



# Scientific Graphing and Analysis Software

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

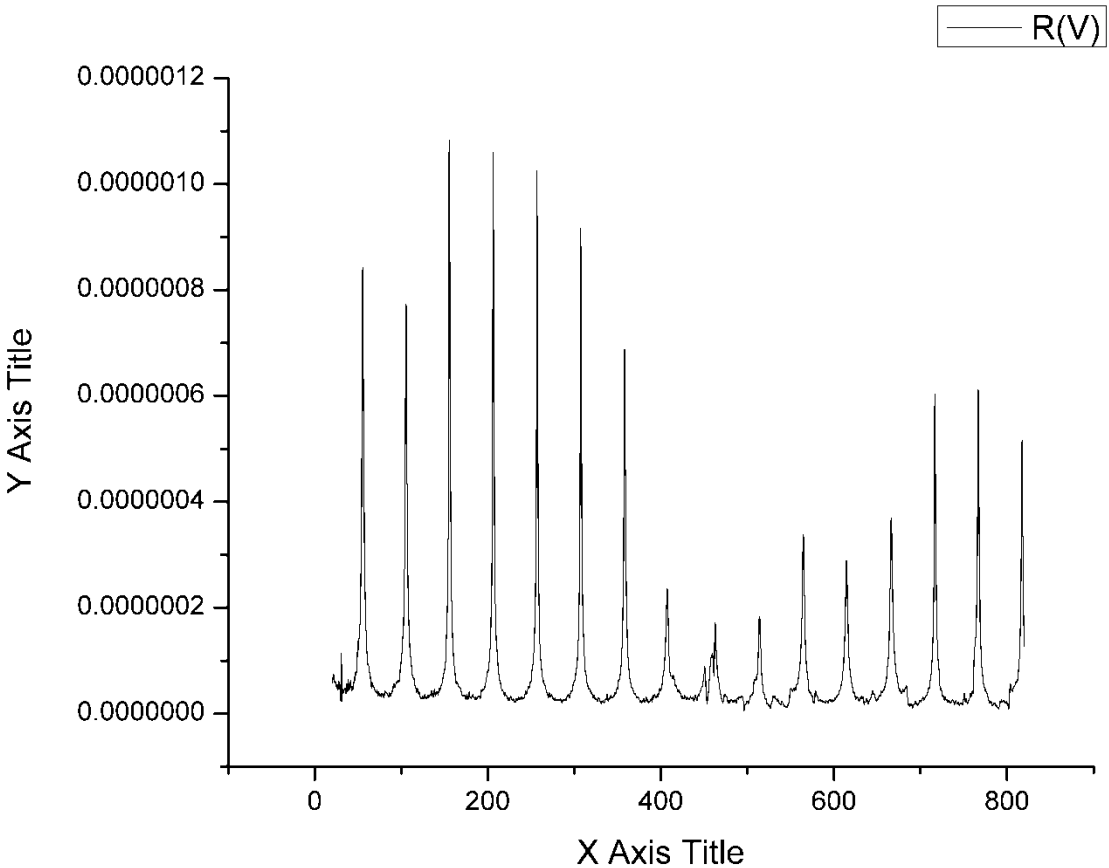
Current versions on all Physics 403 computers are [OriginPro8.6](#)

What can it do:

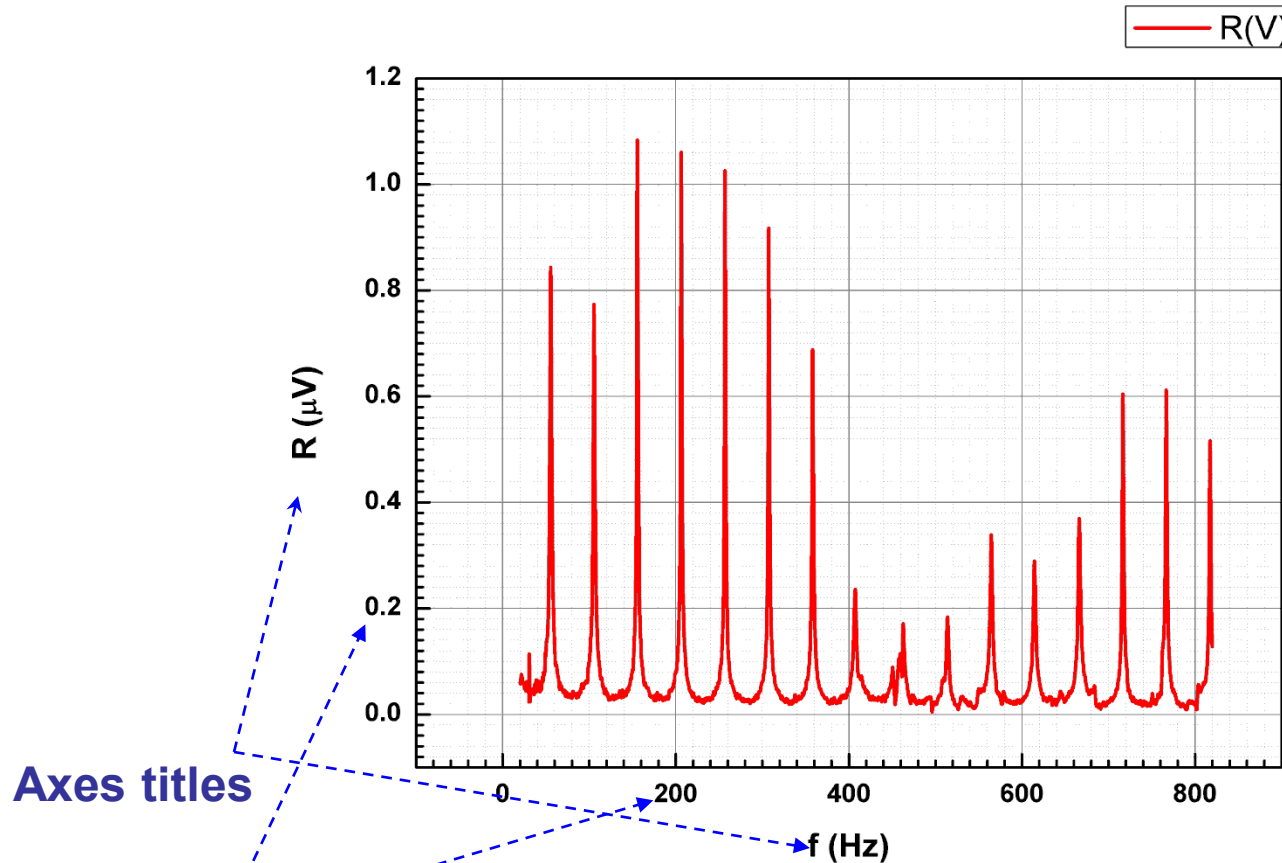
- 1. Graphical presentation of the data**
- 2. Data analysis**
- 3. Preparation of the publishing quality figures.**

