



Scientific Graphing and Analysis Software

<http://www.originlab.com/>

Current versions on all Physics 403 computers are [OriginPro2015](#)

What it can do:

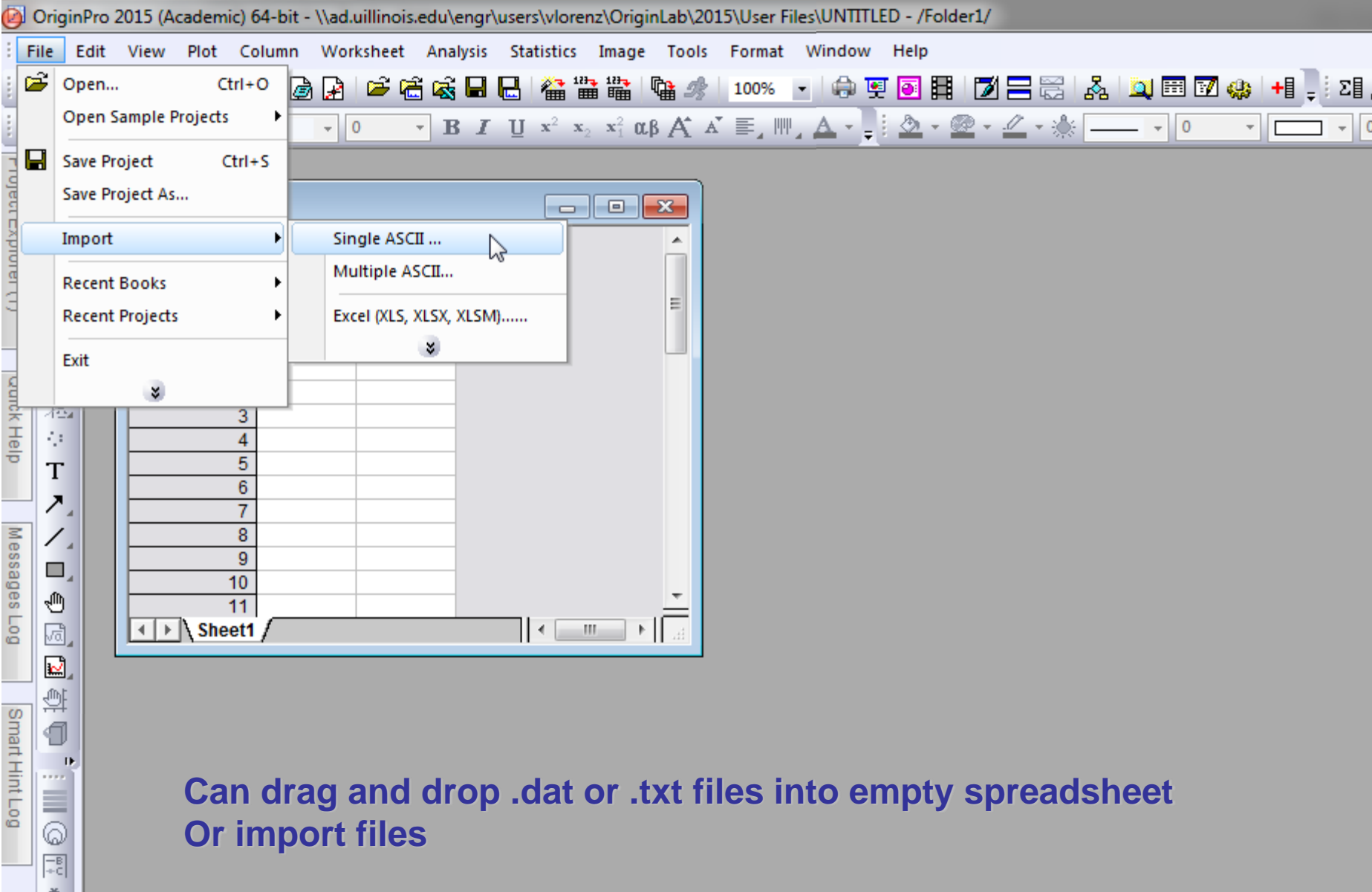
1. Graphical presentation of data

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



The screenshot displays the OriginPro 2015 (Academic) 64-bit interface. The main window title is "OriginPro 2015 (Academic) 64-bit - \\ad.uillinois.edu\engr\users\vlorenz\OriginLab\2015\User Files\UNTITLED - /Folder1/". The menu bar includes File, Edit, View, Plot, Column, Worksheet, Analysis, Statistics, Image, Tools, Format, Window, and Help. The File menu is open, showing options: Open... (Ctrl+O), Open Sample Projects, Save Project (Ctrl+S), Save Project As..., Import, Recent Books, Recent Projects, and Exit. The Import option is selected, and a sub-menu is visible with the following options: Single ASCII ..., Multiple ASCII..., and Excel (XLS, XLSX, XLSM)..... A mouse cursor is positioned over the "Single ASCII ..." option. The background shows a spreadsheet with a grid of cells, with row numbers 3 through 11 visible on the left side. The sheet is named "Sheet1".

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

Graphical presentation of data: Basic Plot

The screenshot displays the OriginPro 2015 (Academic) 64-bit interface. The main window shows a data table with columns A(X) and B(Y). A plot menu is open, showing options for creating a line plot. The data table is as follows:

	A(X)	B(Y)
Long Name	Freq	Vrea
Units		
Comments		
F(x)=		
Sparklines		
1	20	0.00
2	21	-0.00
3	22	2.07
4	23	0.00
5	24	0.00
6	25	0.00
7	26	-2.88
8	27	0.01
9	28	0.00

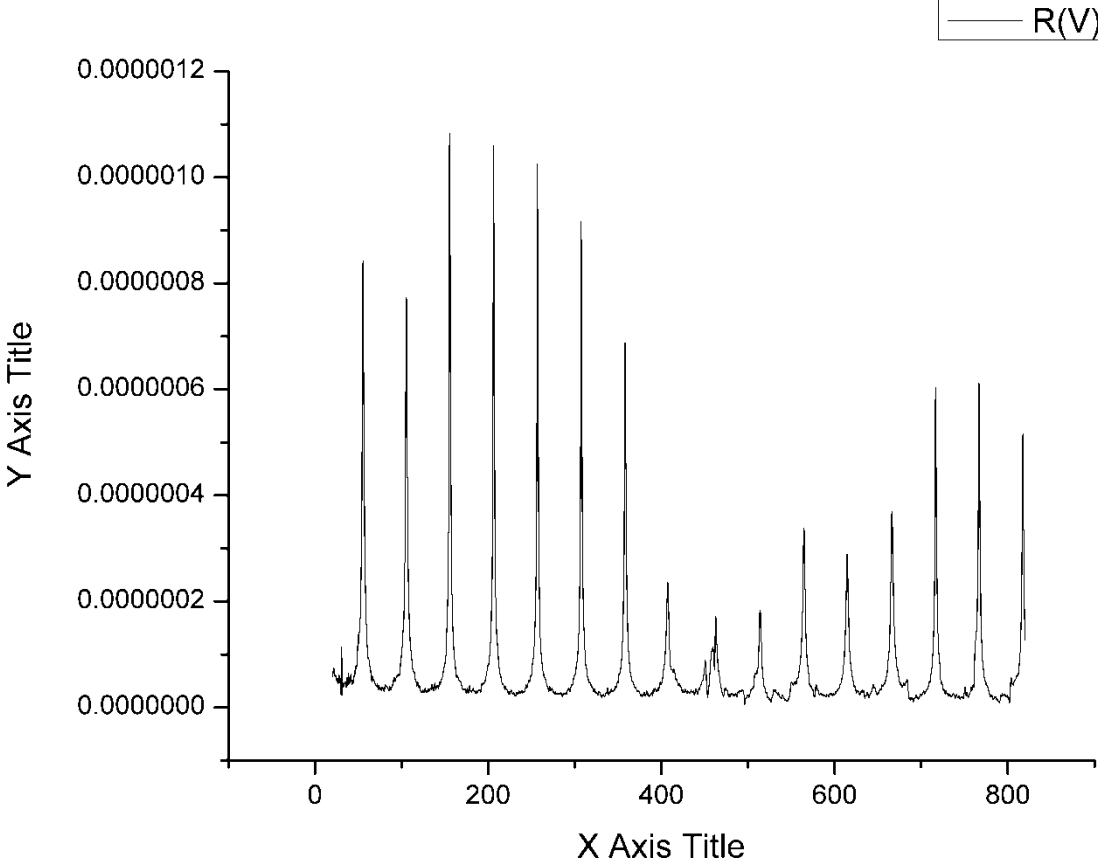
The plot menu is open, showing the following options:

- Plot
- Copy
- Copy Columns to...
- Set As
- Set As Categorical
- Set Column Values... Ctrl+Q
- Sort Worksheet
- Hide/Unhide Columns
- Properties...

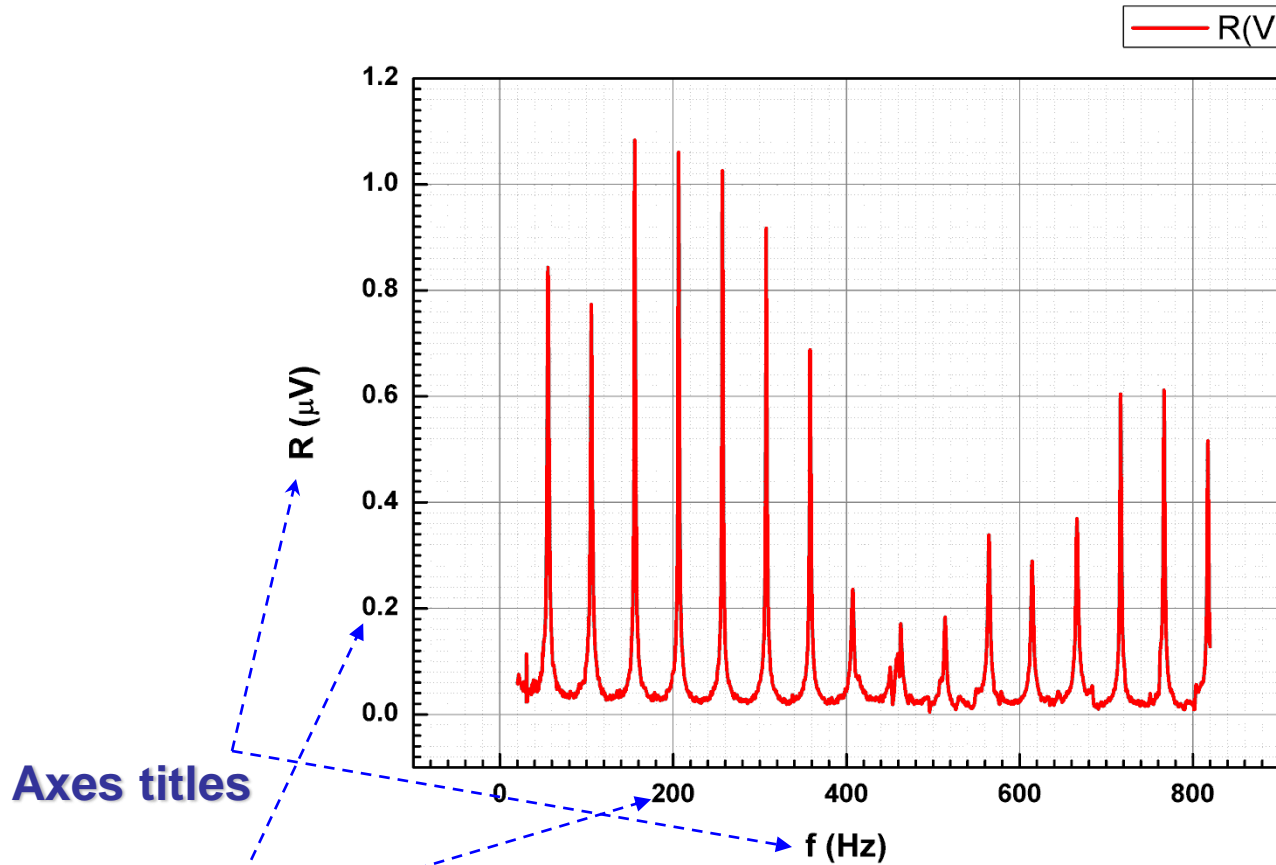
The 'Line' option is selected, and a sub-menu is open showing the following options:

