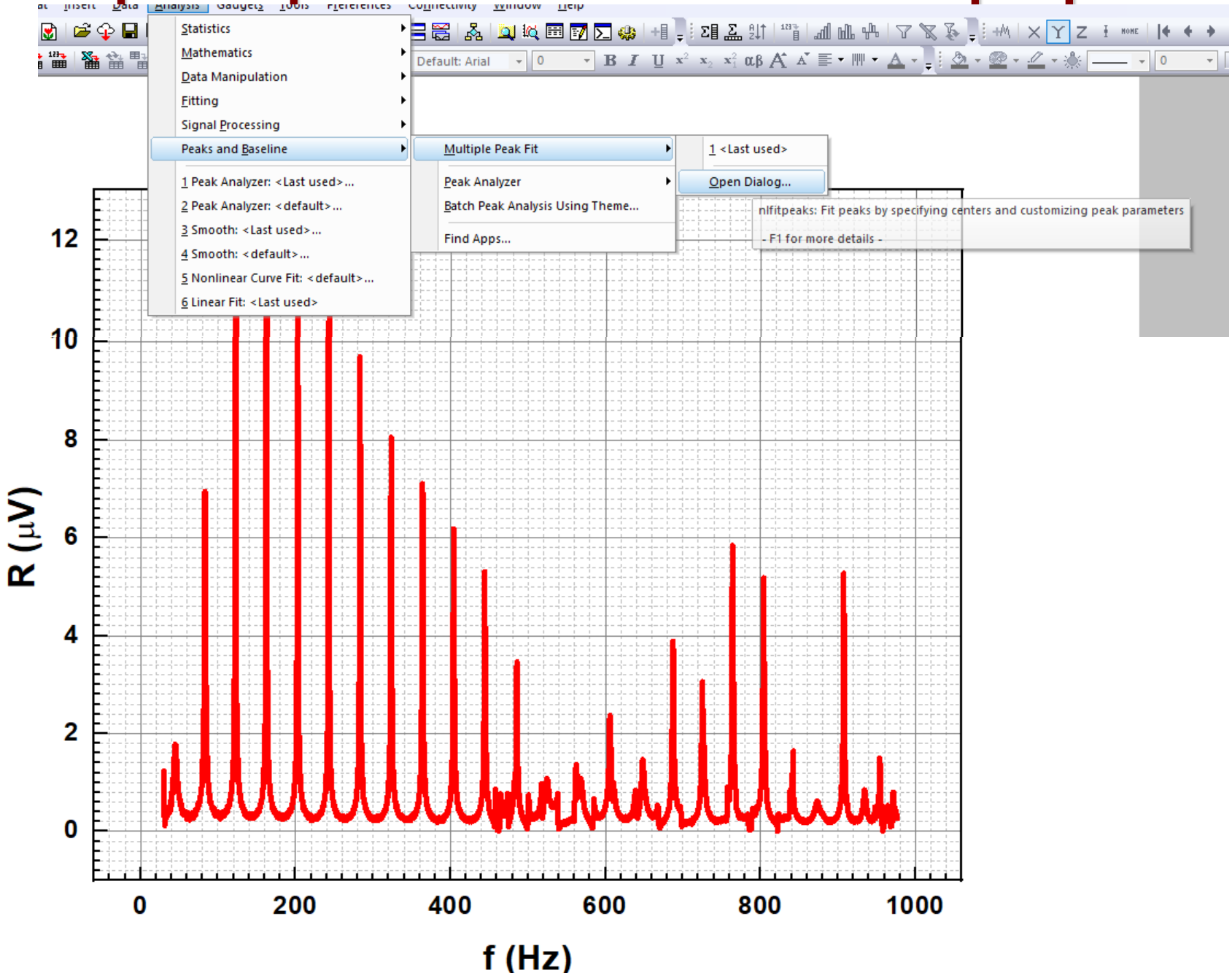



**Choose the proper search parameters**

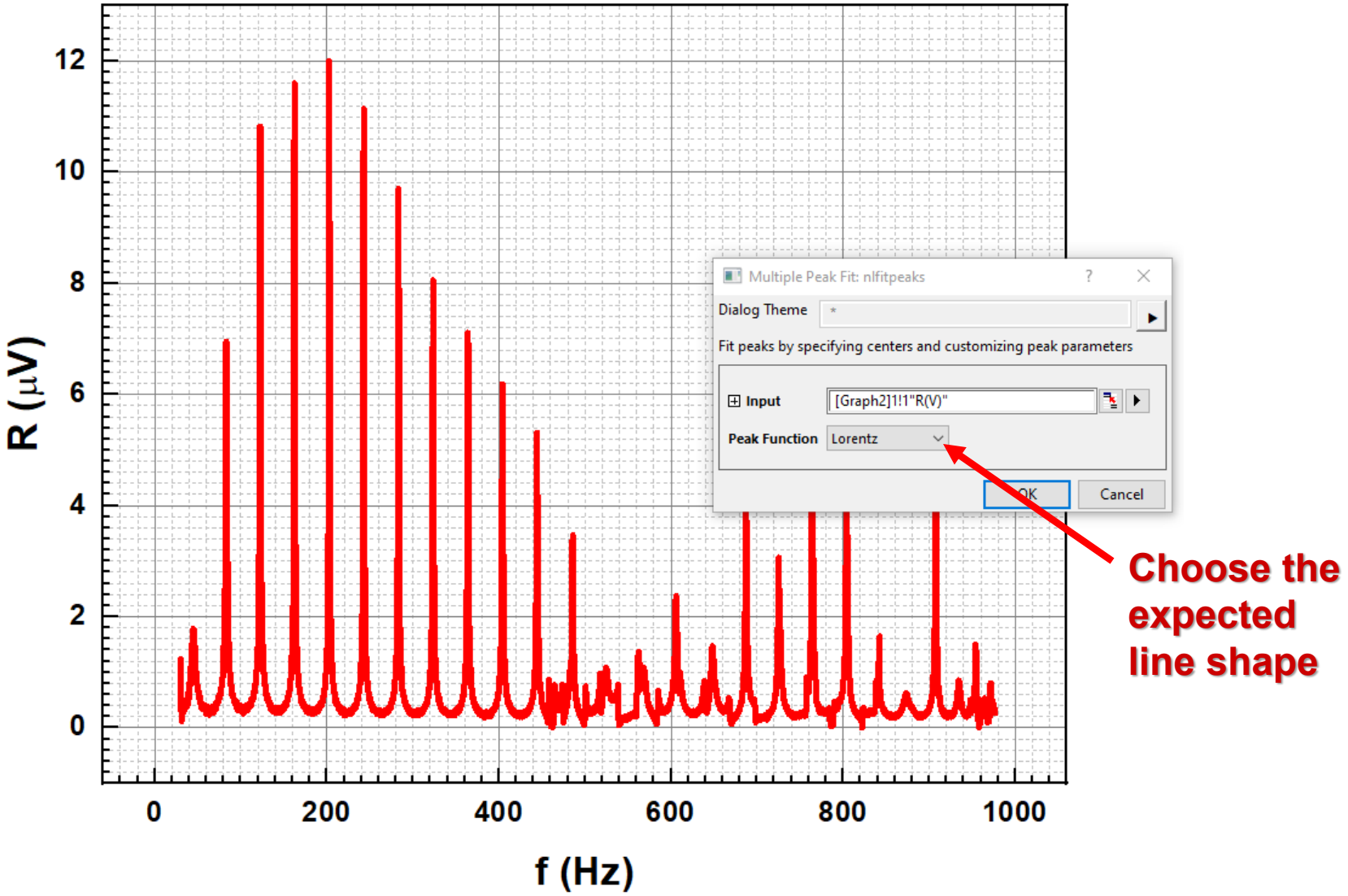
# Graphical presentation of data: Finding peaks



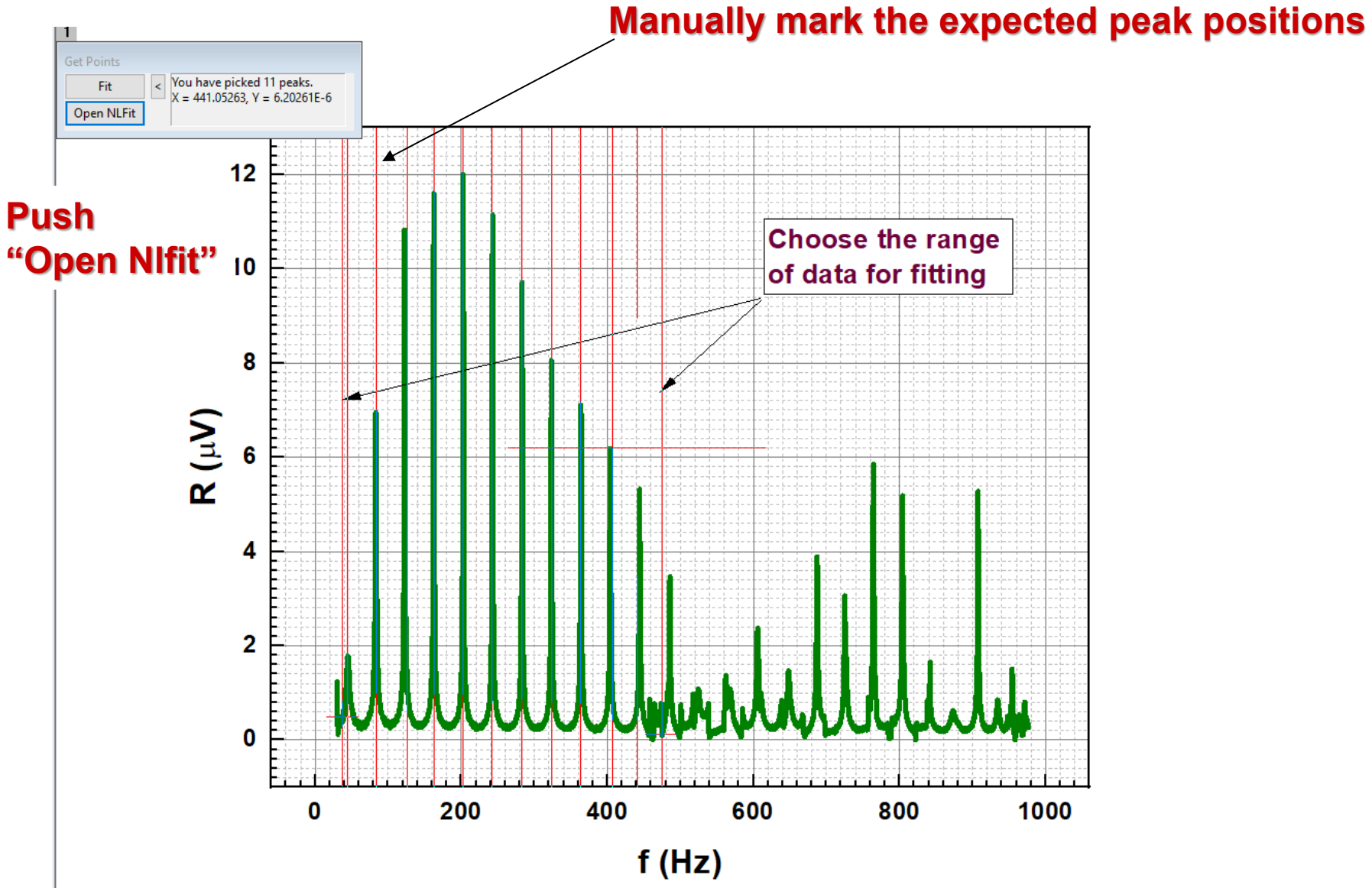
# Graphical presentation of data: Multiple peak Fit