This software is specially designed for scientific graphics and is a “standard” Windows application which does not require knowledge of C++ or any other high level computer language. In the same time if you like you can write some special functions or procedures using provided by Origin some programming tools:

# Graphical presentation of the data. Basic.



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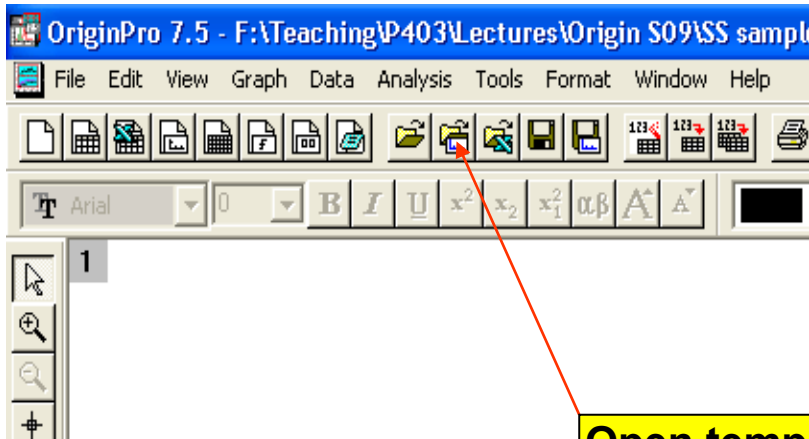


Opposite axes,  
grid lines

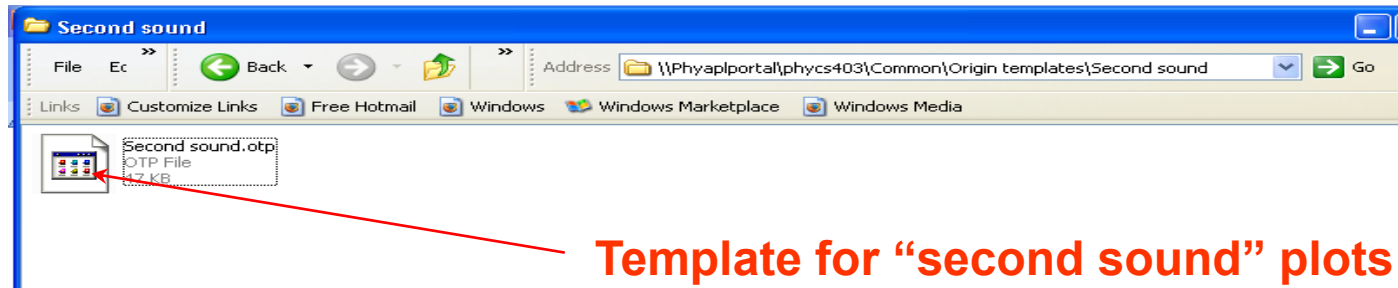
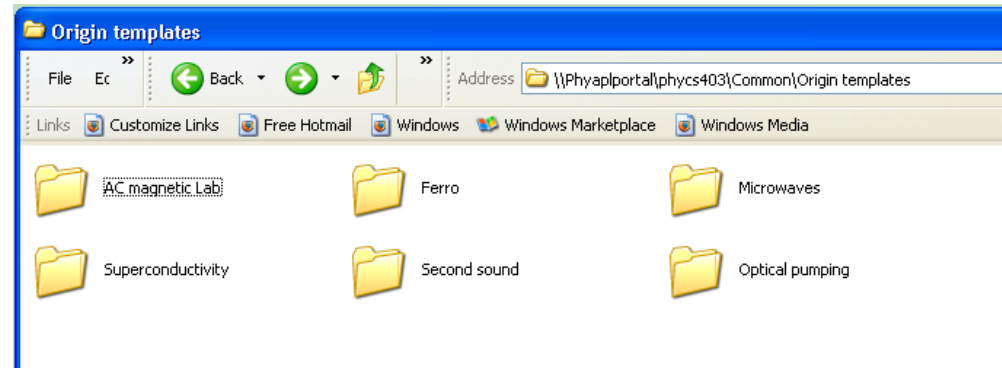
Axes titles

Bold tick labels.  
For better graph  
looking volts were  
converted to  $\mu\text{V}$