- Line
- Symbol
- Line + Symbol
- Column/Bar/Pie
- Multi-Y
- Y-offset/Waterfall
- Multi-Panel
- Statistics
- Contour/Heat Map
- Profile
- Specialized
- 1 Line

Graphical presentation of data: Basic Plot



Graphical presentation of data: Basic Plot



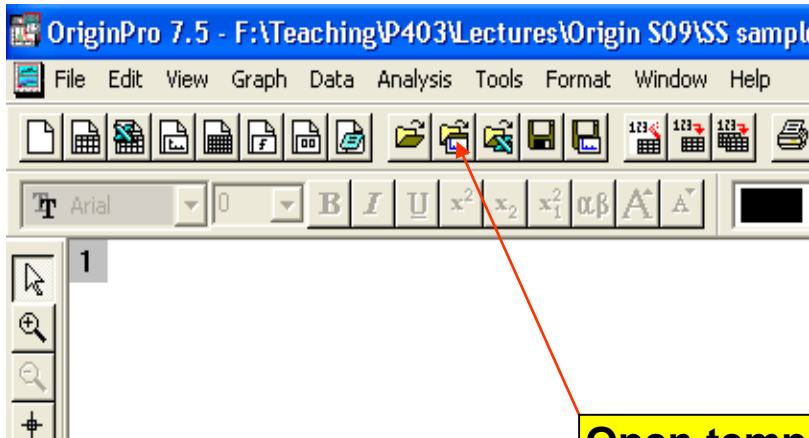
Top and Right axes,
grid lines

Axes titles

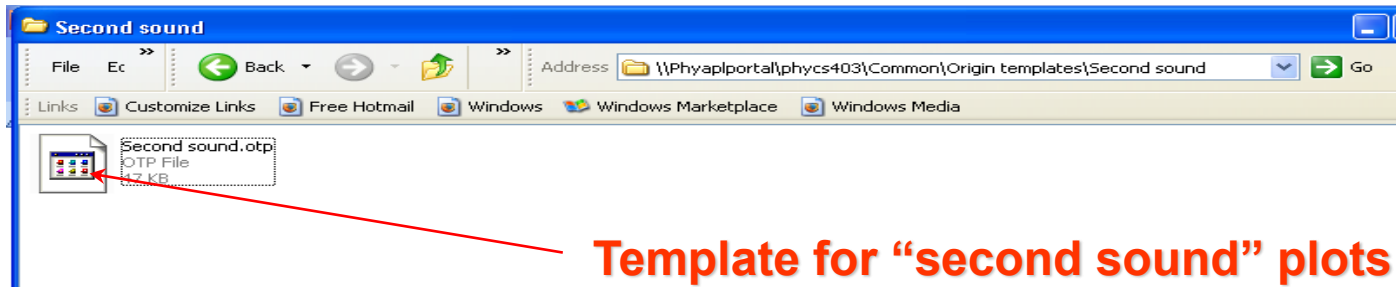
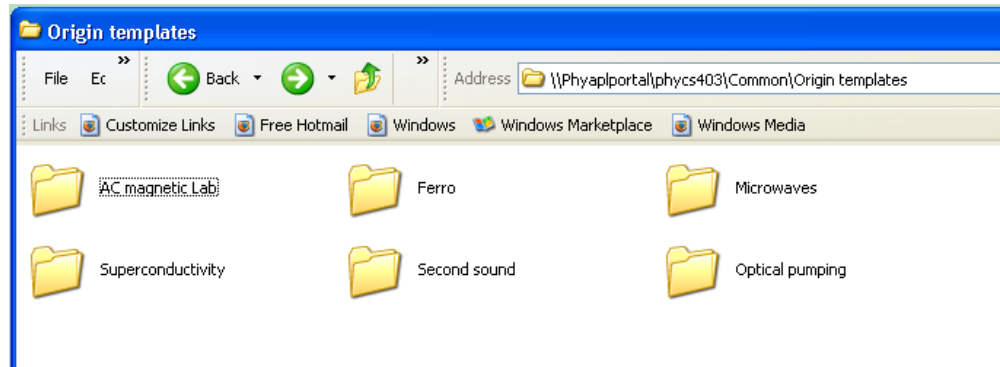
Bold tick labels.

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

Graphical presentation of data: Templates



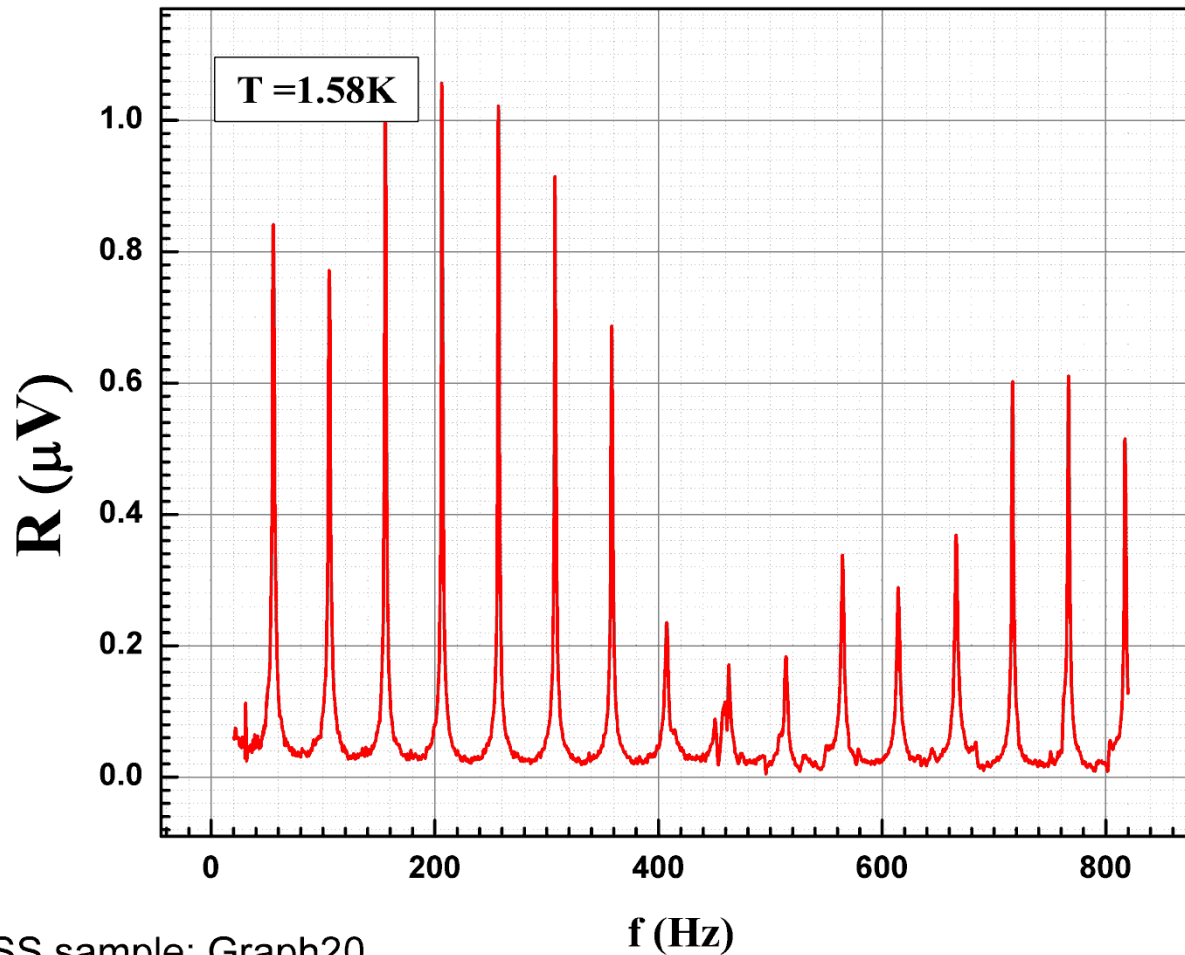
Open template



Template for "second sound" plots

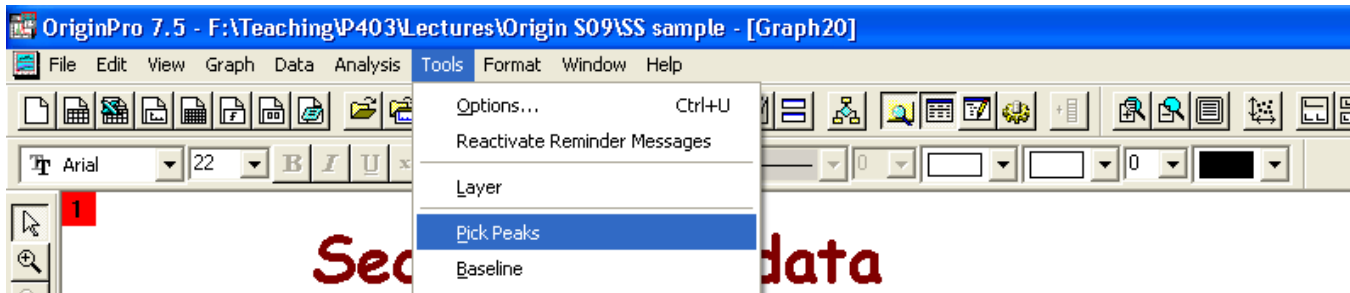
Graphical presentation of data: Templates