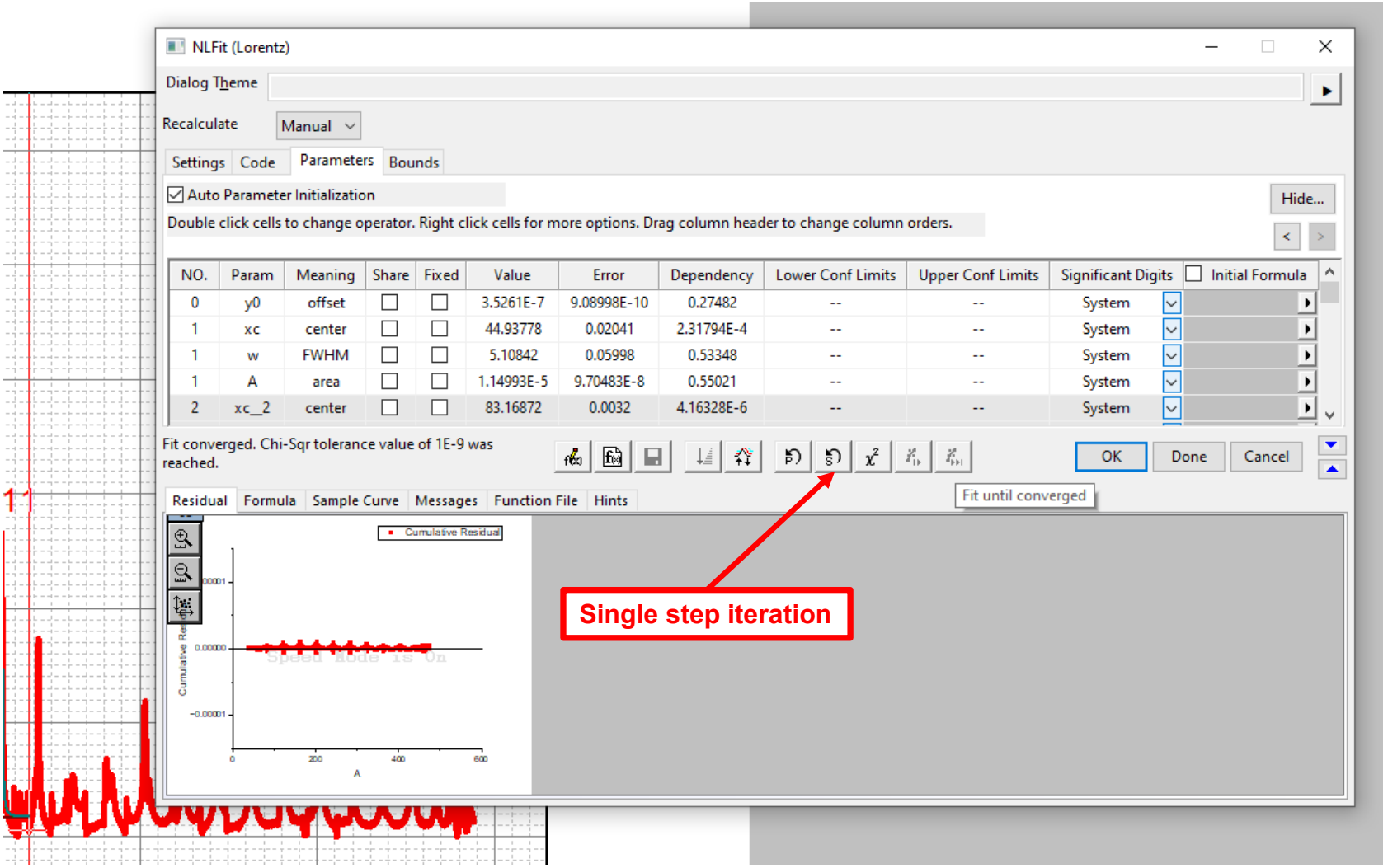
# Graphical presentation of data: Multiple peak Fit



# Graphical presentation of data: Multiple peak Fit

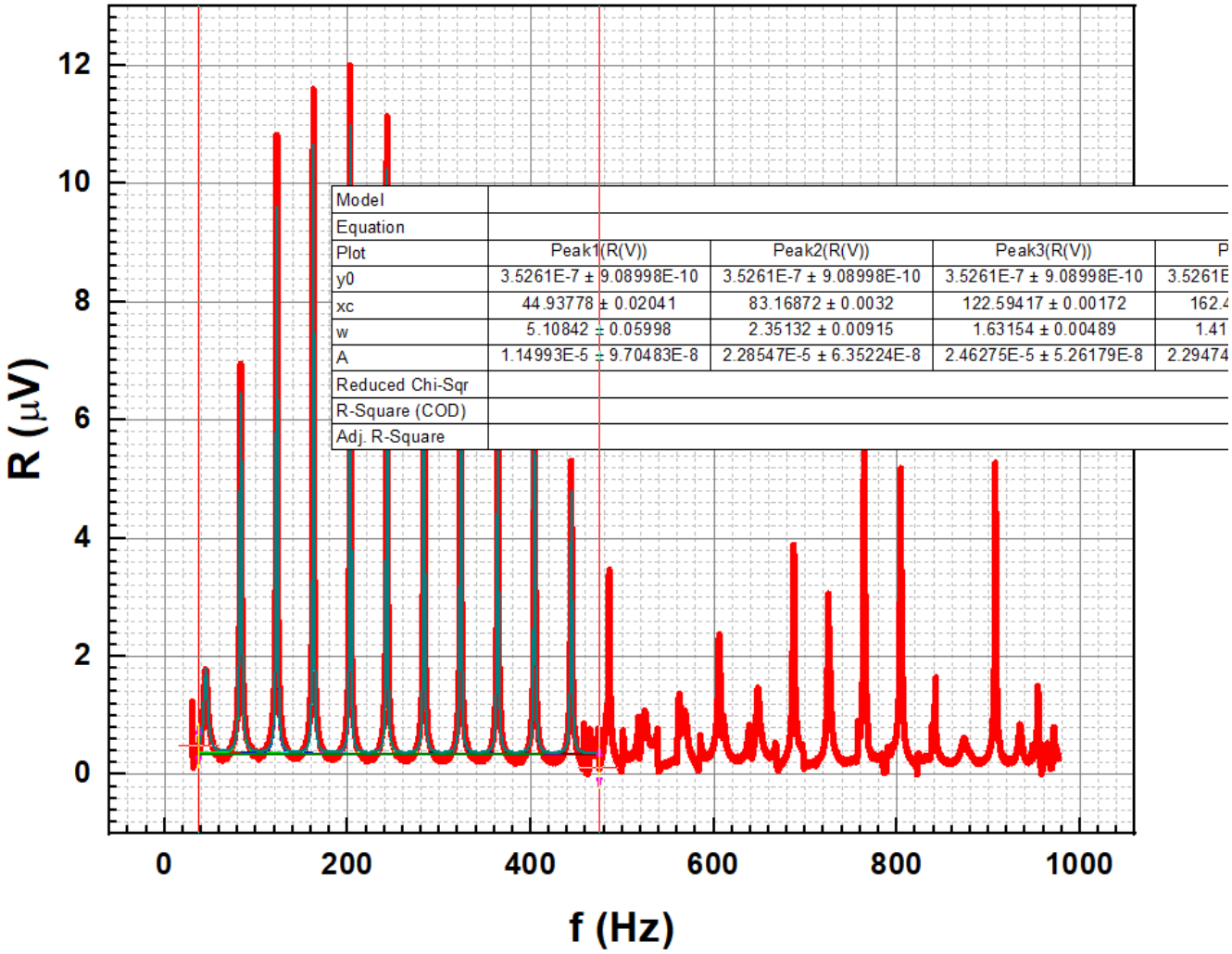


# Graphical presentation of data: Multiple peak Fit




**Recommendation: start first with "*Single step iteration*" and next if fitting goes in proper direction push "*Fit until converged*"**

# Graphical presentation of data: Multiple peak Fit




| Model | | | | |
|---|---|---|---|---|
| Equation | | | | |
| Plot | Peak1(R(V)) | Peak2(R(V)) | Peak3(R(V)) | P |
| y0 | 3.5261E-7 ± 9.08998E-10 | 3.5261E-7 ± 9.08998E-10 | 3.5261E-7 ± 9.08998E-10 | 3.5261E |
| xc | 44.93778 ± 0.02041 | 83.16872 ± 0.0032 | 122.59417 ± 0.00172 | 162.4 |
| w | 5.10842 ± 0.05998 | 2.35132 ± 0.00915 | 1.63154 ± 0.00489 | 1.41 |
| A | 1.14993E-5 ± 9.70483E-8 | 2.28547E-5 ± 6.35224E-8 | 2.46275E-5 ± 5.26179E-8 | 2.29474 |
| Reduced Chi-Sqr | | | | |
| R-Square (COD) | | | | |
| Adj. R-Square | | | | |

**Finally, you will have the data plot with set of fitting lines plus the table with found parameters**

# Graphical presentation of data: Multiple peak Fit

## All fitting results could be found in added layer to data worksheet

100 : Fit converged. Chi-Sqr tolerance value of 1E-9 was reached.