# Graphical presentation of the data. Templates.



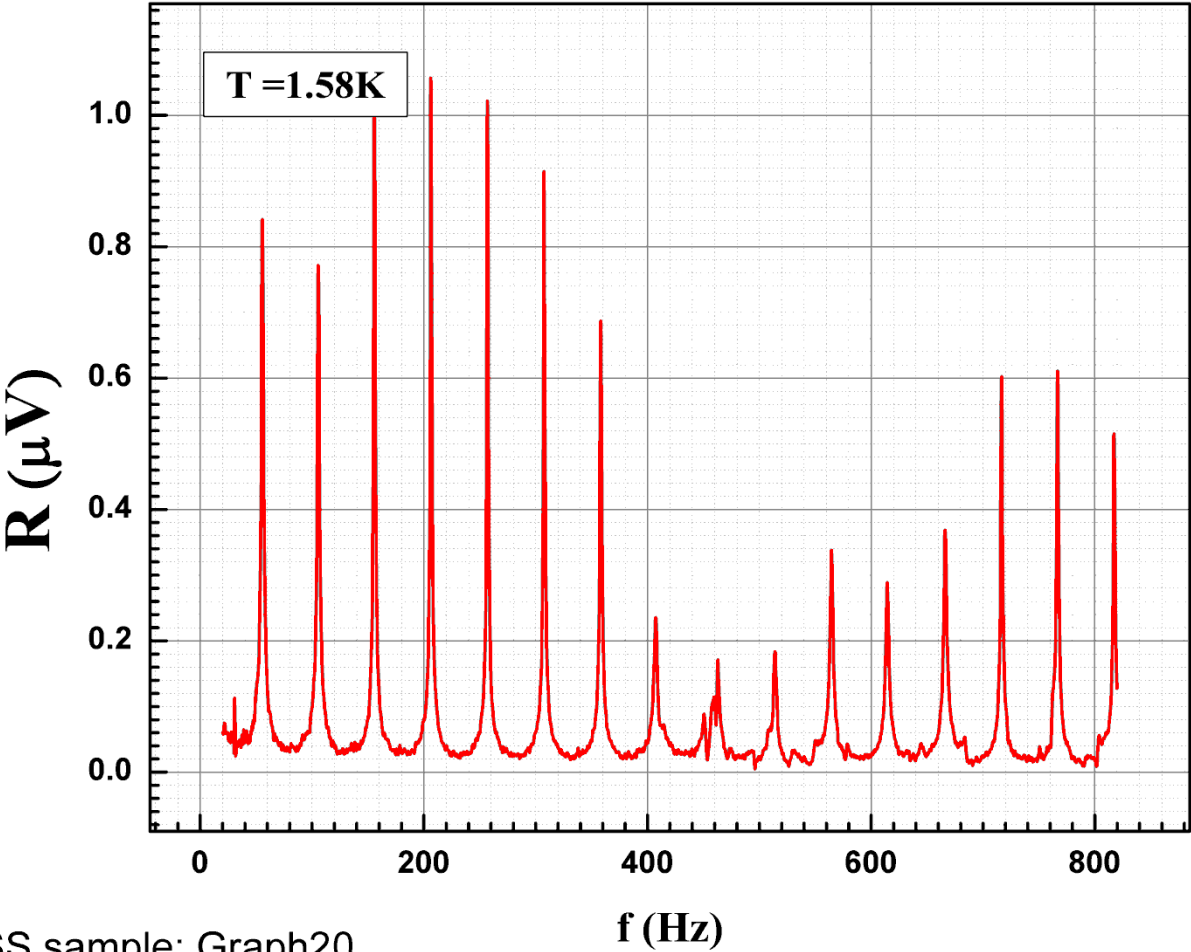
Open template



Template for "second sound" plots