Second sound data

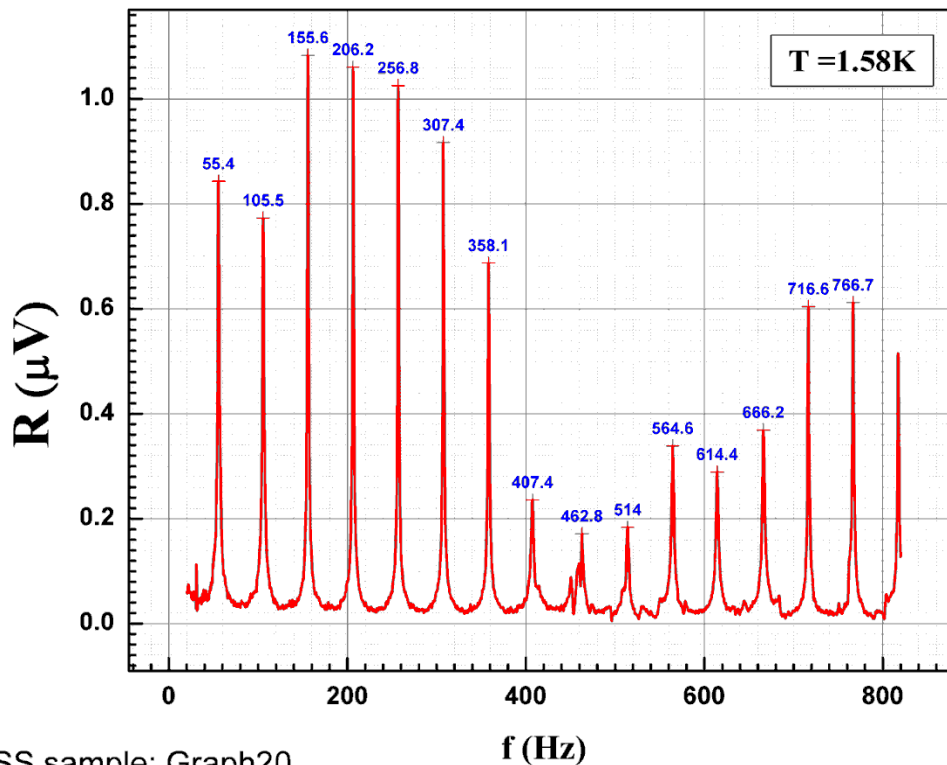


SS sample: Graph20

Graphical presentation of data: Fitting, etc.

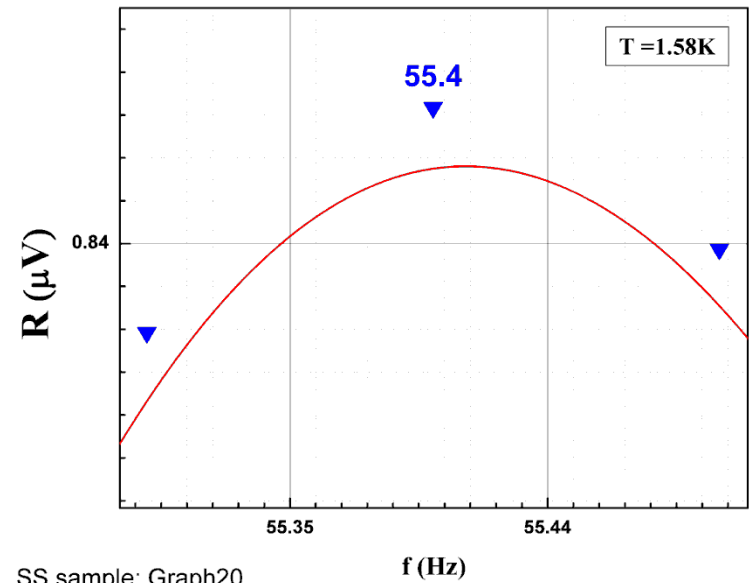


Second sound data



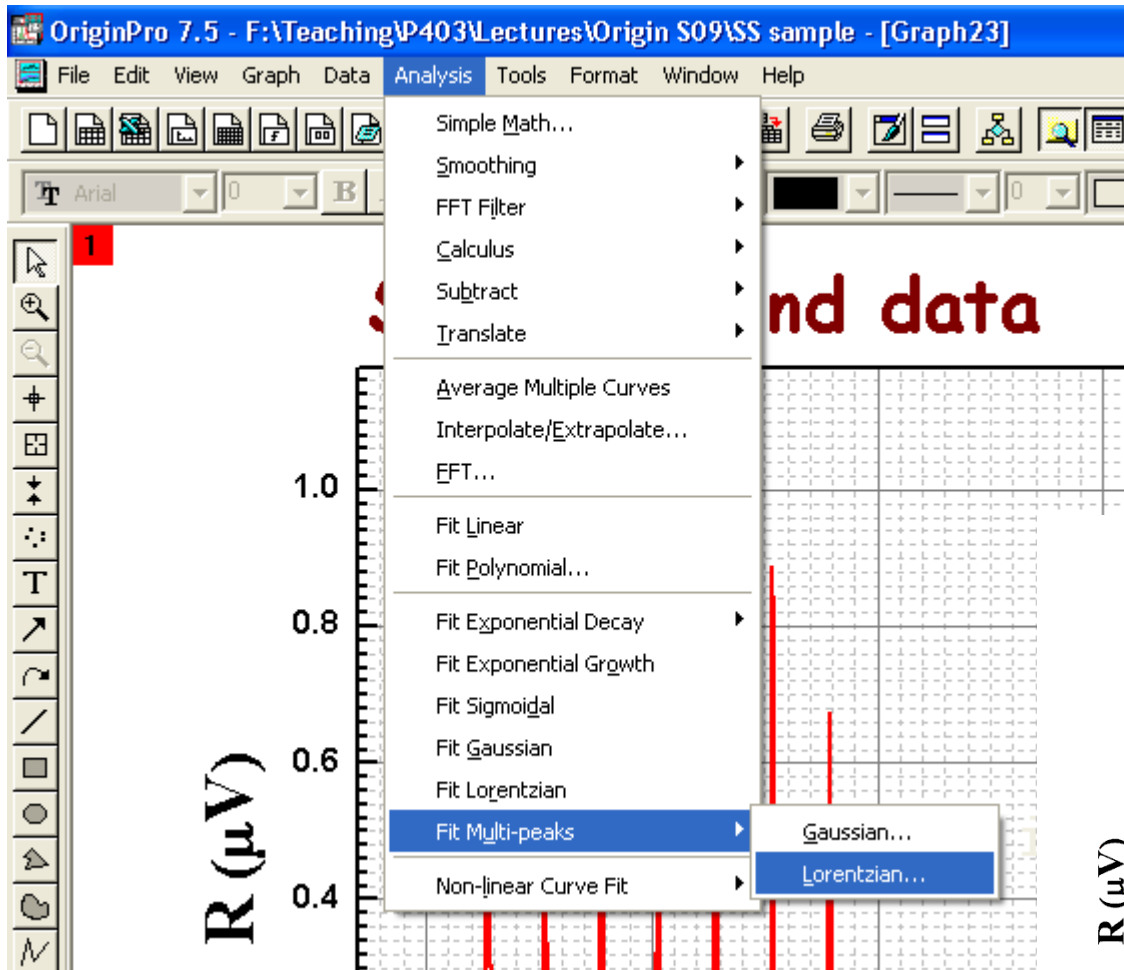
SS sample: Graph20

Second sound data

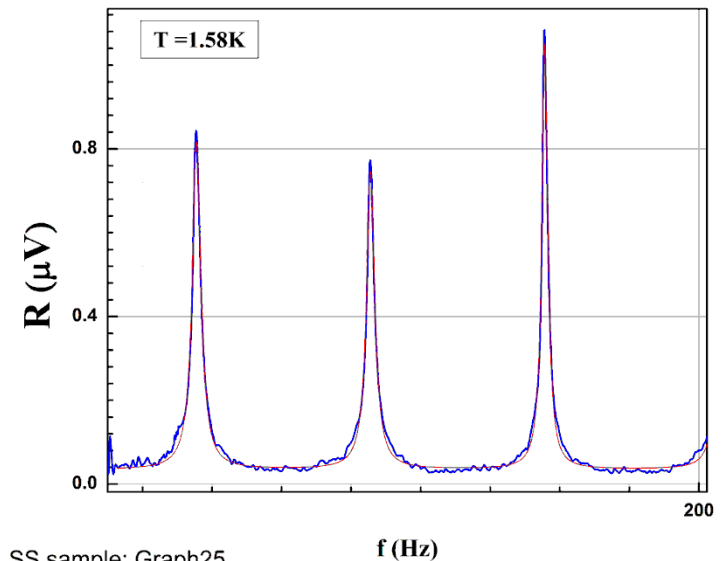


SS sample: Graph20

Graphical presentation of data: Fitting, etc.