*Summary*

| | y0 | | xc | | w | | A | | H | | Statistics | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Value | Standard Error | Value | Standard Error | Value | Standard Error | Value | Standard Error | Value | Standard Error | Reduced Chi-Sqr | Adj. R-Square |
| Peak1(R(V)) | 3.5261E-7 | 9.08998E-10 | 44.93778 | 0.02041 | 5.10842 | 0.05998 | 1.14993E-5 | 9.70483E-8 | 1.43306E-6 | 1.15019E-8 | 2.62144E-14 | 0.98415 |
| Peak2(R(V)) | 3.5261E-7 | 9.08998E-10 | 83.16872 | 0.0032 | 2.35132 | 0.00915 | 2.28547E-5 | 6.35224E-8 | 6.18792E-6 | 1.68499E-8 | | |
| Peak3(R(V)) | 3.5261E-7 | 9.08998E-10 | 122.59417 | 0.00172 | 1.63155 | 0.00489 | 2.46275E-5 | 5.2618E-8 | 9.60952E-6 | 2.02275E-8 | | |
| Peak4(R(V)) | 3.5261E-7 | 9.08998E-10 | 162.49202 | 0.0015 | 1.41975 | 0.00426 | 2.29474E-5 | 4.90025E-8 | 1.02897E-5 | 2.16838E-8 | | |
| Peak5(R(V)) | 3.5261E-7 | 9.08998E-10 | 202.81031 | 0.00139 | 1.30551 | 0.00395 | 2.17874E-5 | 4.69447E-8 | 1.06244E-5 | 2.26126E-8 | | |
| Peak6(R(V)) | 3.5261E-7 | 9.08998E-10 | 242.93645 | 0.0015 | 1.32379 | 0.00428 | 2.05619E-5 | 4.72812E-8 | 9.88834E-6 | 2.24559E-8 | | |
| Peak7(R(V)) | 3.5261E-7 | 9.08998E-10 | 283.3134 | 0.0018 | 1.42423 | 0.00513 | 1.91415E-5 | 4.90864E-8 | 8.55609E-6 | 2.16497E-8 | | |
| Peak8(R(V)) | 3.5261E-7 | 9.08998E-10 | 323.52904 | 0.00231 | 1.60858 | 0.00659 | 1.79125E-5 | 5.22522E-8 | 7.08916E-6 | 2.03714E-8 | | |
| Peak9(R(V)) | 3.5261E-7 | 9.08998E-10 | 363.9371 | 0.0027 | 1.70221 | 0.00769 | 1.67149E-5 | 5.37935E-8 | 6.25132E-6 | 1.98032E-8 | | |
| Peak10(R(V)) | 3.5261E-7 | 9.08998E-10 | 404.21923 | 0.0032 | 1.8129 | 0.00913 | 1.54766E-5 | 5.5566E-8 | 5.43479E-6 | 1.91892E-8 | | |
| Peak11(R(V)) | 3.5261E-7 | 9.08998E-10 | 444.35606 | 0.00381 | 1.89097 | 0.01086 | 1.38639E-5 | 5.67808E-8 | 4.66745E-6 | 1.8789E-8 | | |

*ANOVA*

| | | DF | Sum of Squares | Mean Square | F Value | Prob>F |
|---|---|---|---|---|---|---|
| R(V) | Regression | 33 | 7.12026E-8 | 2.15765E-9 | 82307.90245 | <0.0001 |
| | Residual | 43715 | 1.14596E-9 | 2.62144E-14 | | |
| | Uncorrected Total | 43749 | 1.01914E-7 | | | |
| | Corrected Total | 43748 | 7.23485E-8 | | | |

R(V): At the 0.05 level, the fitting function is significantly better than the function y=constant.

*Fitted Curve*

R(V)

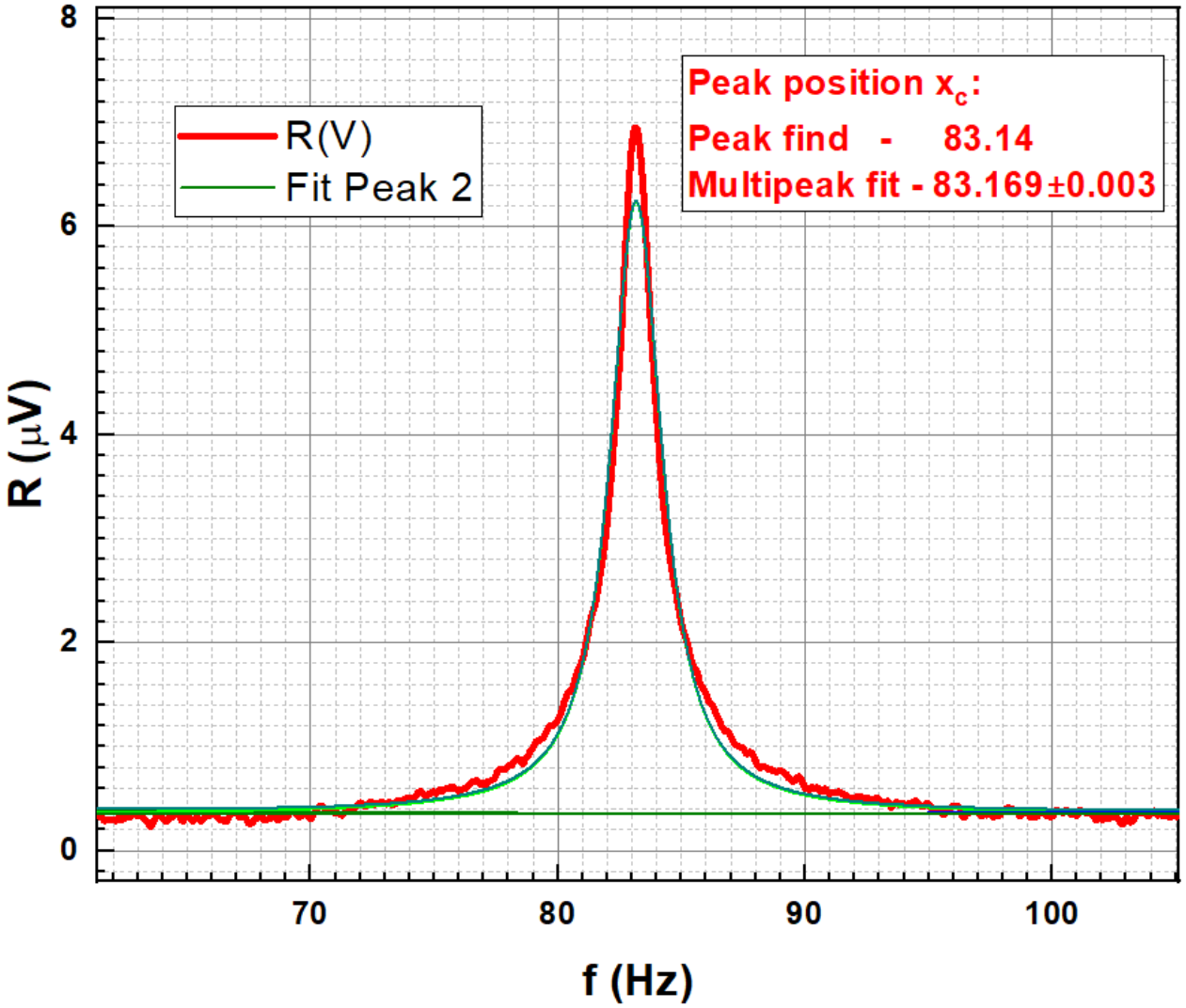
Run1 1V_long | nlfitpeaksCurve1 | **nlfitpeaks2** | nlfitpeaksCurve2

X = 277.281465, Y(/1e-06) = 13.5085131

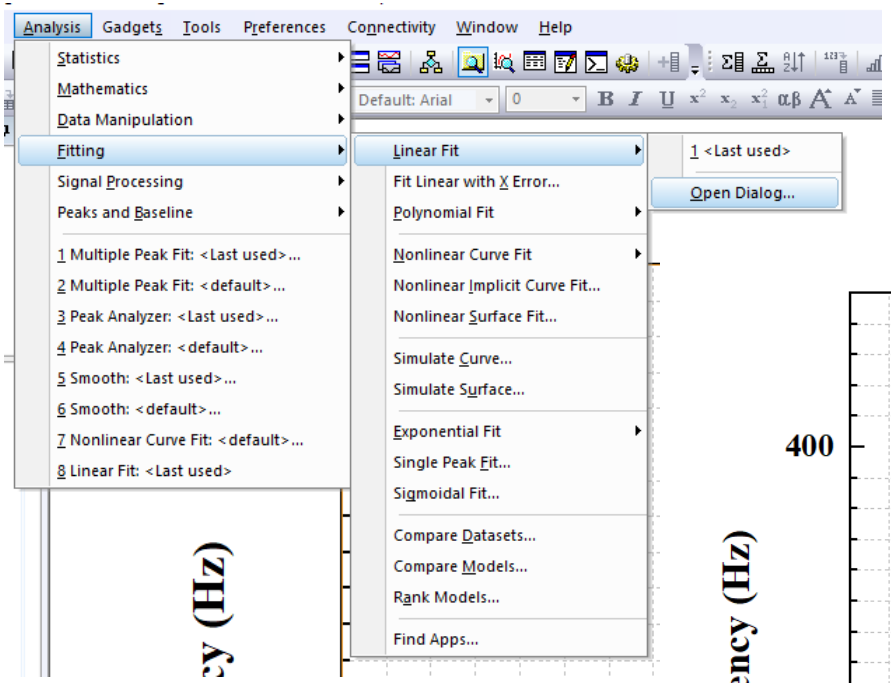
**This layer contains all fitting results**

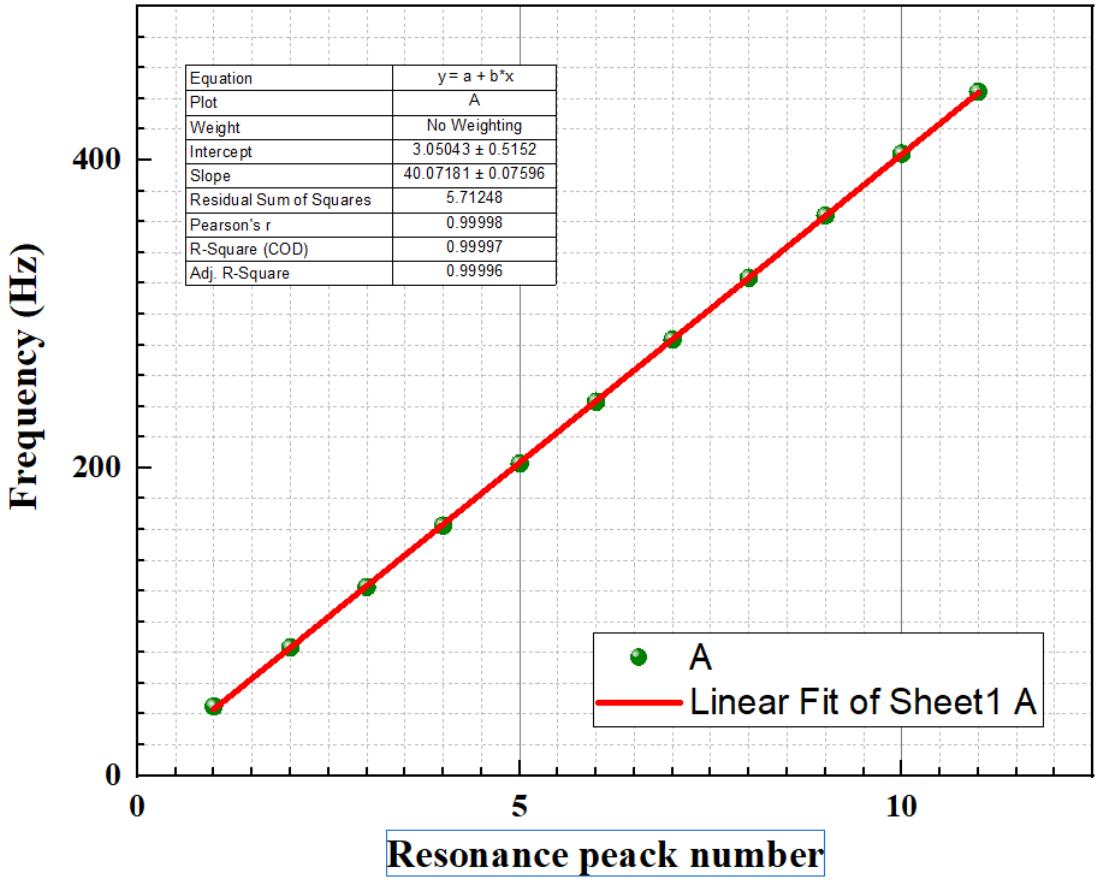
# Graphical presentation of data: Multiple peak Fit