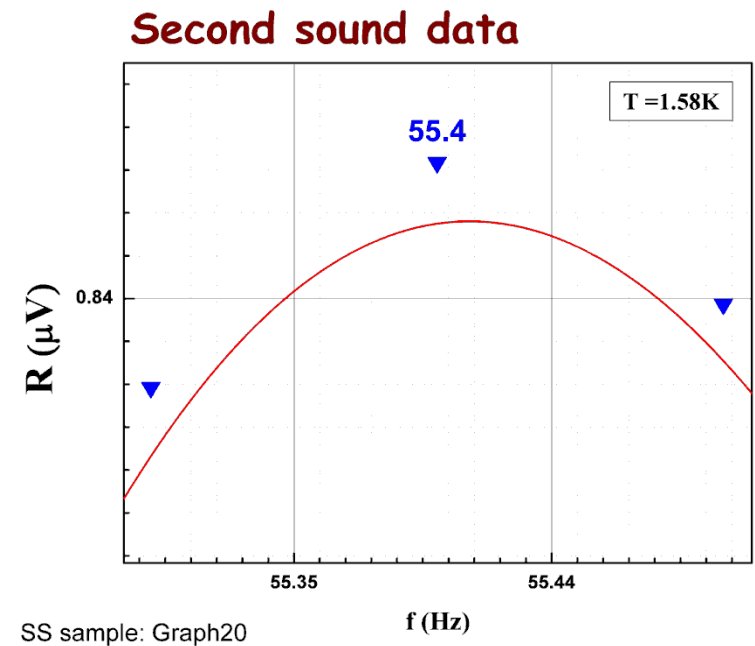
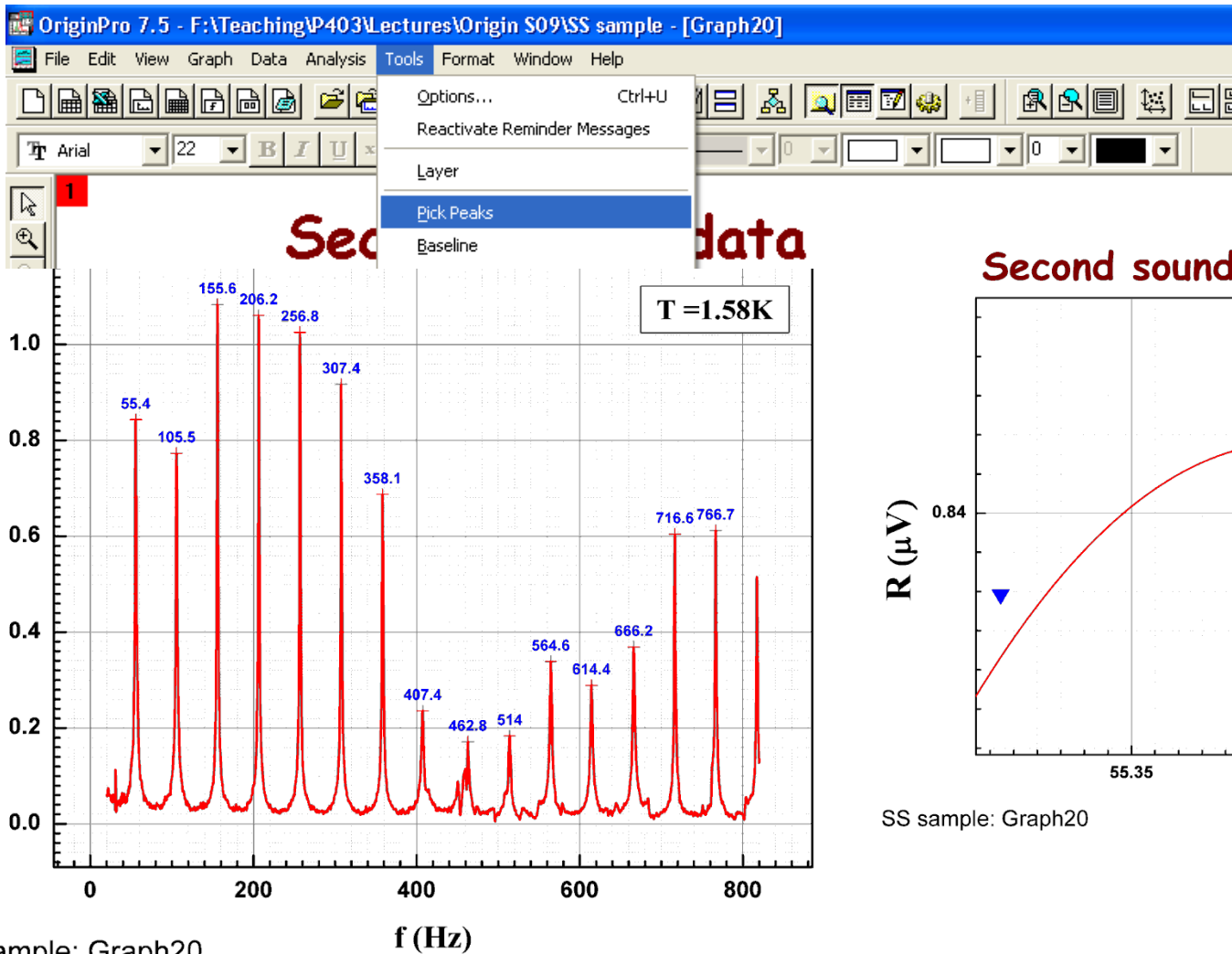
# Graphical presentation of the data. Templates.