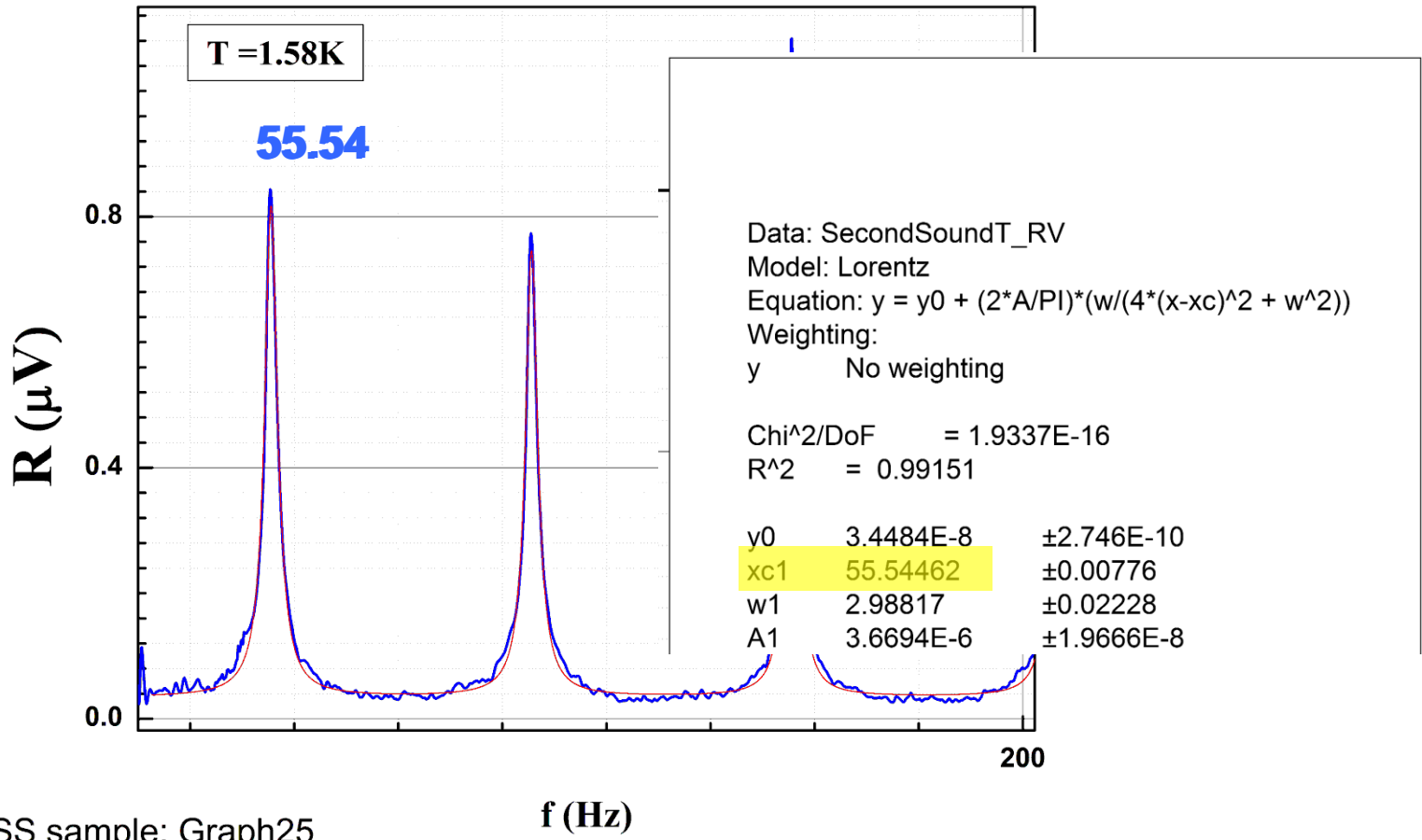


Second sound data

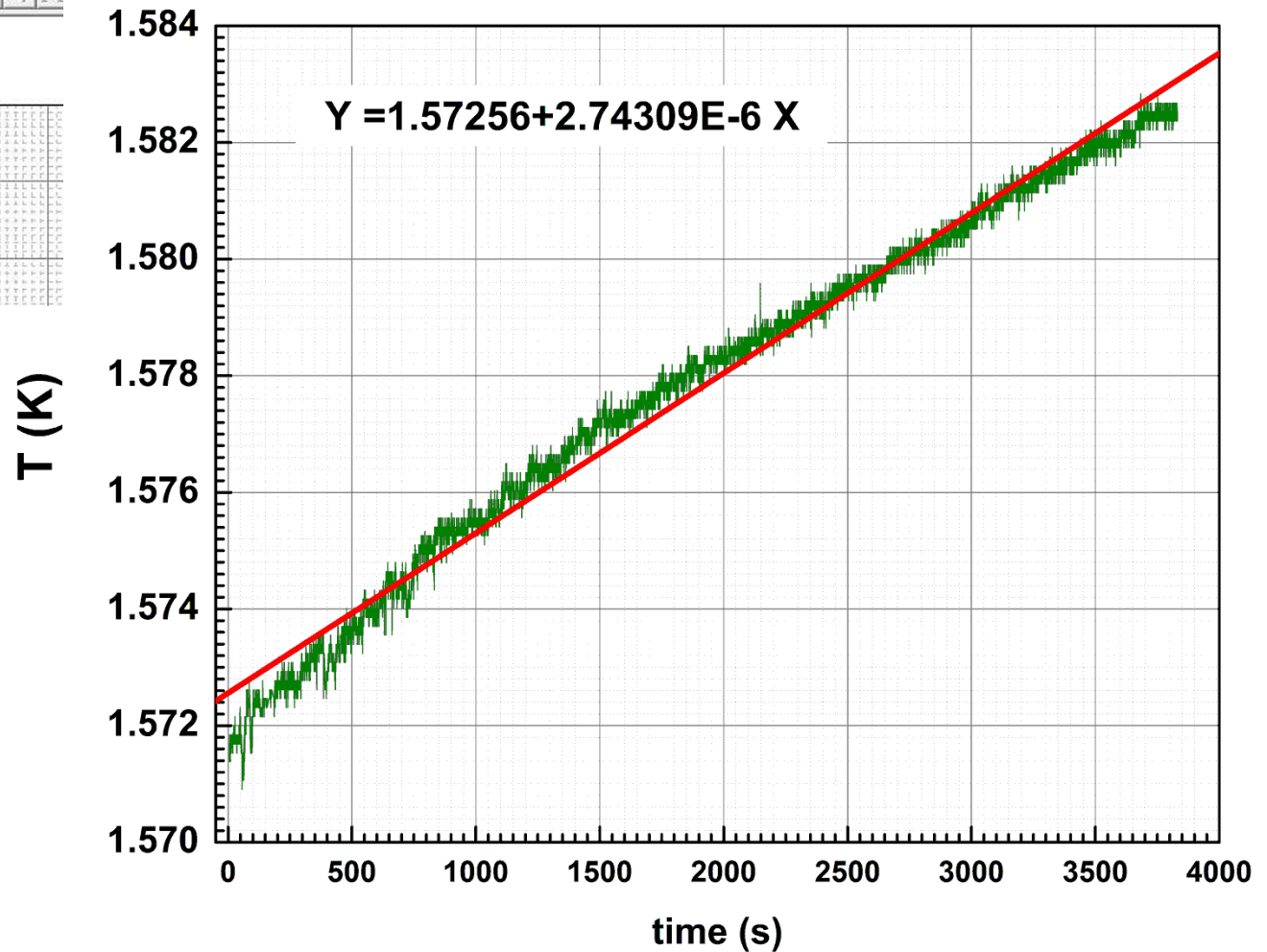
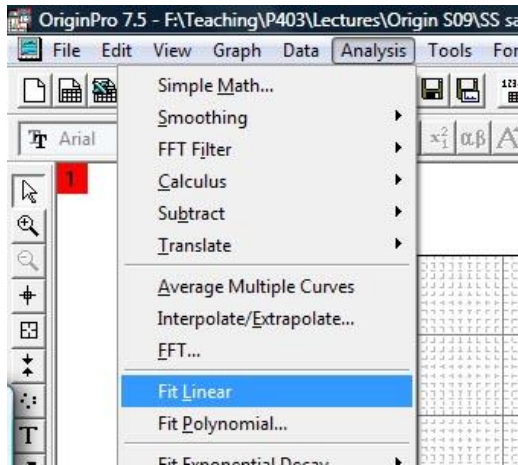


Graphical presentation of data: Fitting, etc.

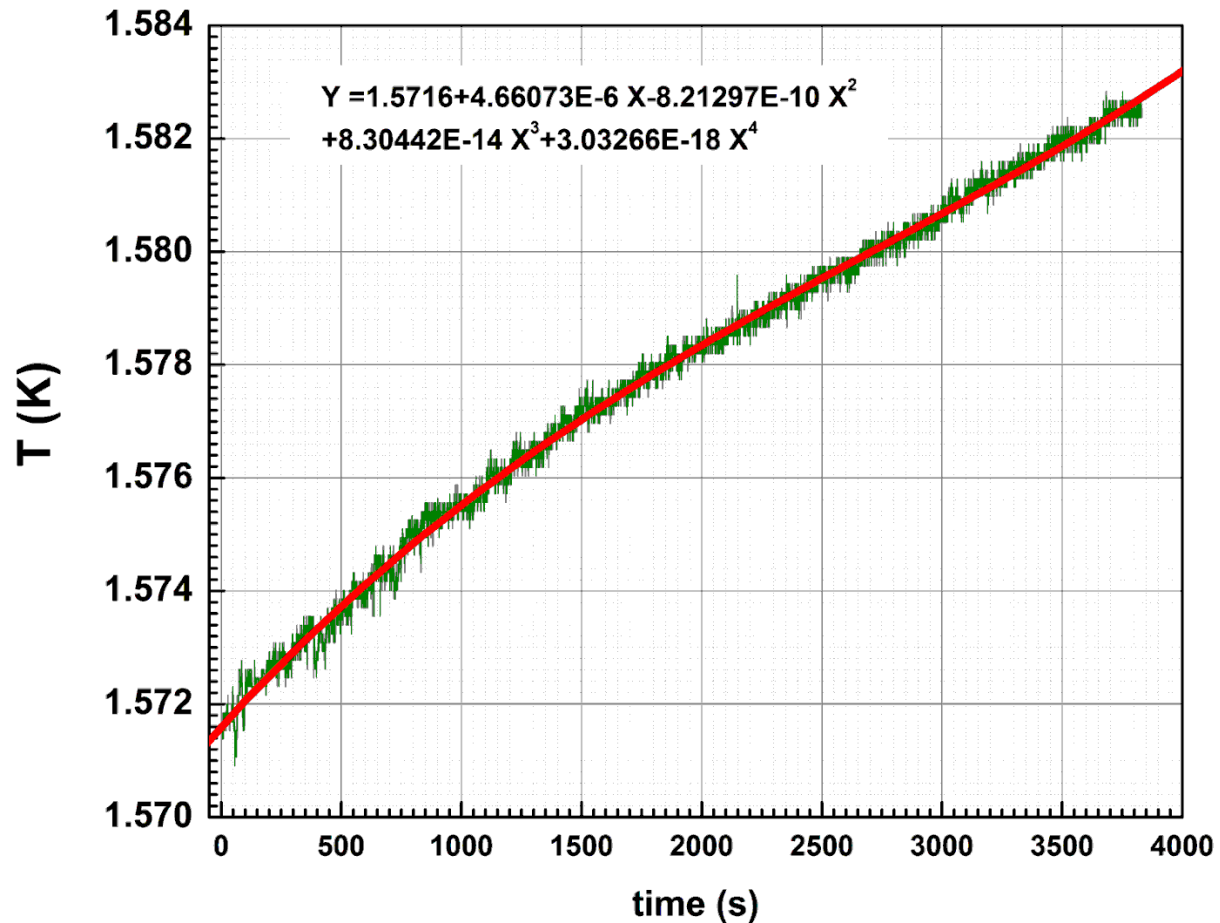
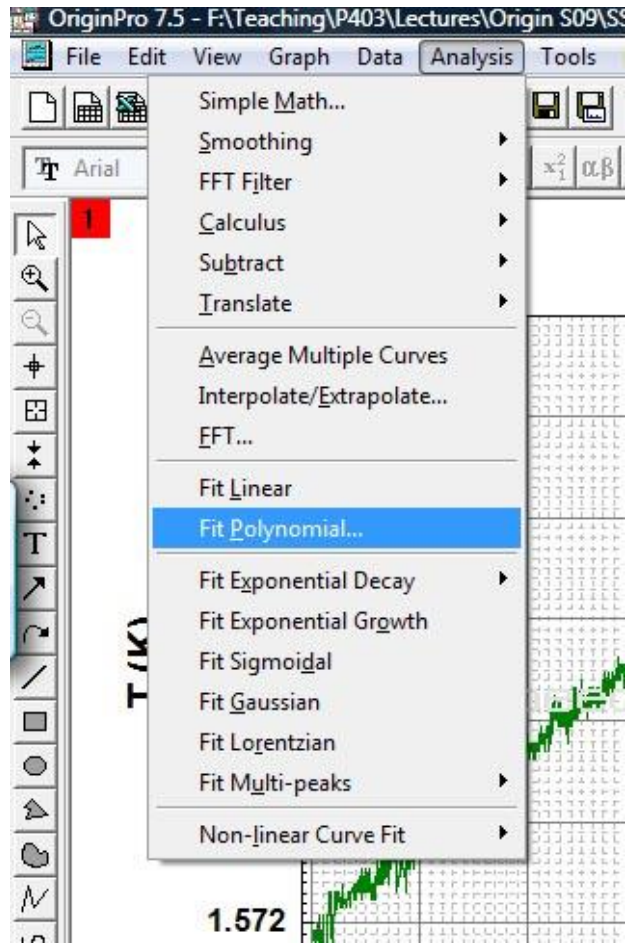
Second sound data