## Comparing the results obtained by using "Peak find" and "Multipeak fit" procedures



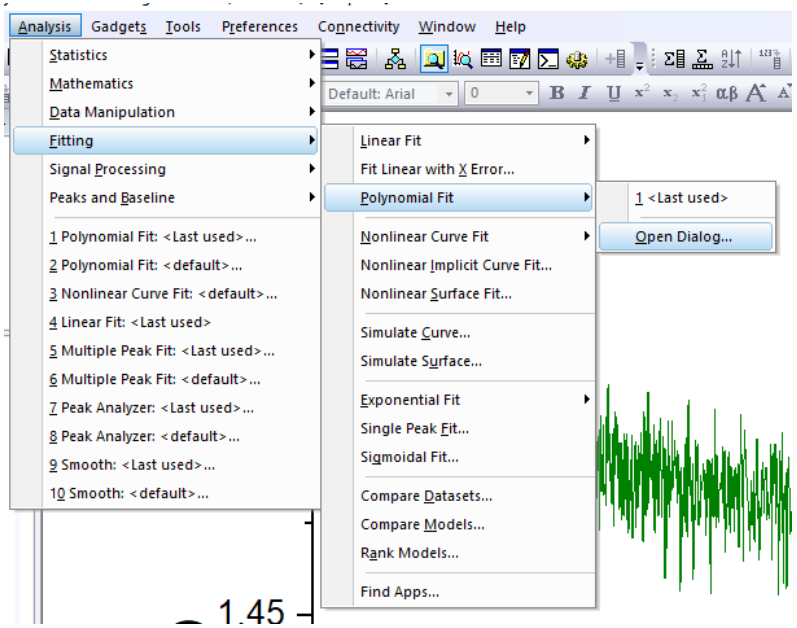
# Graphical presentation of data: Fit Linear

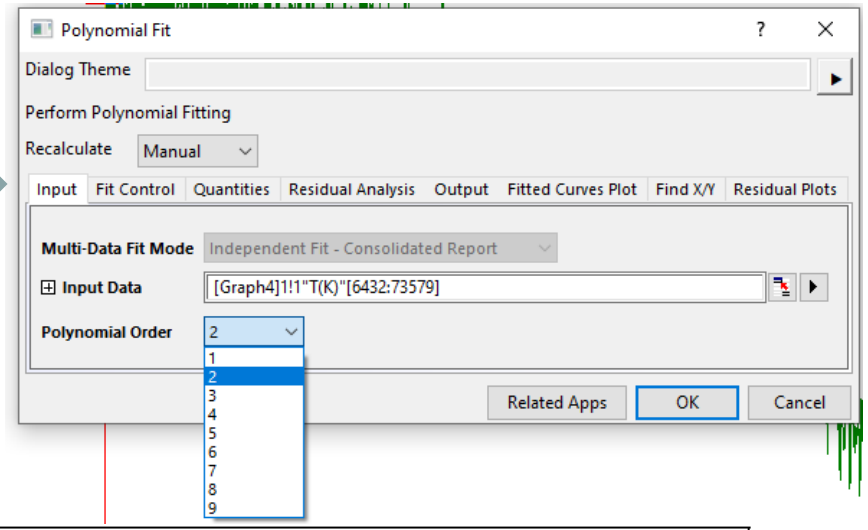


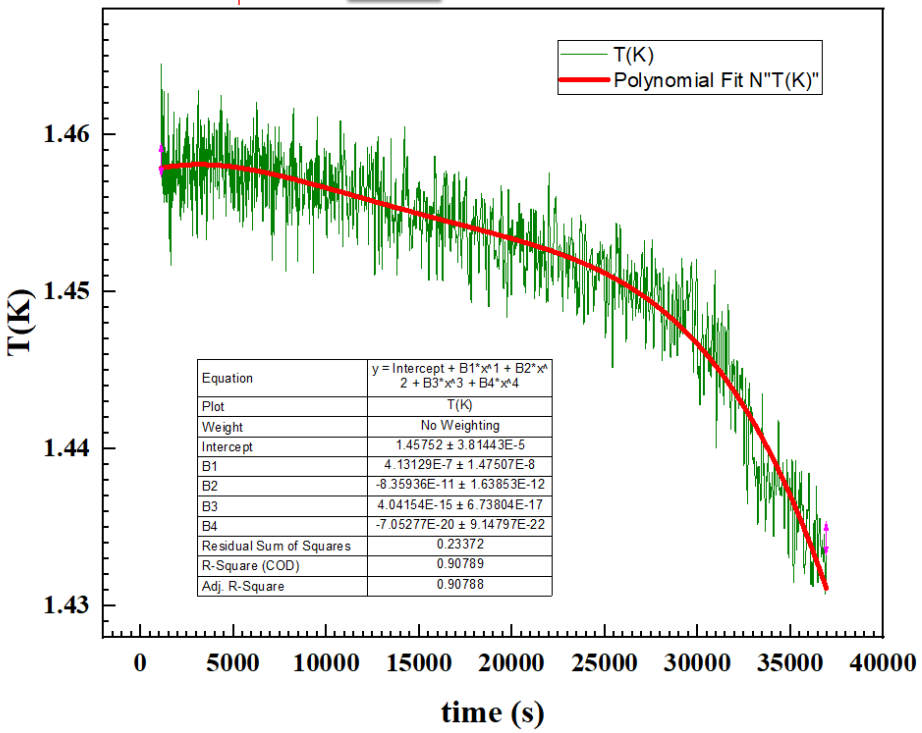

**Example of linear fitting. Data from *Second sound* experiment**

# Graphical presentation of data: Fit Polynomial

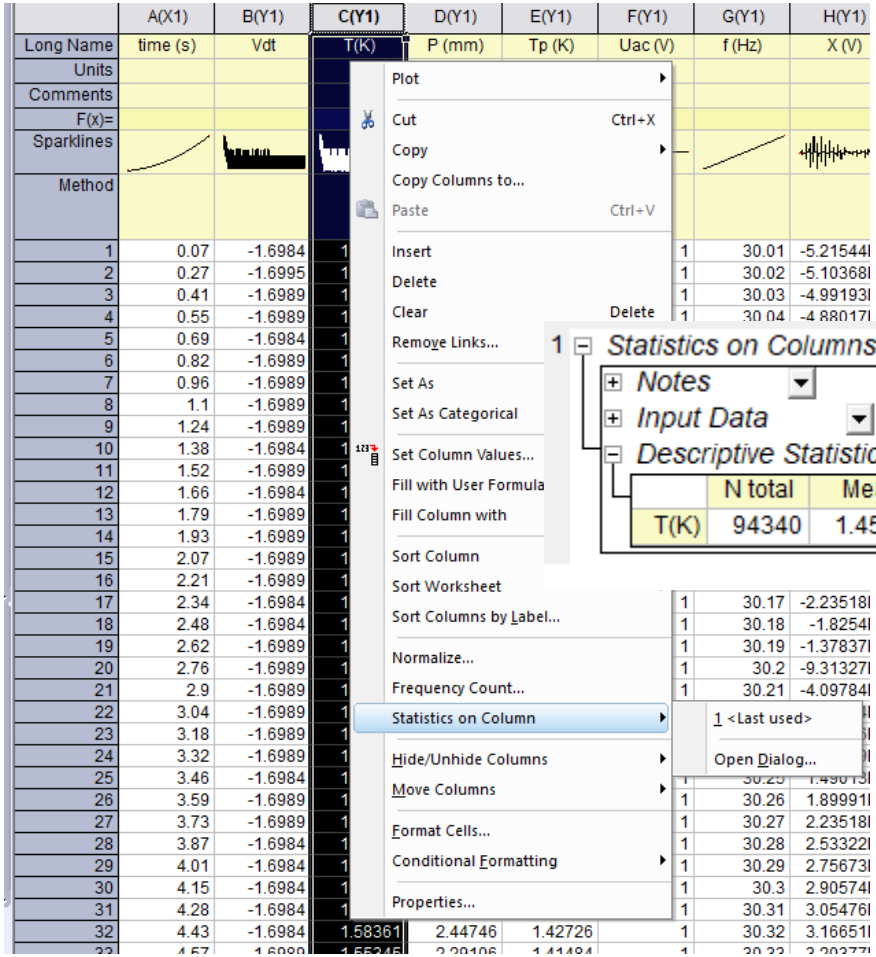


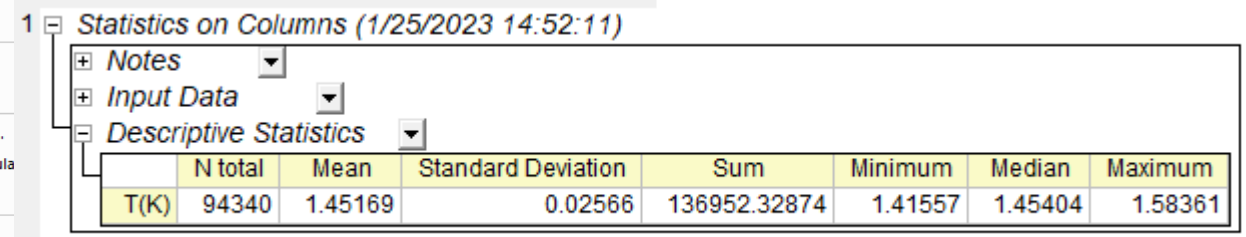



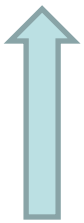

**Graph showing the temperature variations during the taking data with results of polynomial fit**



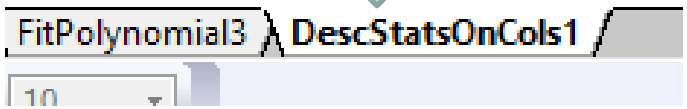
# Working with data: Worksheets. Statistics on Column