## Second sound data

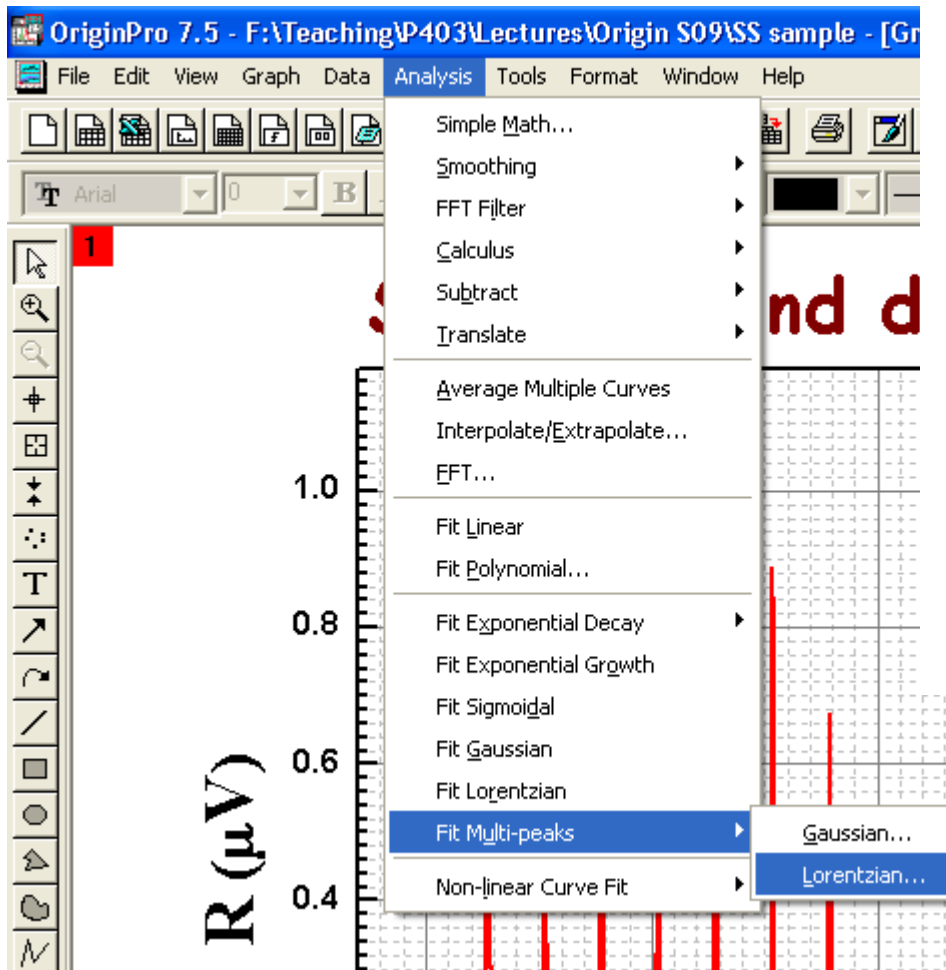


SS sample: Graph20

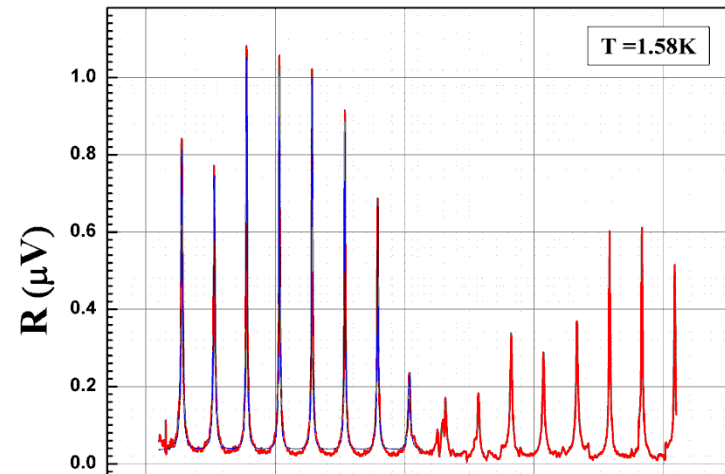
# Graphical presentation of the data. Fitting etc.



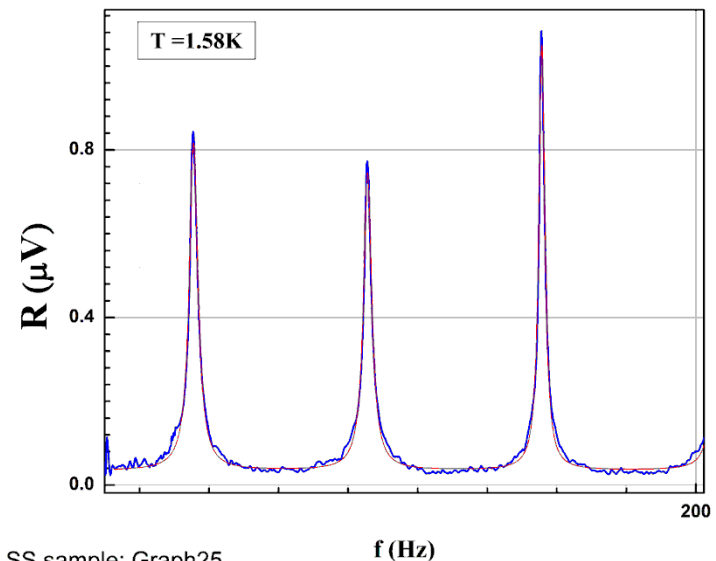
# Graphical presentation of the data. Fitting etc.