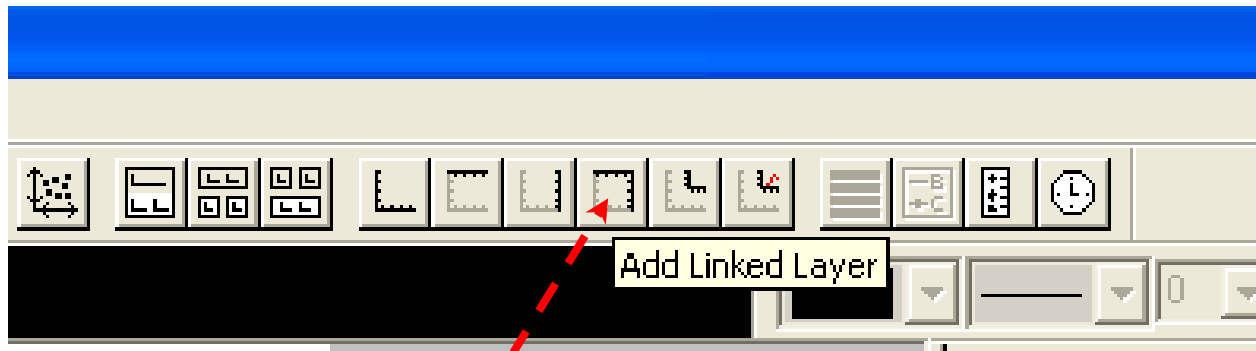
Graphical presentation of data: Fit Linear



Graphical presentation of data: Fit Polynomial

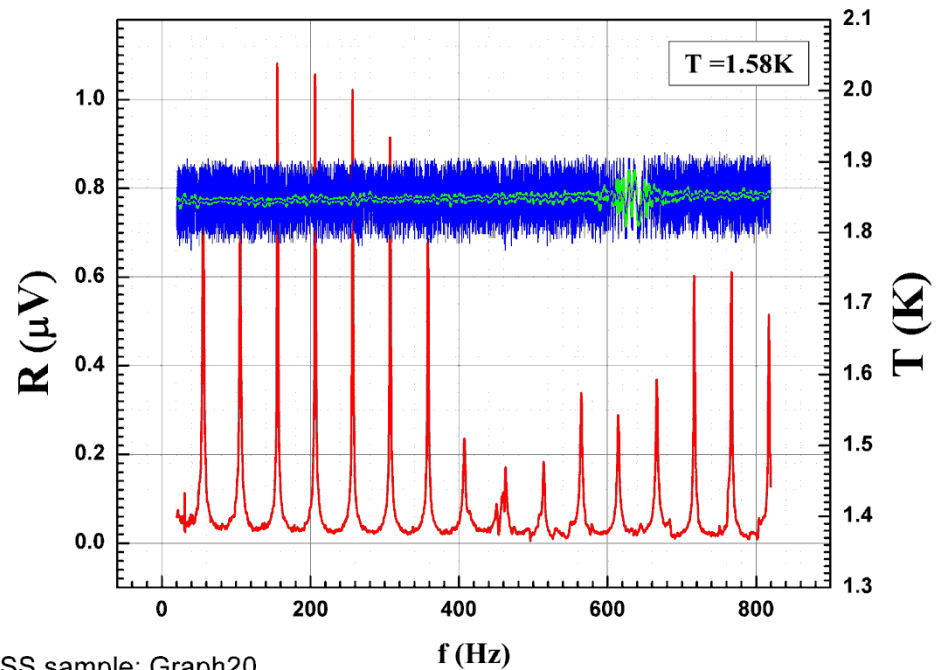


Graphical presentation of data: 2-layer graph



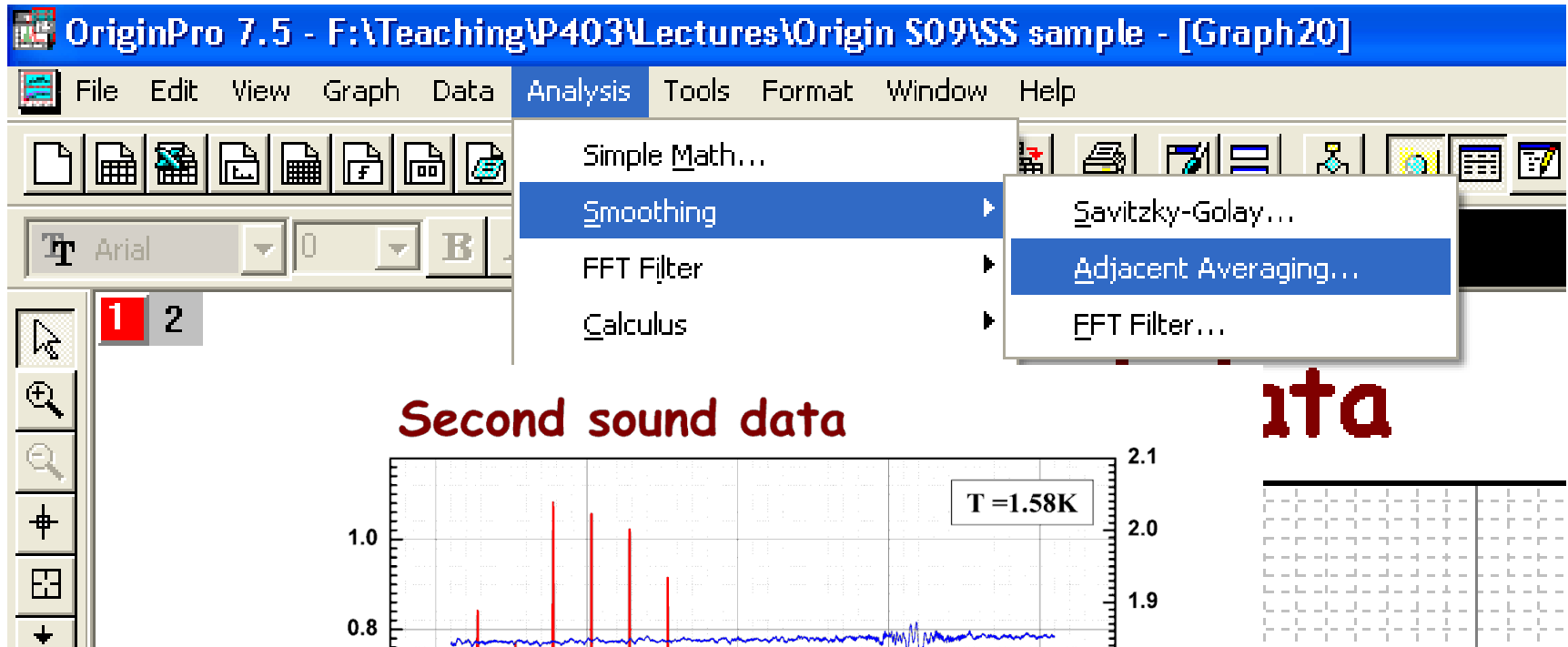
Add Layer

Second sound data

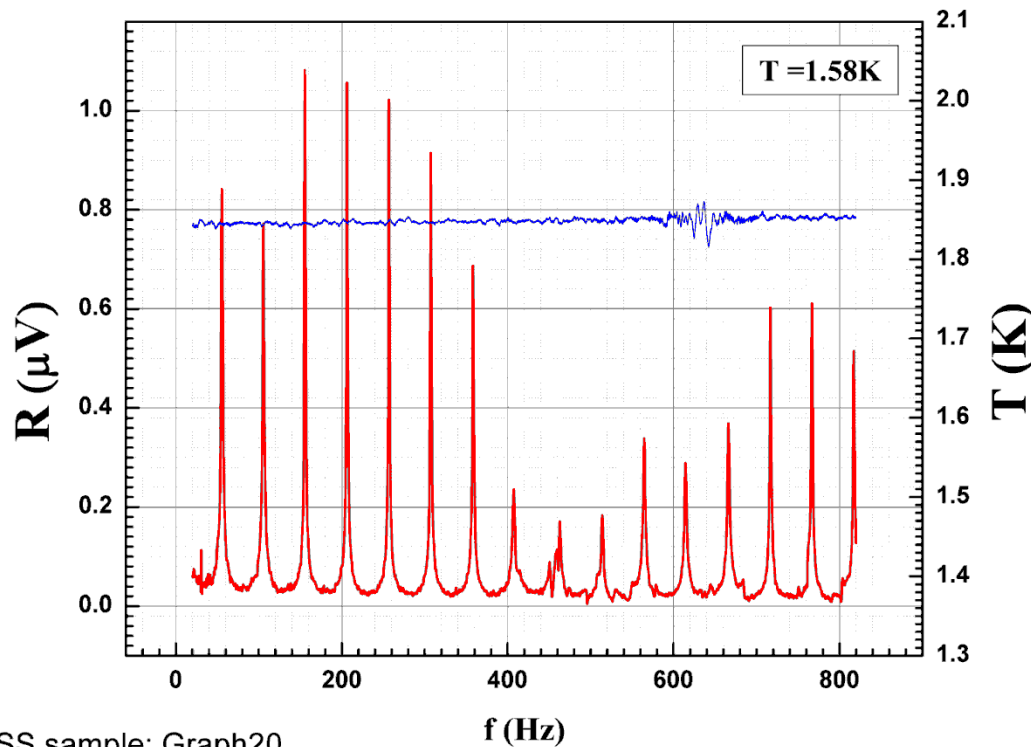


SS sample: Graph20

Graphical presentation of data: Smoothing

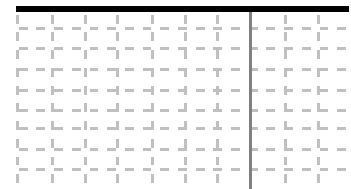


Second sound data



SS sample: Graph20

ita



Working with data: Worksheets

The screenshot displays the OriginPro 7.5 interface. The main window shows a data table with columns: times[X], TK[Y], Pmm[Y], TpK[Y], UacV[Y], fHz[Y], XY[Y], YV[Y], and RV[Y]. A context menu is open over the TK column, with 'Statistics on Columns' selected. A 'Data from SecondSoundT' dialog box is open, showing 'Recalculate' and 'Advanced Statistics' options. Below the dialog is a summary table for the selected column (TK).