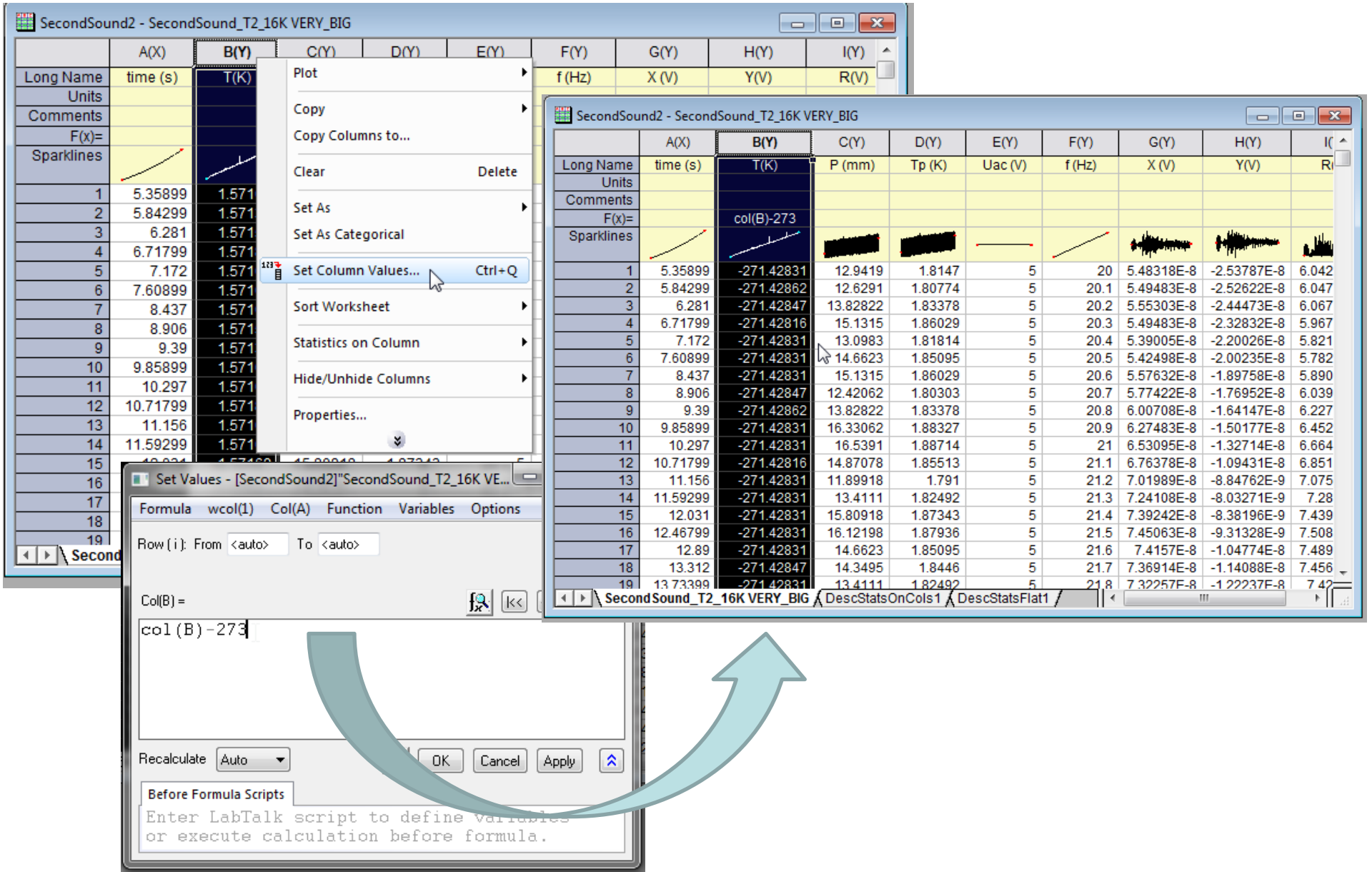



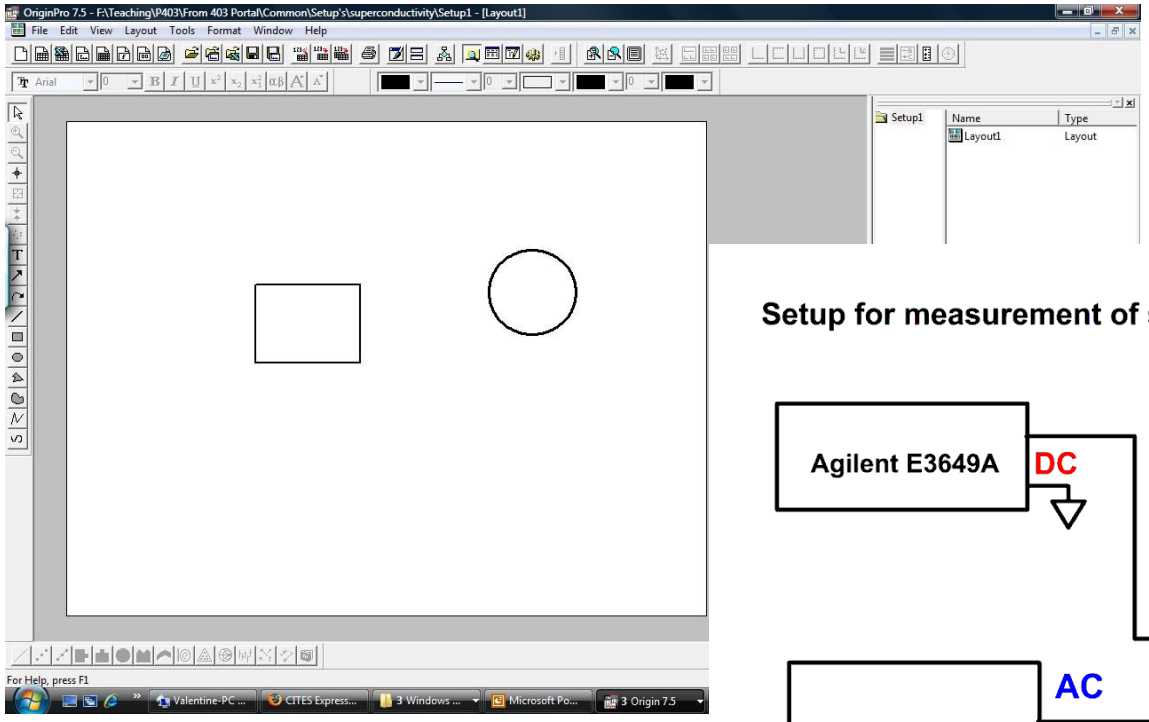
**The results could find here**



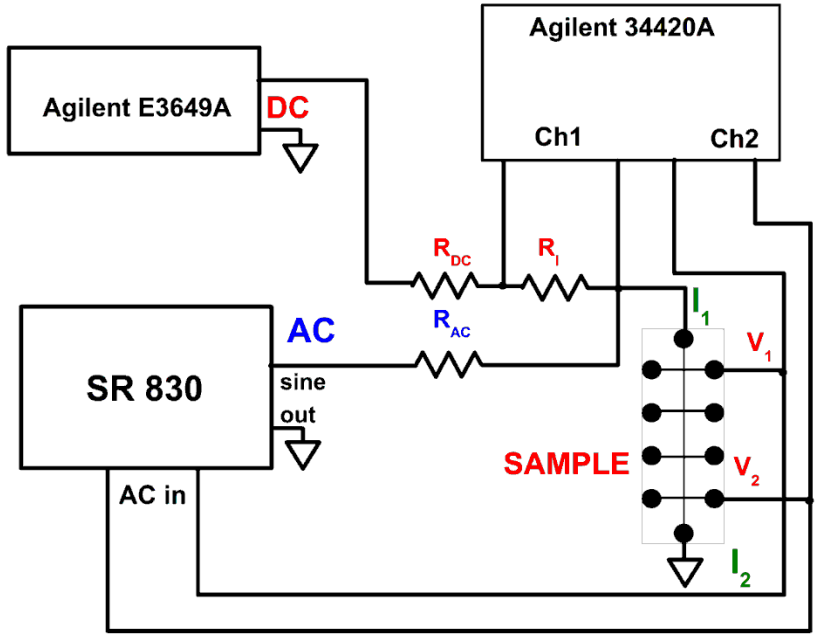
# Working with data: Worksheets. “Set Column Values”