Second sound data

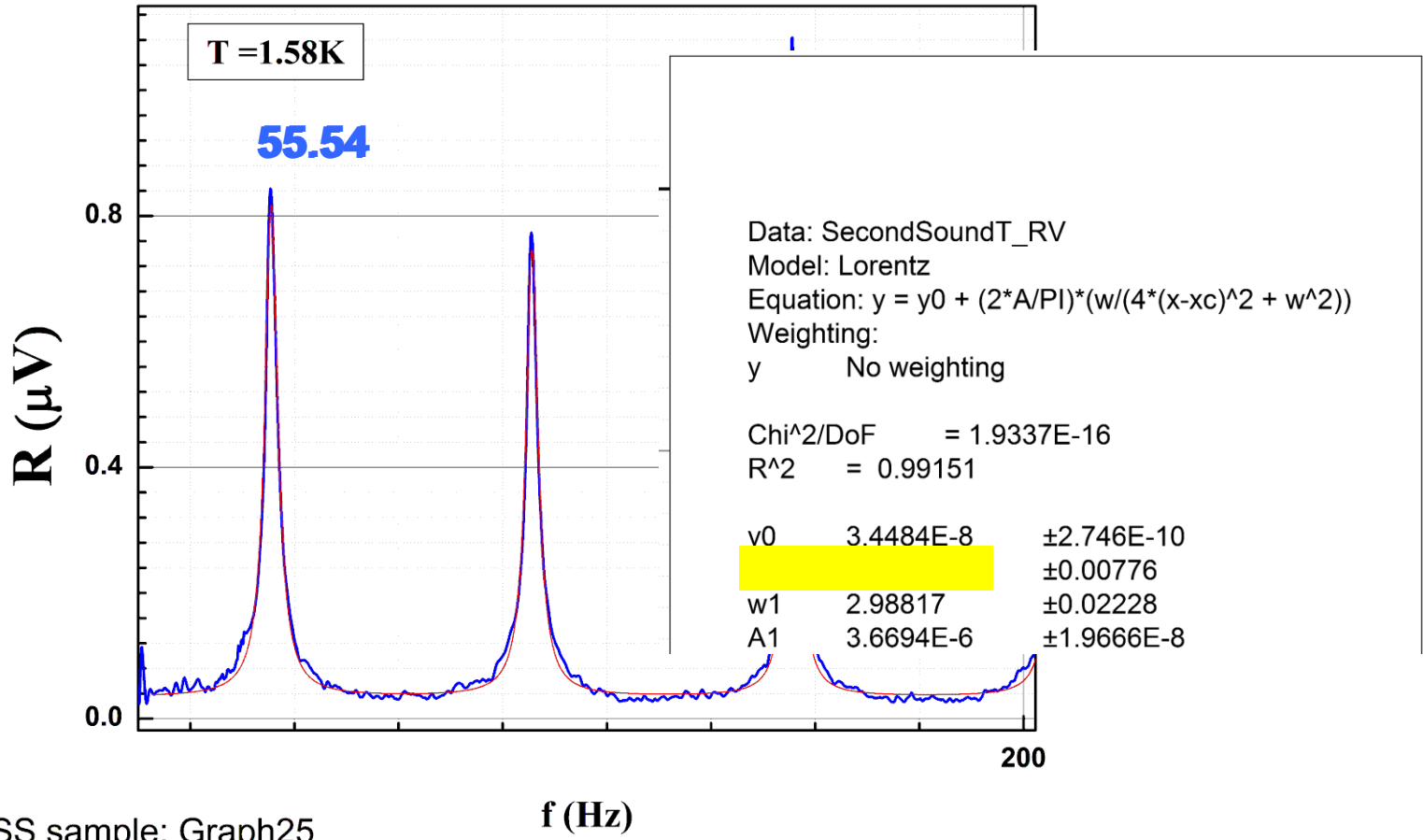


Second sound data

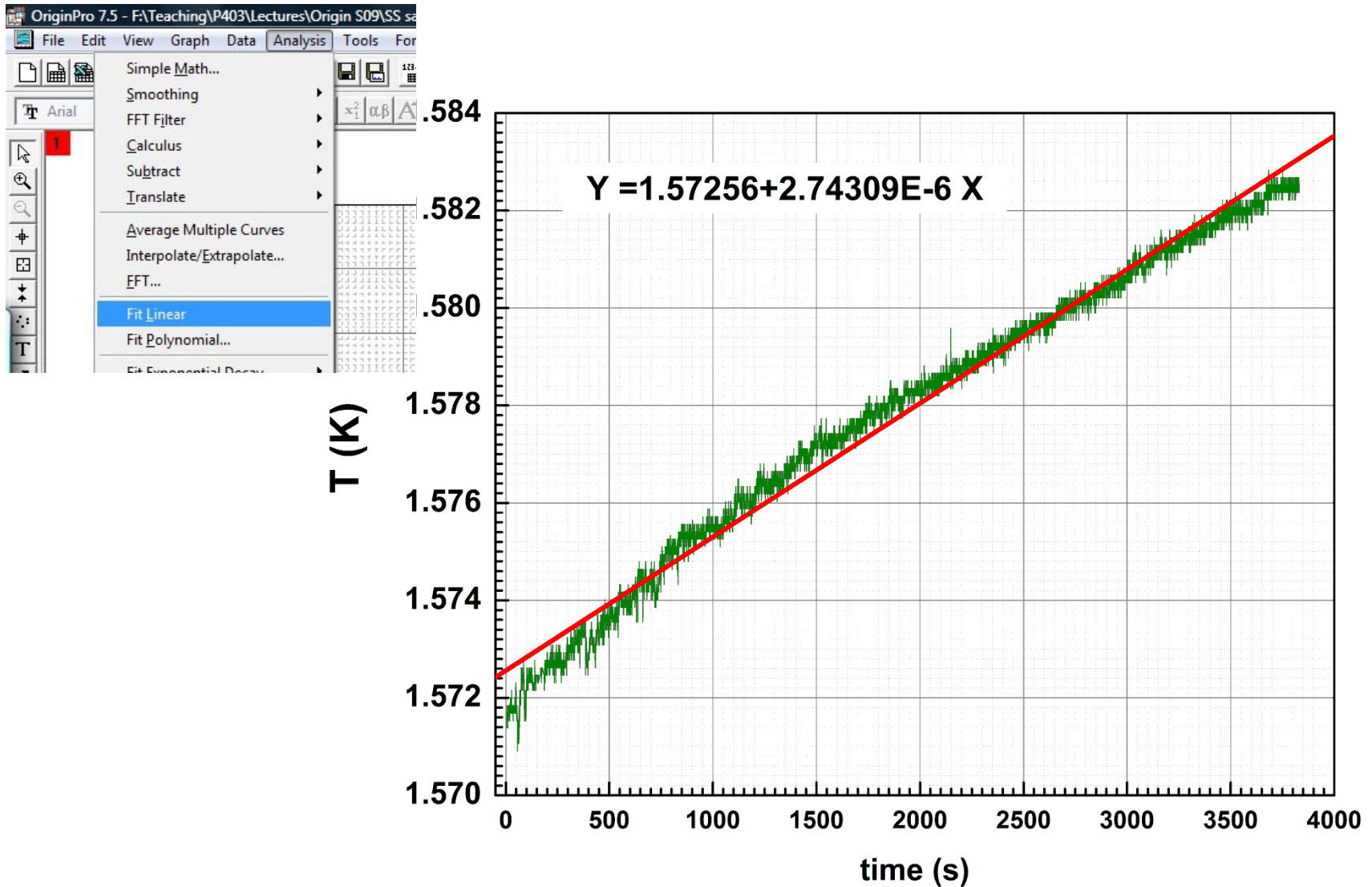


# Graphical presentation of the data. Fitting etc.