Col(X)	Rows(Y)	Mean(Y)	sd(y(Erz)	se(y(Erz)	CL(Y)	CU(Y)	P25(Y)	P75(Y)
1	TK	[1.8000]	1.57775	0.00302	3.37709E-5	1.57768	1.57781	1.57541
2								1.58

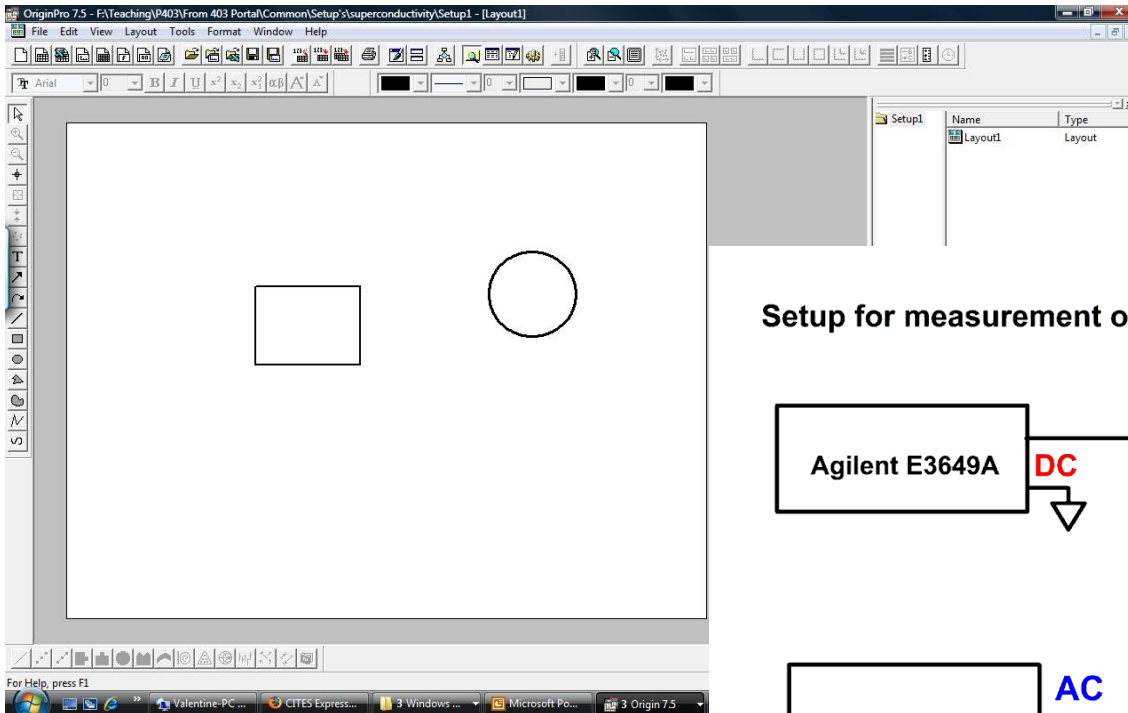
At the bottom of the window, the status bar indicates: 'Calculate statistics on the selected column(s)', 'Color Publication', '2:SecondSoundT_TK(1-8000)', 'SecondSoundT', 'Radian', and the system tray shows 'Valentine-PC ...', 'CITES Express...', '2 Windows ...', 'Microsoft Po...', 'OriginPro 7.5 ...', 'Adobe Photo...', 'Yahoo! Search', and the time '10:18 PM'.

Working with data: Worksheets

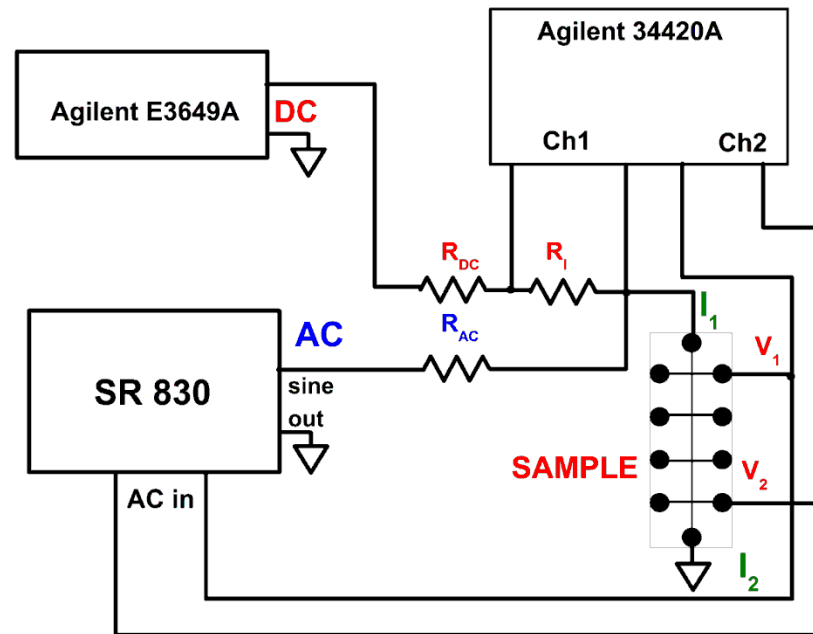
The screenshot displays the OriginPro 7.5 interface with a data table. A context menu is open over the 'TK[M]' column, and the 'Set Column Values...' option is selected. The dialog box shows the formula $col(TK) - 273$ being applied to the selected column.

times[X] time [s]	TK[M] T [K]	Pmm[M] P [mm]	TpK[Y] Tp [K]	UacV[Y] Uac [V]	fHz[Y] f [Hz]	XV[Y] X [M]	YV[Y] Y [M]	RV[Y] R [M]
7968	3814.75	1.8147	5	81	816.7	-1.54135E-7	3.62286E-7	3.93711E-7
7969	3815.265	1.84566	5	81	816.8	-1.27476E-7	4.04545E-7	4.24154E-7
7970	3815.765	1.89667	5	81	816.9	-8.80104E-8	4.44359E-7	4.52991E-7
7971	3816.281	1.86944	5	81	817	-3.56233E-8	4.76723E-7	4.78052E-7
7972	3816.781	1.81355	5	81	817.1	2.72413E-8	4.97097E-7	4.97843E-7
7973	3816.781	1.81355	5	81	817.2	9.49954E-8	5.01987E-7	5.10896E-7
7974	3817.797	1.8823	5	81	817.3	1.62284E-7	4.90345E-7	5.16502E-7
7975	3818.312	1.87936	5	81	817.4	2.23053E-7	4.63218E-7	5.14124E-7
7976	3818.812	1.86944	5	81	817.5	2.7416E-7	4.23288E-7	5.04318E-7
7977	3819.328	1.88327	5	81	817.6	3.12344E-7	3.75441E-7	4.8838E-7
7978	3819.84299	1.87936	5	81	817.7	3.38072E-7	3.23753E-7	4.6809E-7
7979	3820.34299	1.82937	5	81	817.8	3.52391E-7	2.72297E-7	4.45337E-7
7980	3820.85899	1.82937	5	81	817.9	3.56698E-7	2.23518E-7	4.20944E-7
7981	3821.375	1.8881	5	81	818	3.53439E-7	1.79281E-7	3.96309E-7
7982	3821.875	1.89194	5	81	818.1	3.44358E-7	1.40165E-7	3.71791E-7
7983	3822.39	1.82937	5	81	818.2	3.31087E-7	1.06986E-7	3.47943E-7
7984	3822.906	1.81355	5	81	818.3	3.15022E-7	7.86972E-8	3.24703E-7
7985	3823.406	1.90876	5	81	818.4	2.97909E-7	5.51811E-8	3.02976E-7
7986	3823.922	1.88714	5	81	818.5	2.80563E-7	3.58561E-8	2.82845E-7
7987	3824.422	1.81355	5	81	818.6	2.63683E-7	2.06056E-8	2.64487E-7
7988	3824.937	1.82492	5	81	818.7	2.47501E-7	8.84762E-9	2.47659E-7
7989	3825.453	1.90043	5	81	818.8	2.32017E-7	0	2.32017E-7
7990	3825.953	1.86029	5	81	818.9	2.17698E-7	-6.75212E-9	2.17803E-7
7991	3826.46799	1.821198	5	81	819	2.0431E-7	-1.16416E-8	2.04641E-7
7992	3826.98399	1.84031	5	81	819.1	1.92203E-7	-1.50177E-8	1.92789E-7
7993	3827.48399	1.87838	5	81	819.2	1.81143E-7	-1.7346E-8	1.81972E-7
7994	3828	1.832822	5	81	819.3	1.71015E-7	-1.89758E-8	1.72065E-7

Layouts



Setup for measurement of s/c properties



Origin at UIUC Webstore and OriginLab site.

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OriginPro 8.6

\$0.00

OriginLab OriginLab, Inc.

Eligibility: UIUC Faculty, UIUC Staff, UIUC Students, UIS Faculty, UIS Staff, UIS Faculty and Staff and UIUC Students.

<https://webstore.illinois.edu>

www.originlab.com

OriginLab Data Analysis and Graphing Software

Company Products Support Solutions Purchase Downloads

What's New!

- ★ Origin 8.6 is Now Available! (11/15/2011)
- ★ Scientific Computing World review (7/1/2011)

- Graph Gallery
- Origin Viewer
- Pricing & Purchase
- License/Register
- Online Help
- Reviews
- Case Studies
- Service Releases
- Video Tutorials
- Student Personal Use
- Government & GSA Pricing
- Licensing Options
- User Forums
- File Exchange
- Wiki
- LabVIEW™ Connectivity

ORIGIN 8.6 DATA ANALYSIS GRAPHING PROGRAMMING

Origin is an easy-to-use data analysis and graphing software application used by over 100,000 scientists and engineers worldwide. OriginPro offers all of the features of Origin plus extended analysis tools. Compare Origin and OriginPro.

Origin 8.6 (November 2011)

Try Now Buy Now Watch Now

Graph Gallery New Features



- Curve Fitting
- Data Acquisition
- Data Exploration
- Export
- Graphing
- Image Processing
- Import
- Interprocess Communication
- Mathematics
- Other
- Programming
- Signal Processing
- Spectroscopy
- Statistics
- Worksheet Manipulation

File Submission

- Submit Files
- Update Files
- Guidelines
- Add New Category

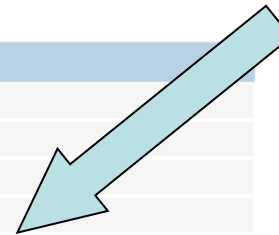
Search:

File Exchange

The OriginLab File Exchange is a place to let Origin users share their Origin files or custom components with others.

Most recently updated files:

- Separate data into blocks
- Automated analysis of pClamp data
- Cross Correlation
- Shortcut buttons
- Digitizer for Origin 7, 7.5 and 8.0 (SR2 or later)