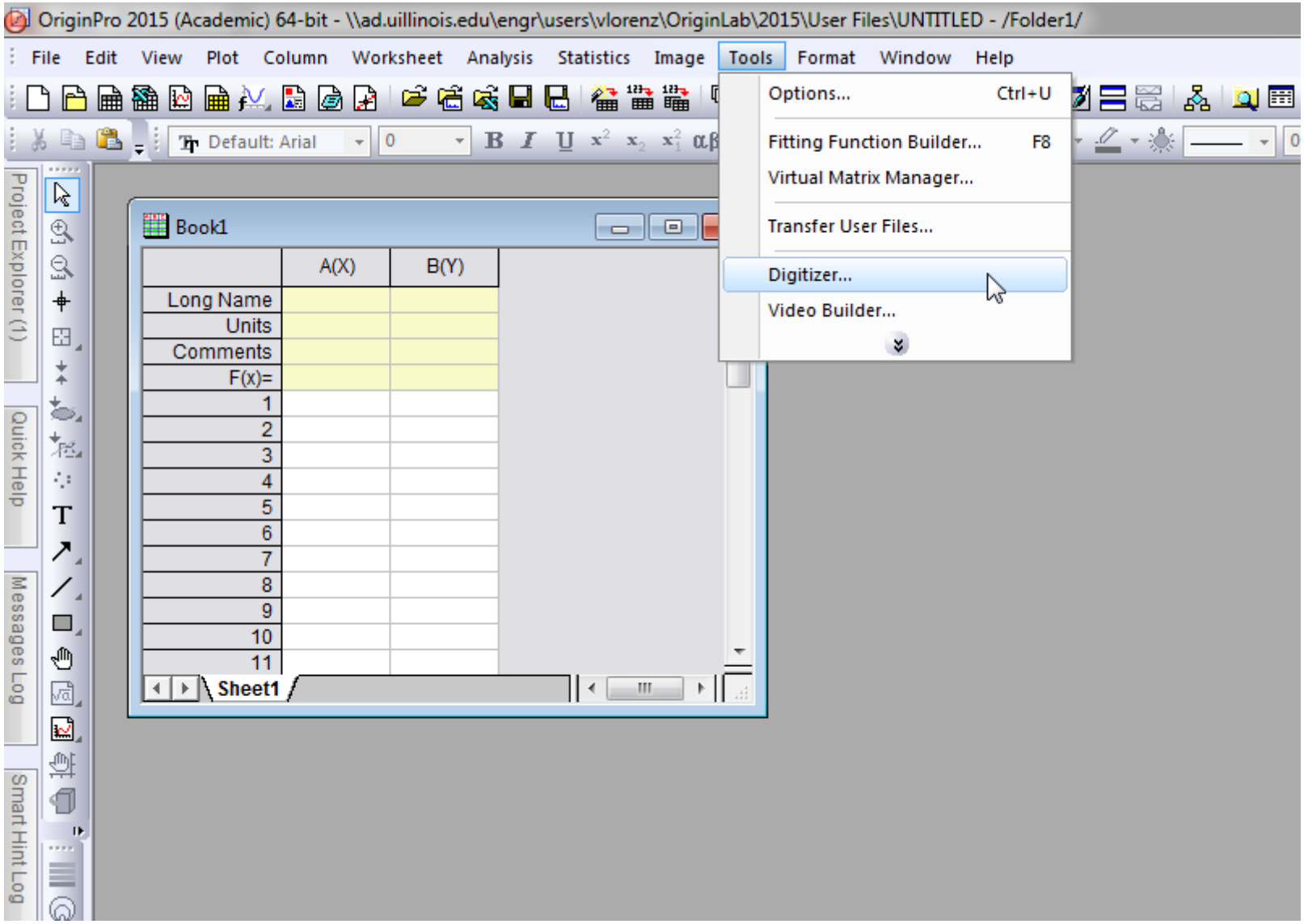
# Layouts



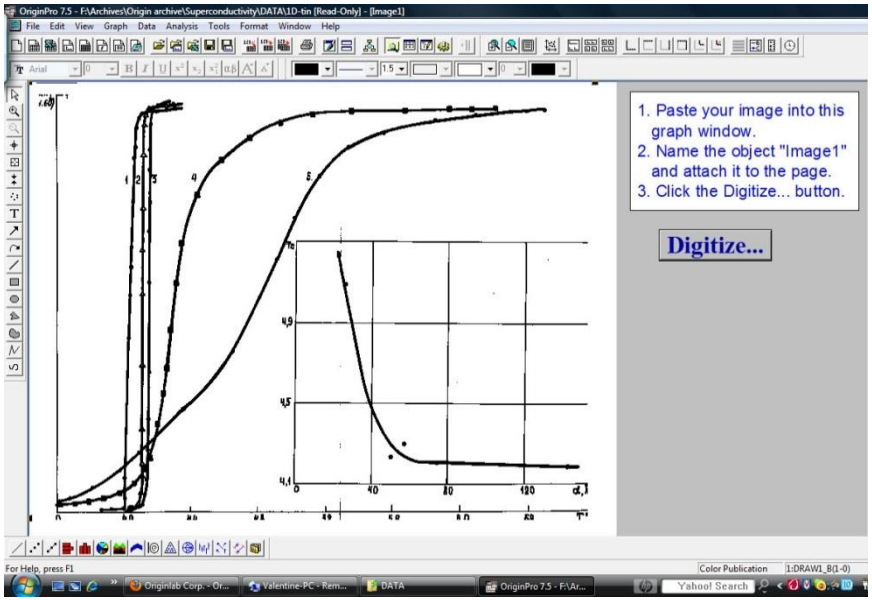

**Setup for measurement of s/c properties**

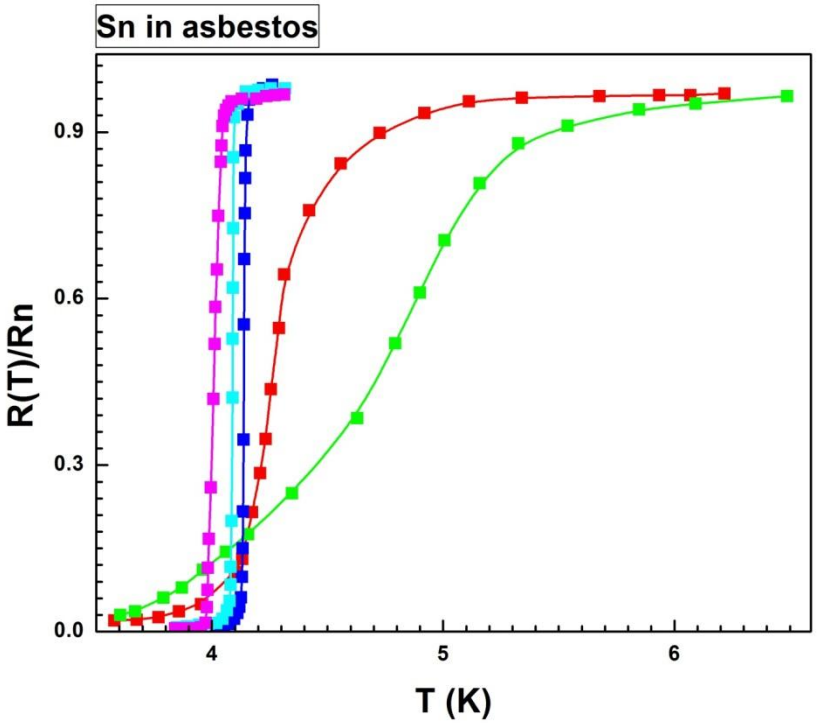


# Custom tools

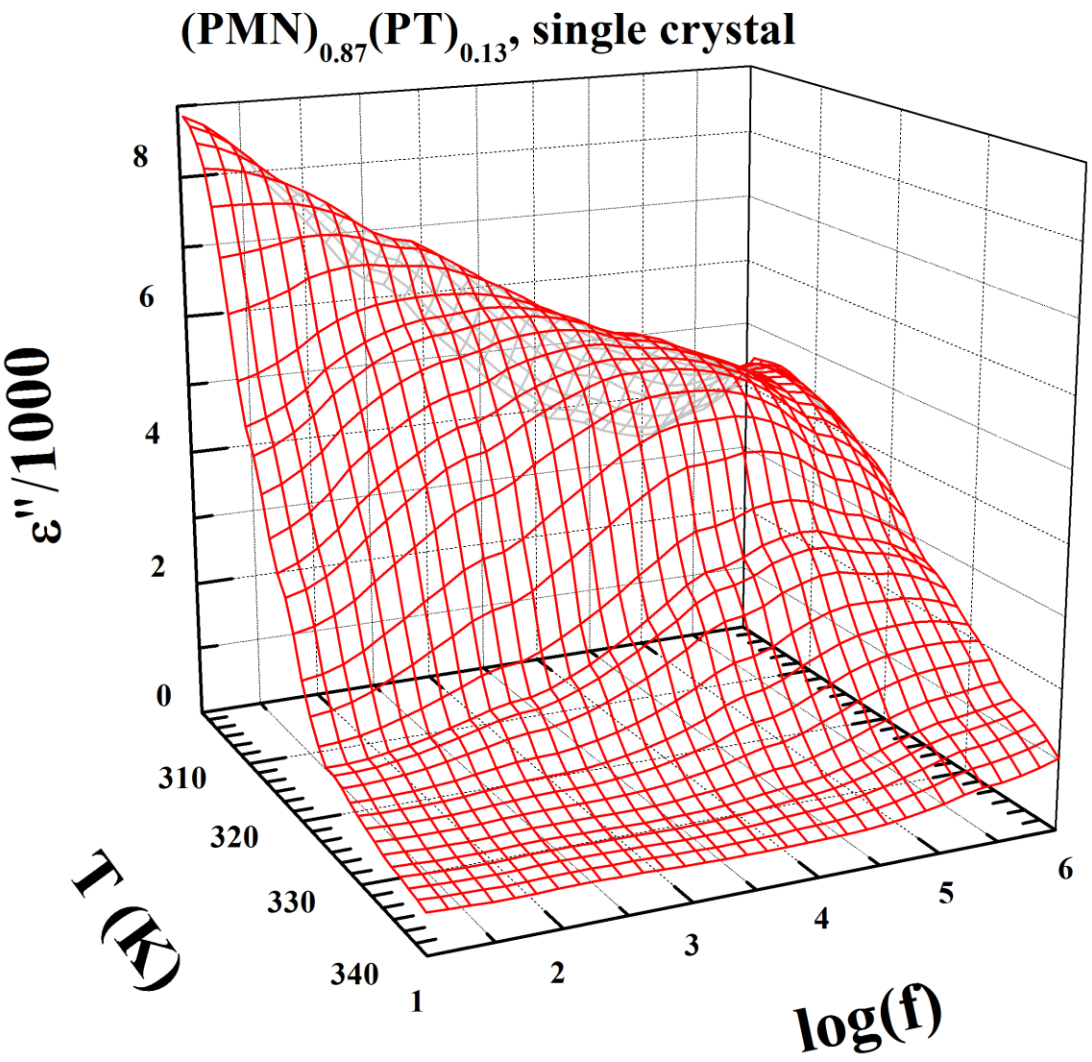


# Using digitizer script



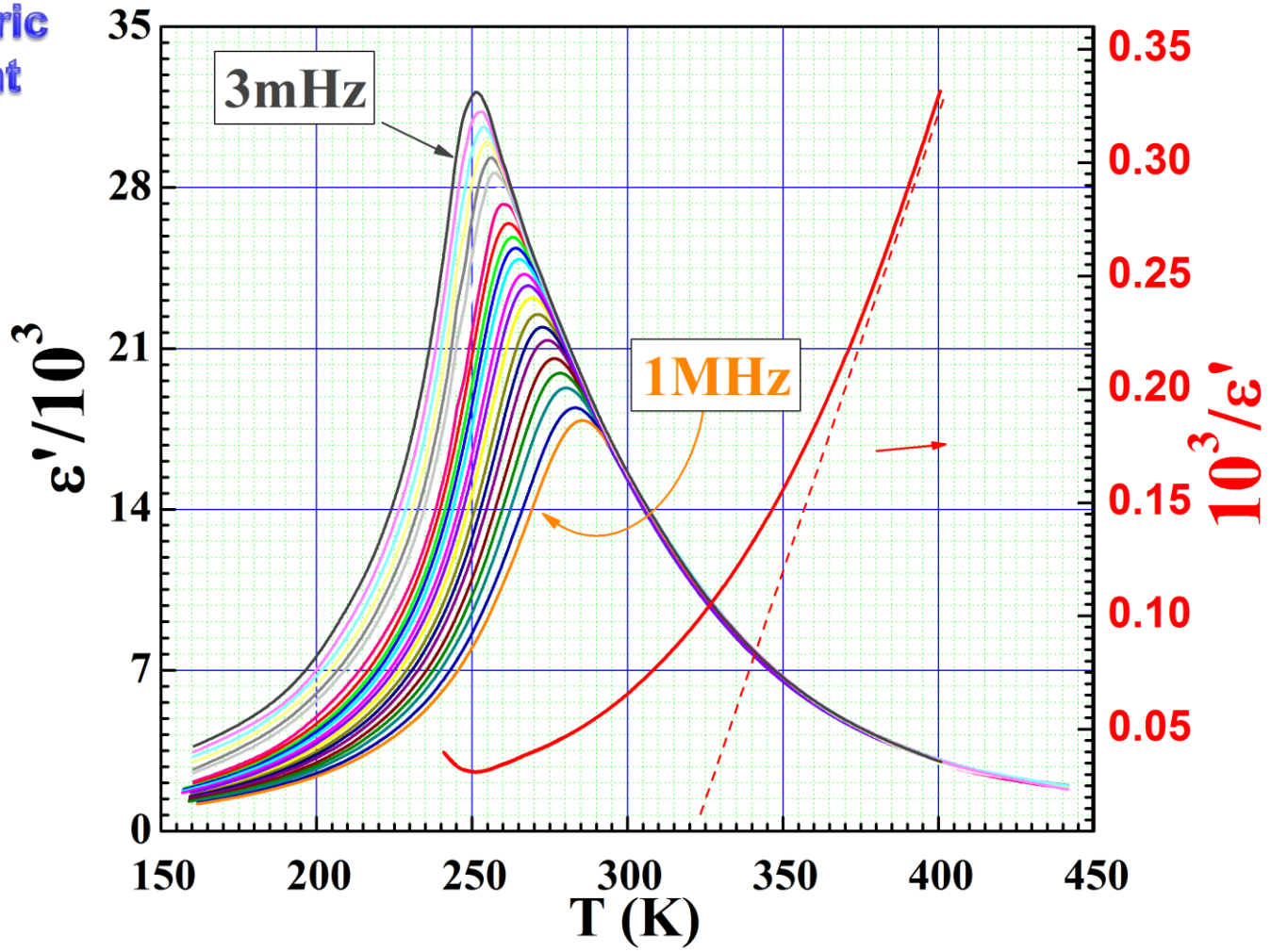
# Example Origin graphs




Ferroelectric Experiment

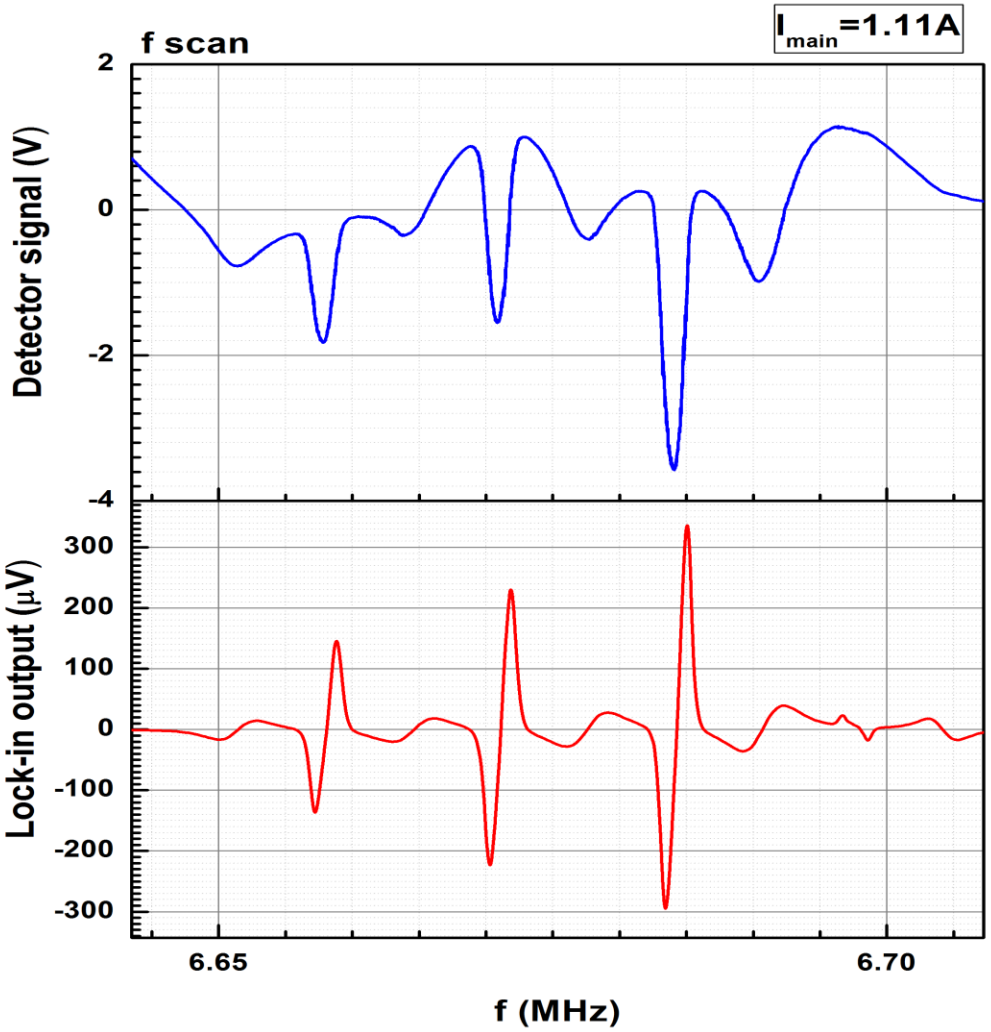
# Example Origin graphs

**Ferroelectric Experiment**



# Example Origin graphs

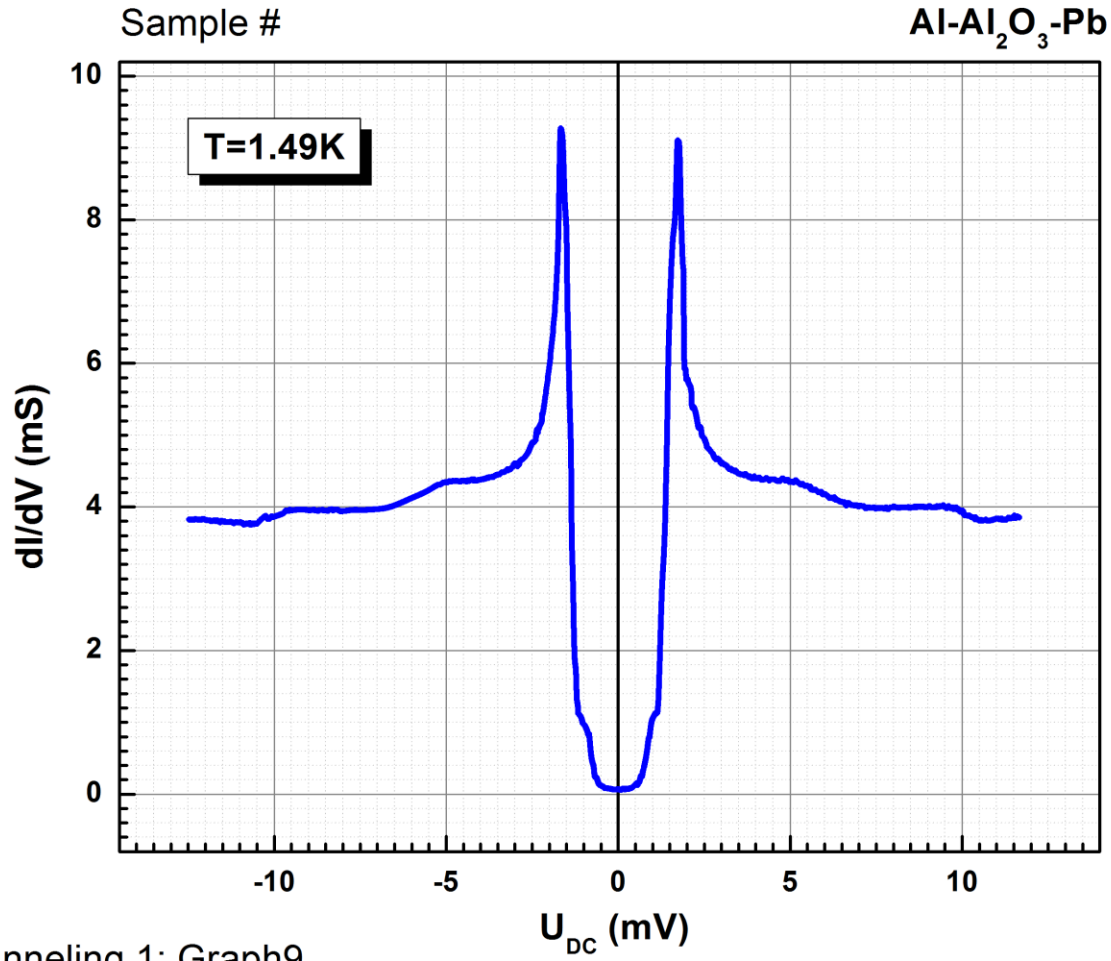
**Optical pumping**




Mapping 0.5-2.5A from March 1st 2012: Graph7

# Example Origin graphs

**Tunneling Experiment**

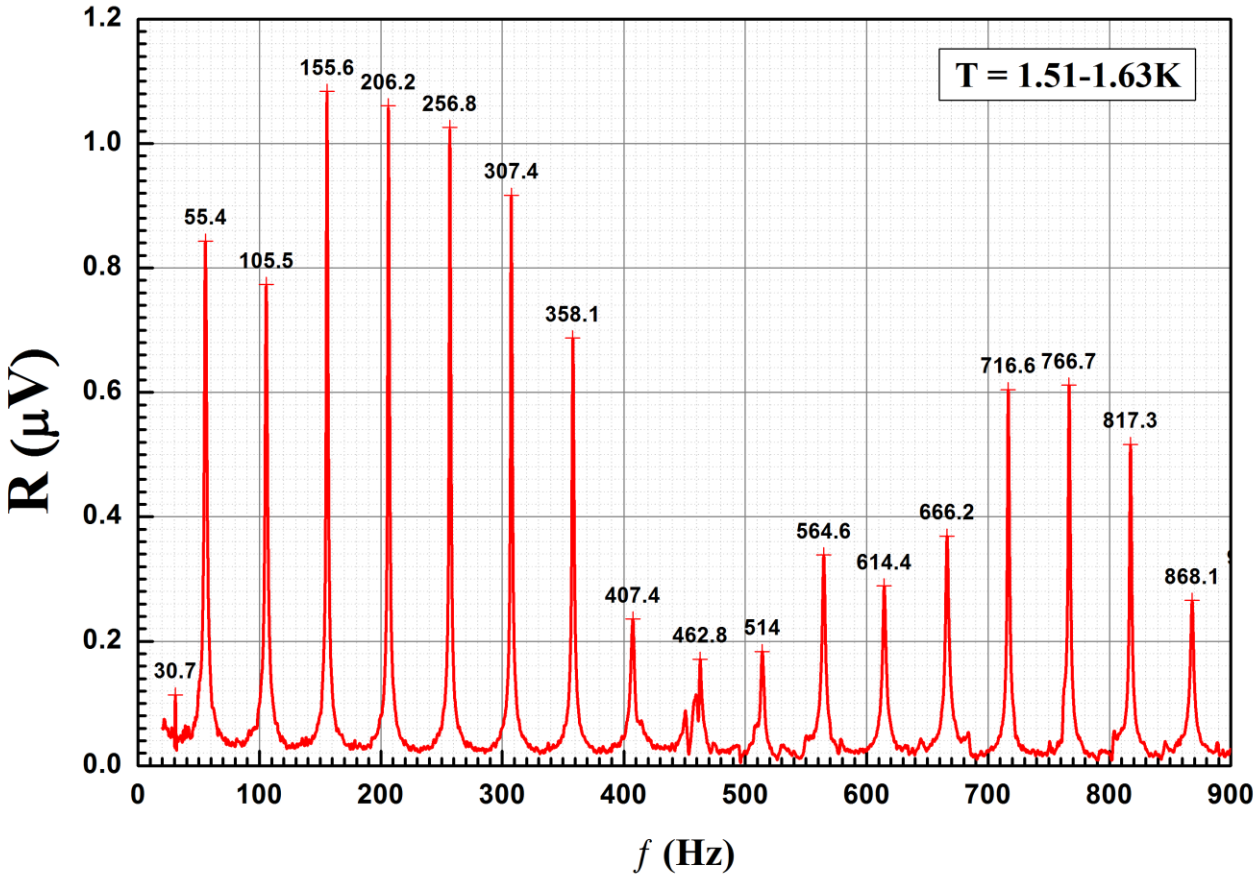



Tunneling 1: Graph9

Sample n2 run8 zoom temp 1.55K

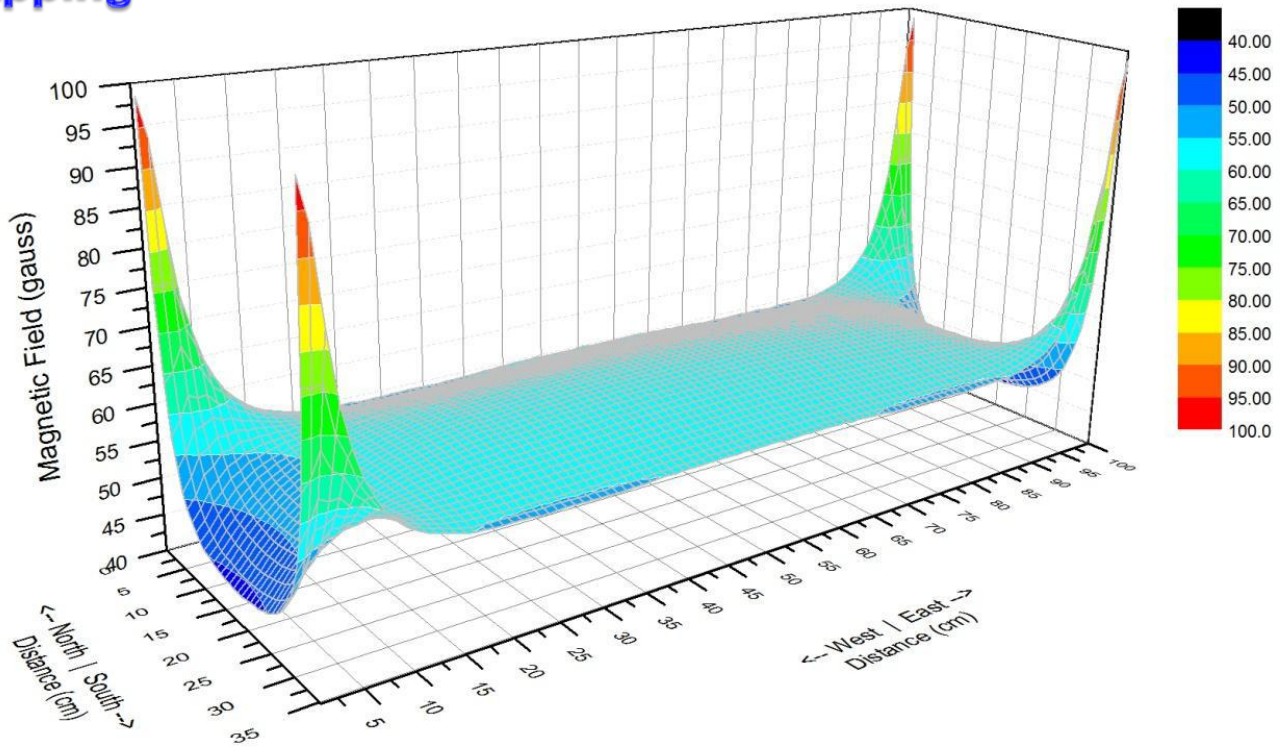
# Example Origin graphs

**Second sound**



# Example Origin graphs

## Magnet mapping



# Origin at UIUC Webstore and OriginLab site.

WebStore Illinois • UIC • UIS

SHOP PERSONAL PURCHASES SHOP UNIT PURCHA

Home | About | Events | News | FAQ | Su

PRODUCT SEARCH: GO BROWS

Home > Personal Purchase > Software > Free Software

**My Account**

Login: You are a Guest

My Profile

Order History

View Cart (0 items)

**OriginPro License (Expires 6/30/2026)**

**Free**

OriginLab, Inc.

**Eligibility:** UIC Faculty, UIC Staff, UIC Students, UIS Faculty, UIS Staff, UIS Students, UIUC Employee type - G, UIUC Faculty and Staff, UIUC Students and WebStore Administrators.

Quantity: 1 OriginPro License (Expires 6/30/2026)

This offer contains version Origin Pro for Windows 2025.

**This offer contains version Origin Pro 2025 for Windows**

**www.originlab.com**

# Running Origin remotely

Here is another way to run Origin without needing to install it on your own computer (e.g. if you have a Mac, which is not supported by Origin):