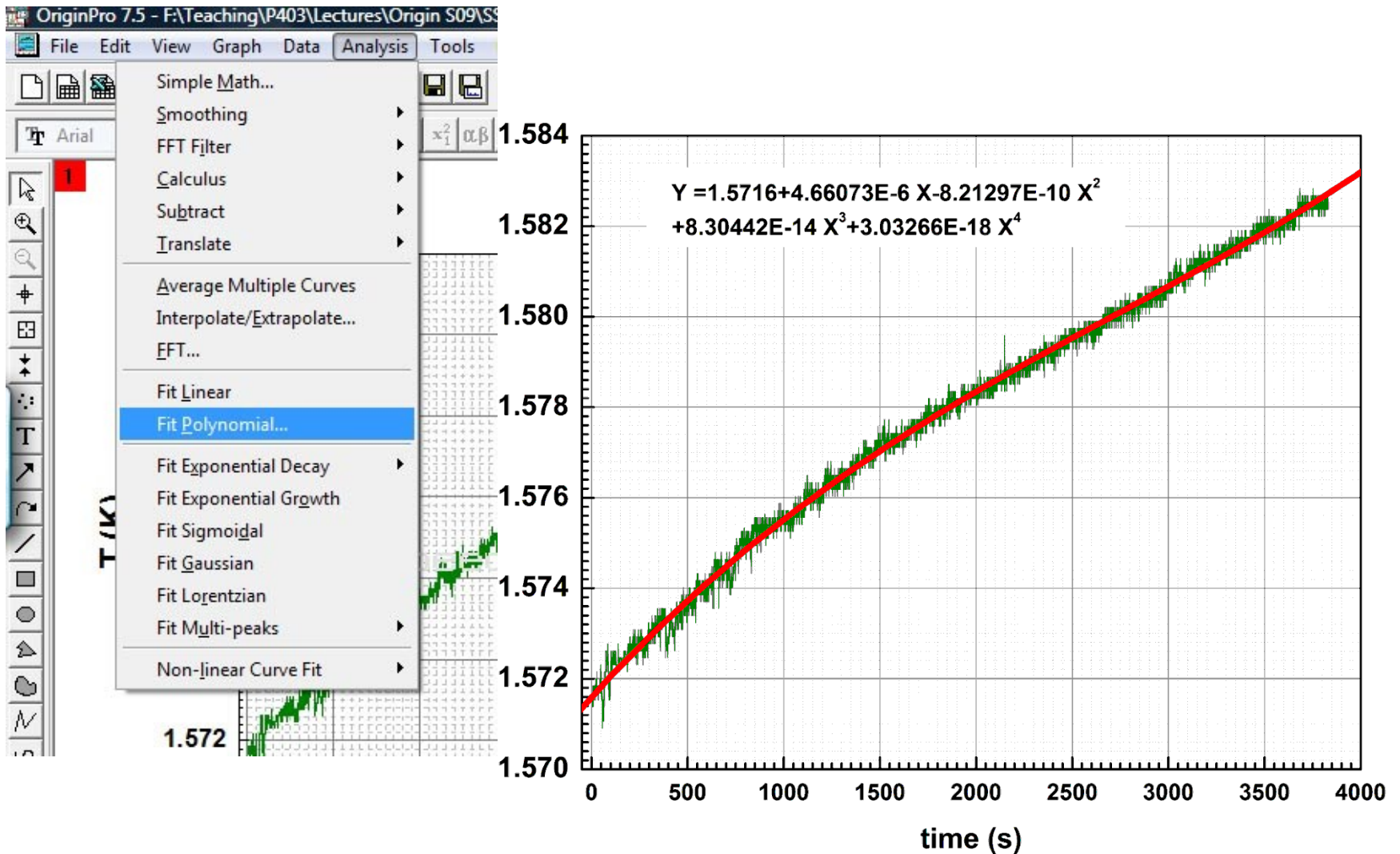
## Second sound data



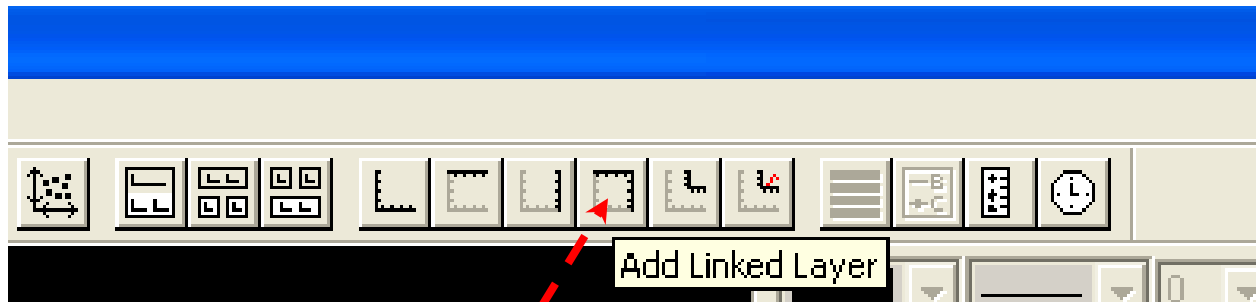
# Graphical presentation of the data. Linear fitting.