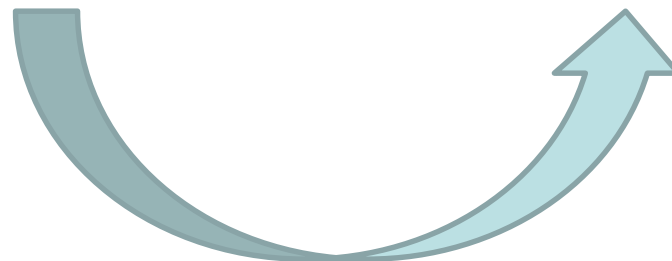
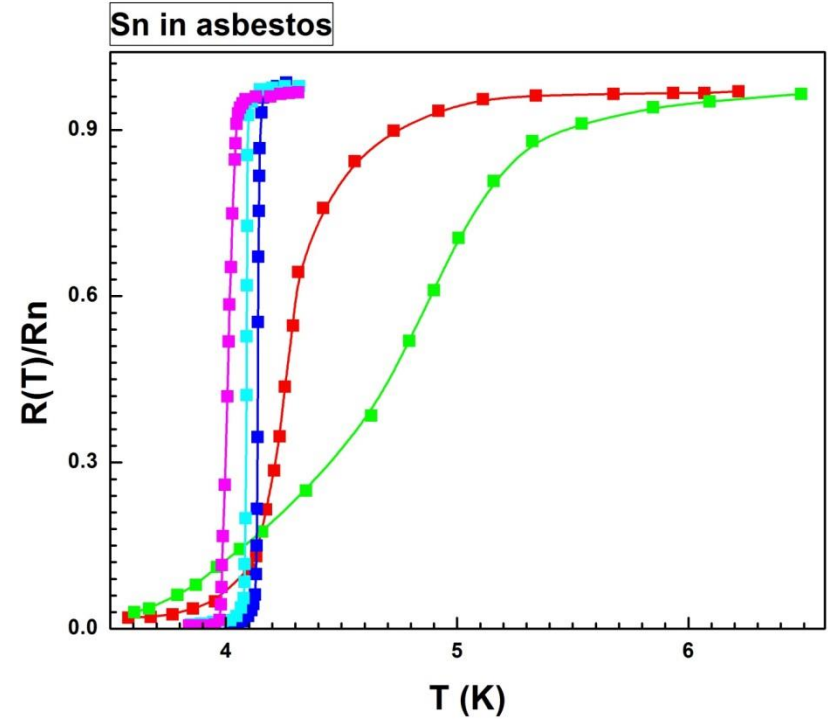
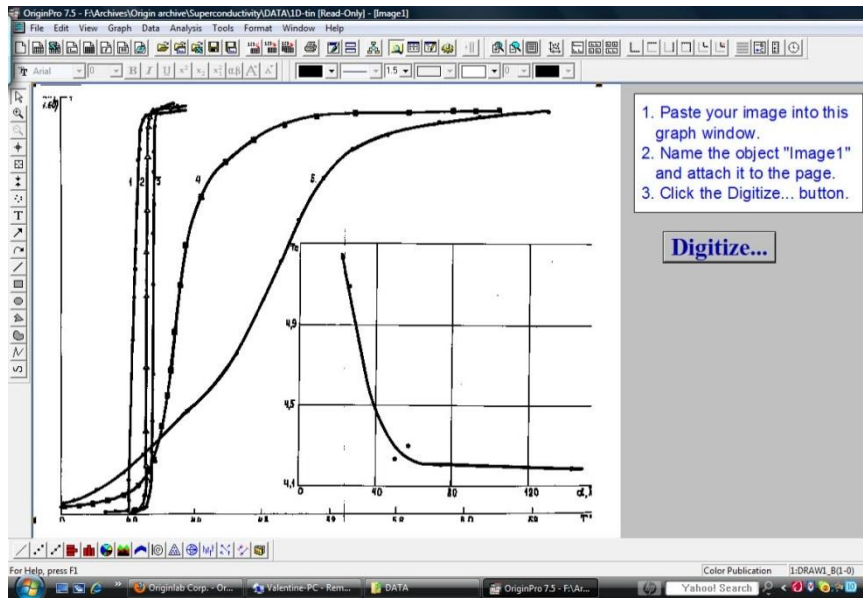


Digitizer

Most downloaded files (Last Month):

- Digitizer for Origin 7, 7.5 and 8.0 (SR2 or later)
- Tangents
- Peak Analysis Tool
- Extract data from graph
- MultiFit - Multiple curve fitting commands
- Cluster Tool
- Digitizer for Origin 6.0 and 6.1
- Tafel Extrapolation (Estimate Ecorr and Icorr)
- Envelope Curves
- Script Tool
- Linear Digitize Template
- Estimate Onset of Slope Change
- ONMR 7.5
- Shortcut buttons
- OAnimator
- ScanRead
- Import Princeton Instruments (*.SPE) Files

Using digitizer script

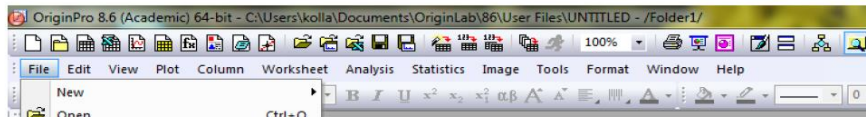


Origin manuals



Working with Origin 8.6.


Step1. Importing data



A very short and simple manual covering only the main operations with Origin, and manuals from Origin are on the server (`\\Phyap\portal\PHYCS403\Common\Origin manuals`).

Do not forget about Origin Help

Video Tutorials on the company website

 Data Analysis and Graphing Software	
Company Products Support Solutions Purchase D	
Help Center Video Tutorials User Forum	SUPPORT : VIDEO TUTORIALS Video Tutorials

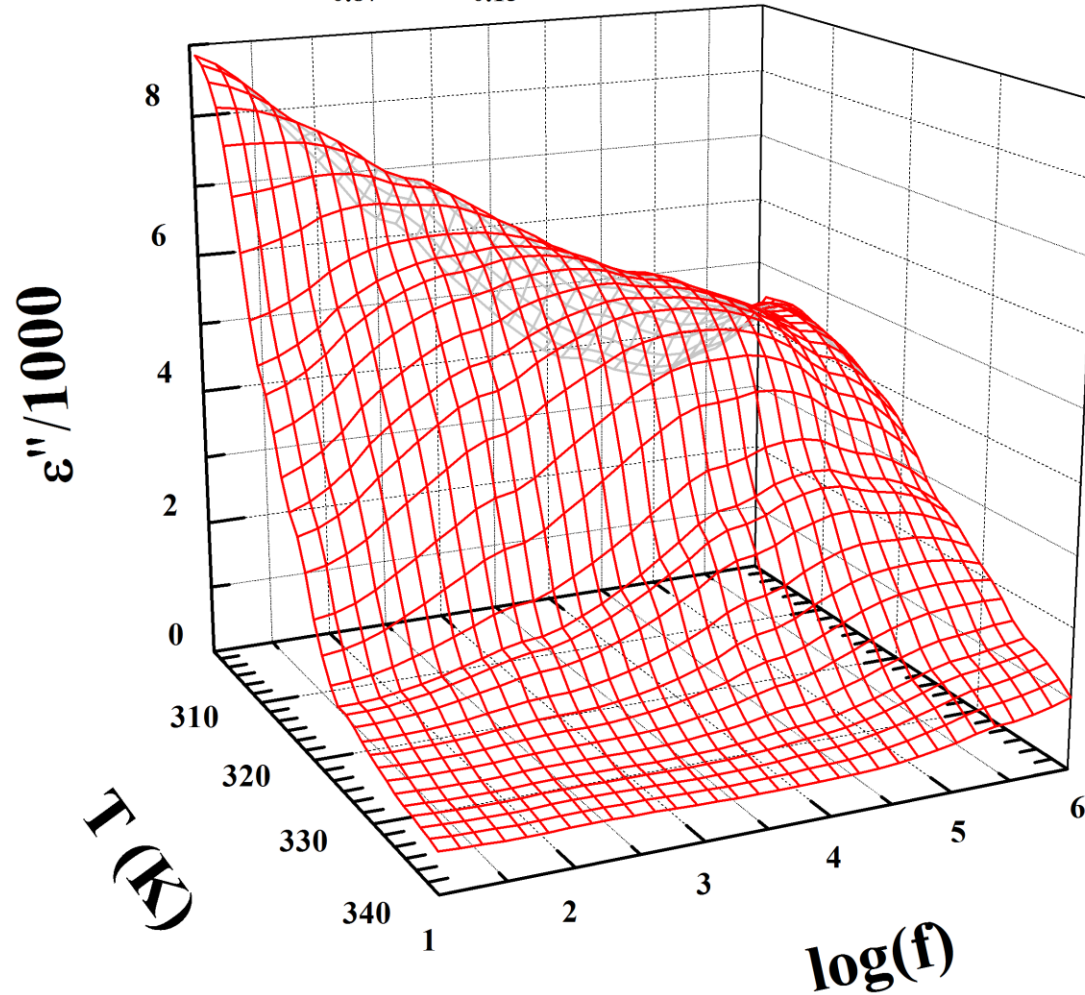
<http://www.originlab.com/index.aspx?go=SUPPORT/VideoTutorials>



Example Origin graphs

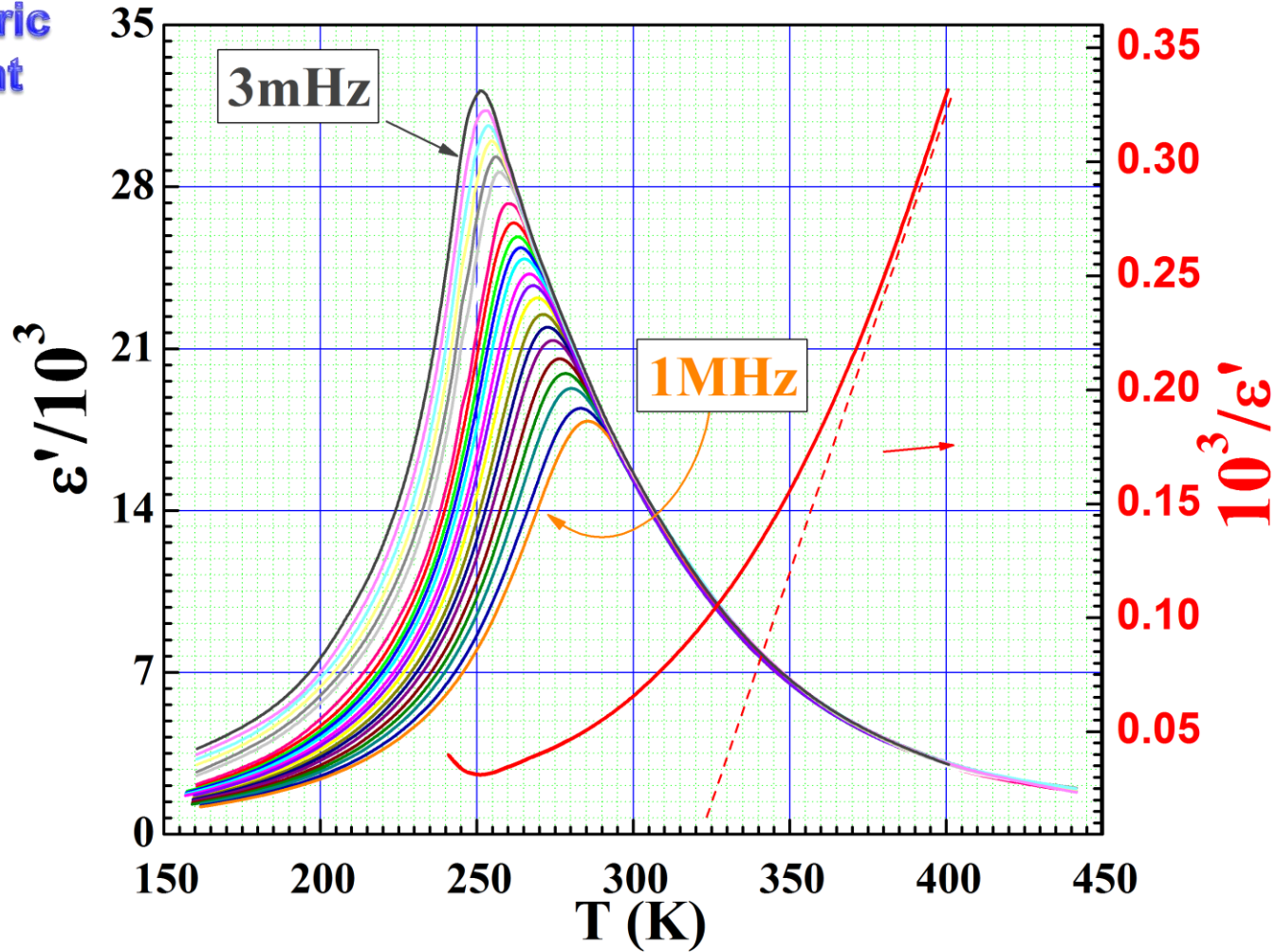
$(\text{PMN})_{0.87}(\text{PT})_{0.13}$, single crystal