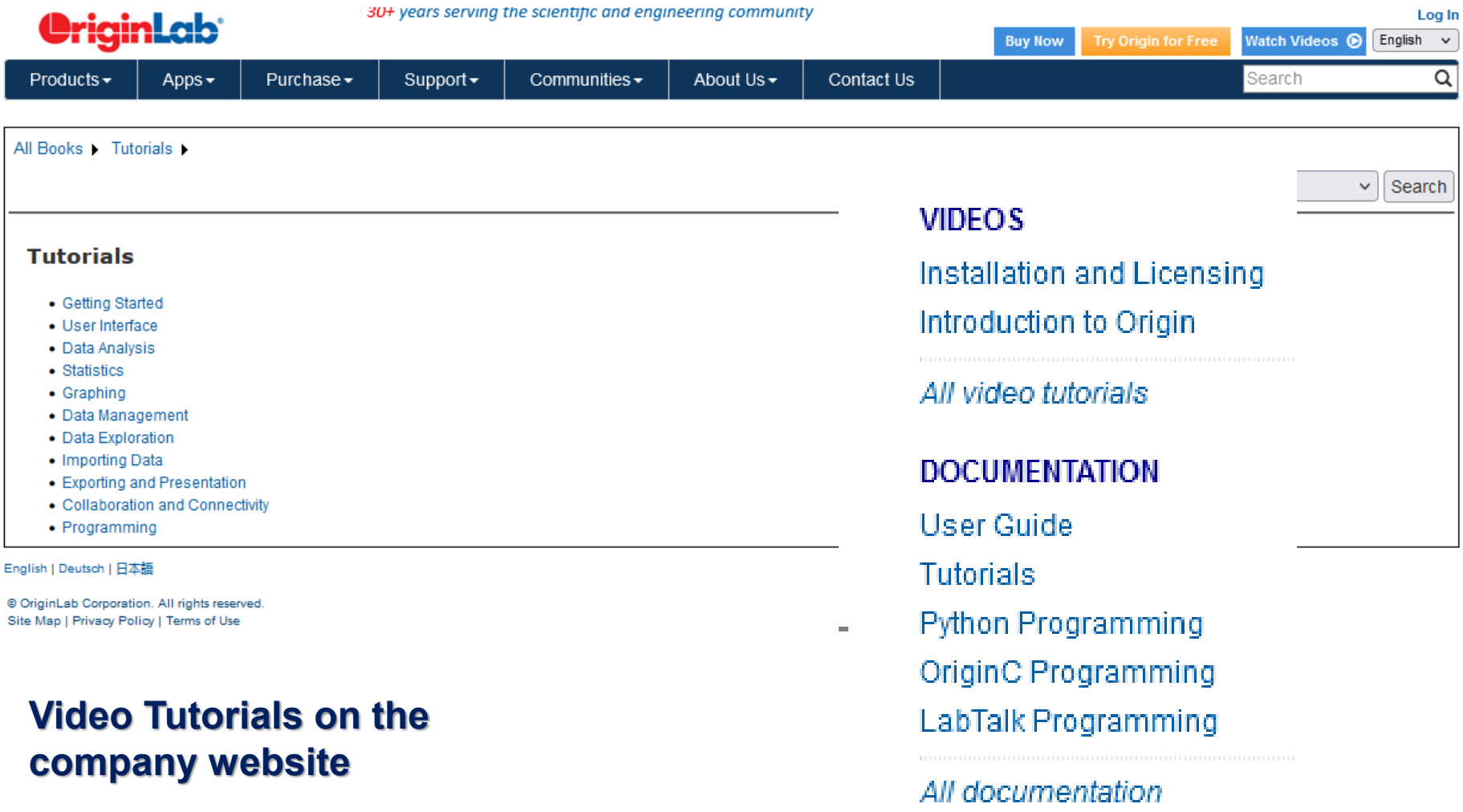
1. Connect to VPN

2. Install and run Citrix: http://it.engineering.illinois.edu/ews/lab-information/remote-connections/connecting-citrix

3. Click on "Apps" and then "Origin“

4. To open and save files, use your EWS folder at this address: "smb://ad.uillinois.edu/engr-ews/[Your netID]"

# Origin manuals




**Video Tutorials on the company website**

***http://www.originlab.com/index.aspx?go=SUPPORT/VideoTutorials***

# Origin manuals

## Video Tutorials on the company website

| Title | Category | Length | PlayNow | LastUpdated | Version | Audio | Youtube |
|---|---|---|---|---|---|---|---|
| Origin 2023 Highlights | General - Overviews | 00:05:26 | ▶ | 11/1/2022 | 10.0 | Y | YouTube |
| Introduction to Origin/OriginPro | General - Overviews | 00:02:30 | ▶ | 6/9/2021 | 9.85 | Y | YouTube |
| Getting Starting with Graphing | General - Overviews | 00:04:14 | ▶ | 10/18/2019 | 9.7 | Y | YouTube |
| Bringing Data into Origin | General - Overviews | 00:03:07 | ▶ | 10/18/2019 | 9.7 | Y | YouTube |
| Analysis with Auto Recalculations | General - Overviews | 00:02:28 | ▶ | 10/18/2019 | 9.7 | Y | YouTube |
| Build Your Presentation in 60 Seconds | General - Overviews | 00:01:22 | ▶ | 1/5/2018 | 9.5 | Y | YouTube |
| Origin Learning Center | General - Overviews | 00:02:26 | ▶ | 12/25/2017 | 9.5 | Y | YouTube |
| Apps for Origin | General - Overviews | 00:01:54 | ▶ | 12/14/2017 | 9.5 | Y | YouTube |
| Origin vs OriginPro | General - Overviews | 00:06:56 | ▶ | 6/14/2016 | 9.3 | Y | YouTube |

***http://www.originlab.com/index.aspx?go=SUPPORT/VideoTutorials***

# Origin File Exchange

OriginLab