Ferroelectric
Experiment



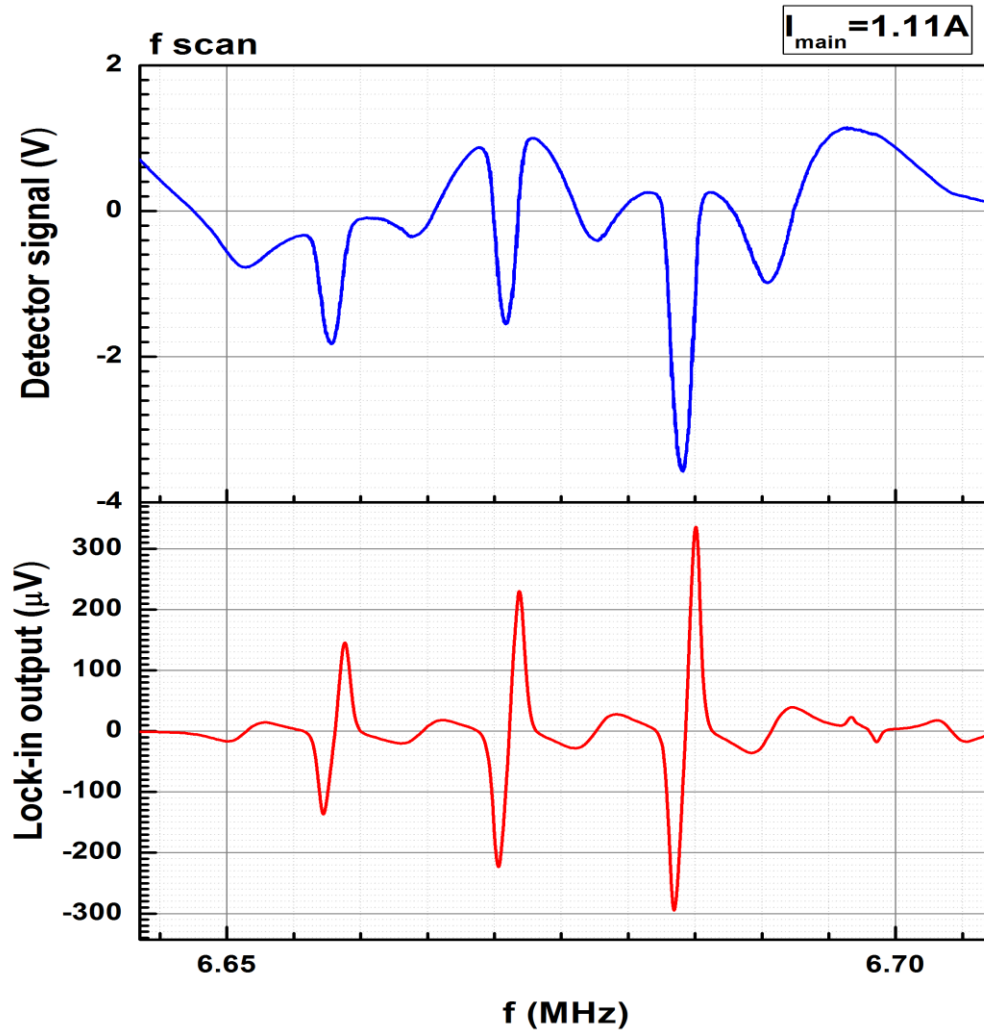
Example Origin graphs

Ferroelectric
Experiment



Example Origin graphs

Optical
pumping

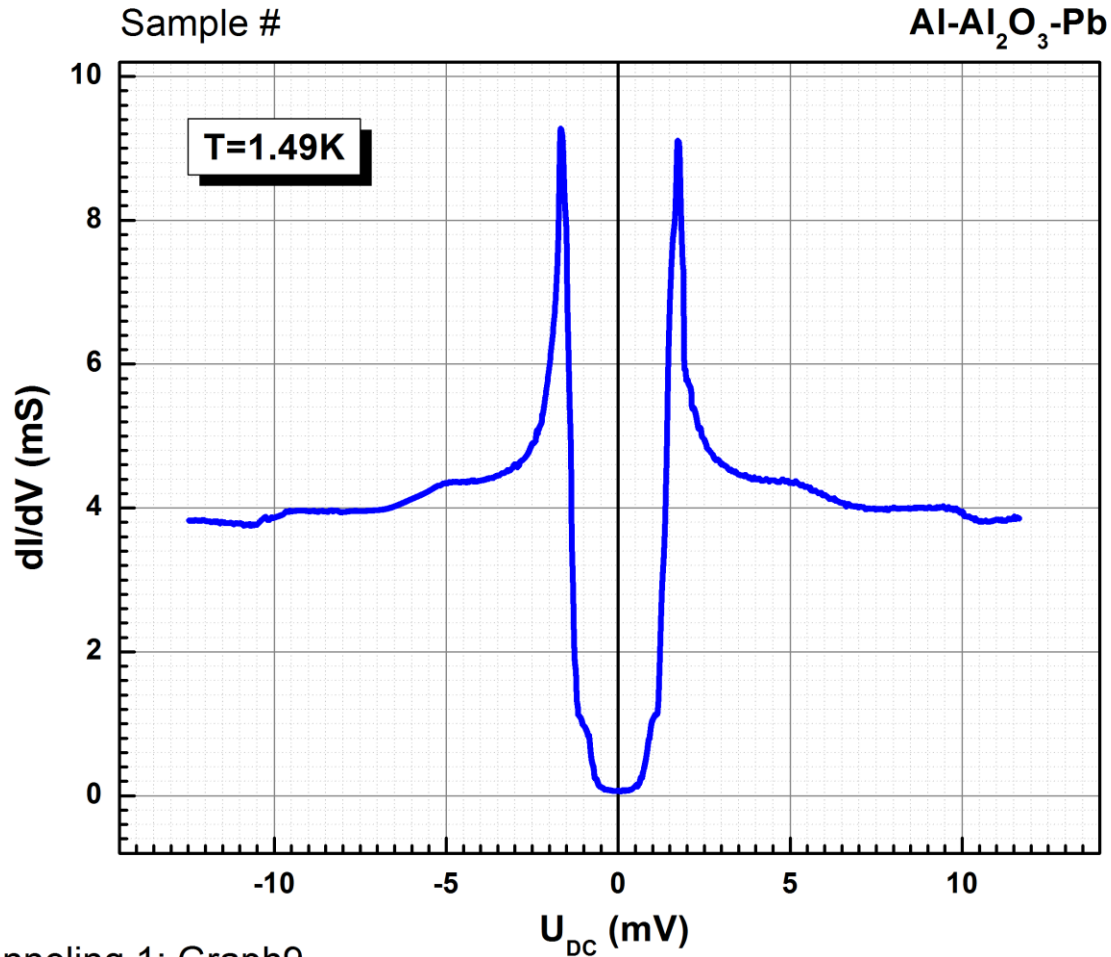


Mapping 0.5-2.5A from March 1st 2012: Graph7



Example Origin graphs

Tunneling
Experiment



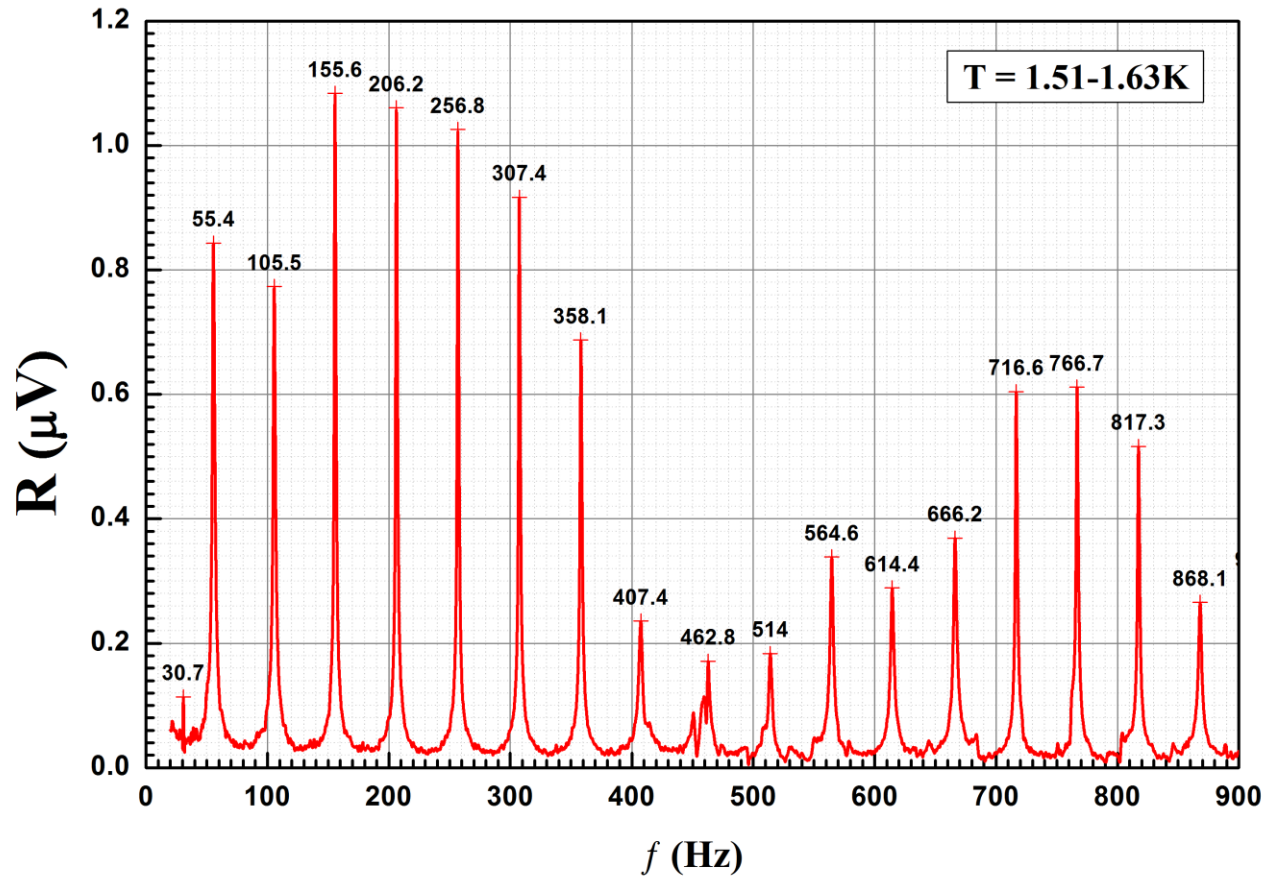
Tunneling 1: Graph9

Sample n2 run8 zoom temp 1.55K



Example Origin graphs

Second
sound



Example Origin graphs

Magnet mapping