*30+ years serving the scientific and engineering community*

Log In

Buy Now | Try Origin for Free | Watch Videos | English

Products | Apps | Purchase | Support | Communities | About Us | Contact Us | Search

Origin File Exchange

Apply Filters

Reset Filters

Refine by Type

App

Refine by Category

- Graphing
- Data Analysis
- Data Handling
- Import and Export
- Miscellaneous
- Data Connector
- Statistics

Min. Origin Version

N/A

Suggest a New App

Submit a file

Submission Guidelines

Update my files

Search apps, templates, and files ... Go

Sort by: Date Updated (Newest - Oldest) Items per page: 50 First 1 2 3 4 5 ... Last

PRO **Statistical Process Control** by OriginLab

**Min.Version:** 2026 (10.3) Updated on: 11/21/2025

Statistical process control (SPC) or statistical quality control (SQC) is the application of statistical techniques to measure, monitor and control the quality of a process.

Tutorial

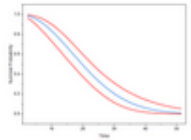
App

7 Ratings

7 Comments

888 Downloads (90 Days)

PRO **Reliability and Survival Analysis** by OriginLab



**Min.Version:** 2026 (10.3) Updated on: 11/19/2025

Analyze time-to-event data including censored data in reliability and survival.

Tutorial

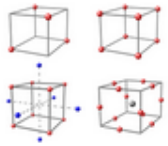
App

2 Ratings

2 Comments

136 Downloads (90 Days)

PRO **Design of Experiments** by OriginLab



**Min.Version:** 2026 (10.3) Updated on: 11/18/2025

Create DOE design matrix, perform analysis and optimization.

Tutorial

App

29 Ratings

29 Comments

1660 Downloads (90 Days)

PRO **Decision Tree Analysis** by OriginLab

**Min.Version:** 2026 (10.3) Updated on: 11/18/2025

Fit binary decision tree for classification and regression.

Tutorial

App

10 Ratings

10 Comments

453 Downloads (90 Days)