# Graphical presentation of the data. Linear fitting.

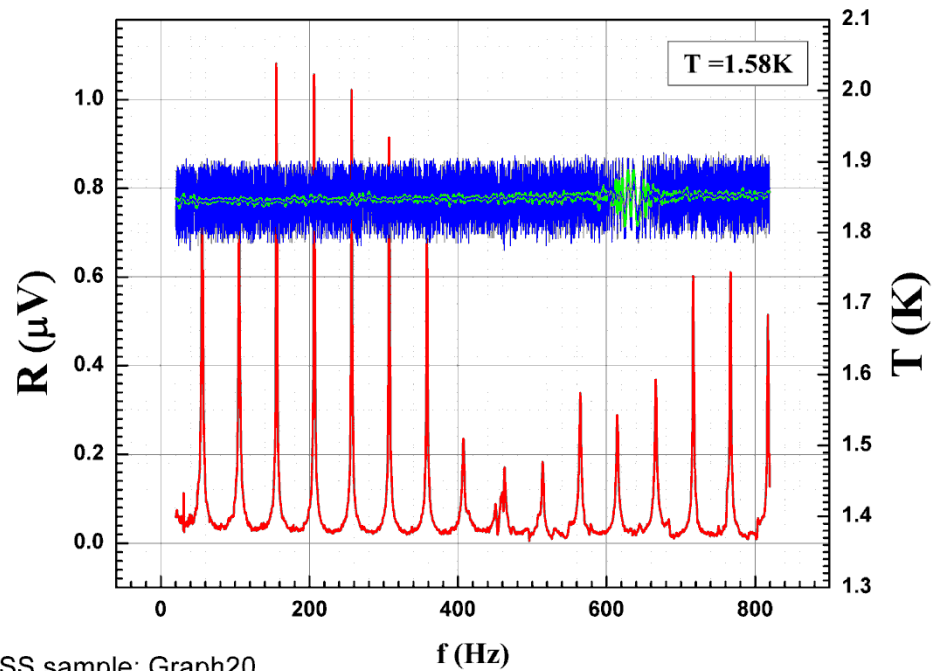


# Graphical presentation of the data. 2 layers graph.

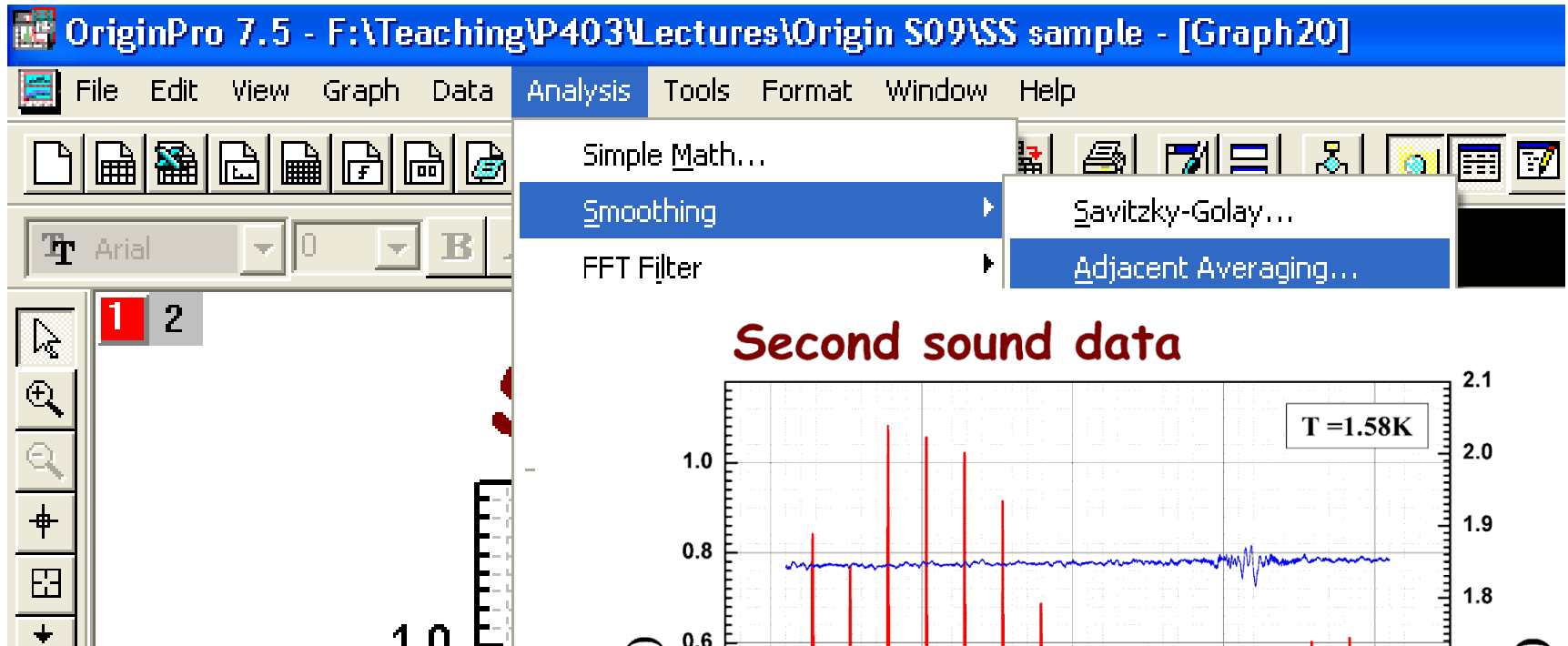


Add Layer

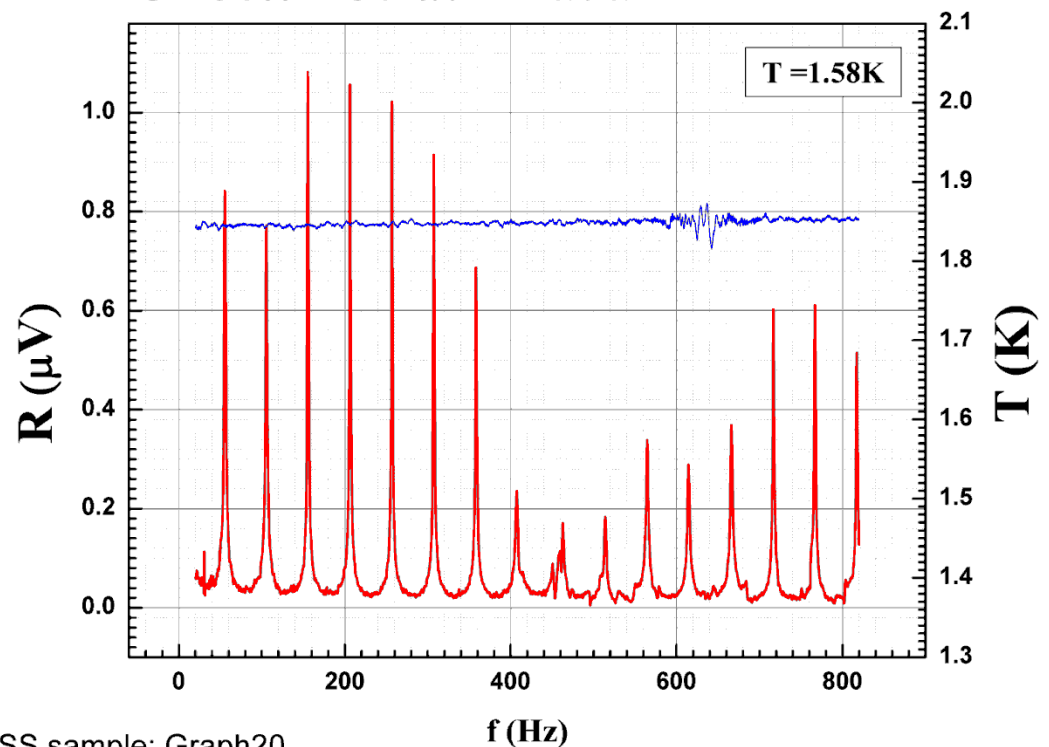
## Second sound data



# Graphical presentation of the data. 2 layers graph.



## Second sound data



SS sample: Graph20



# Worksheets. Working with data.

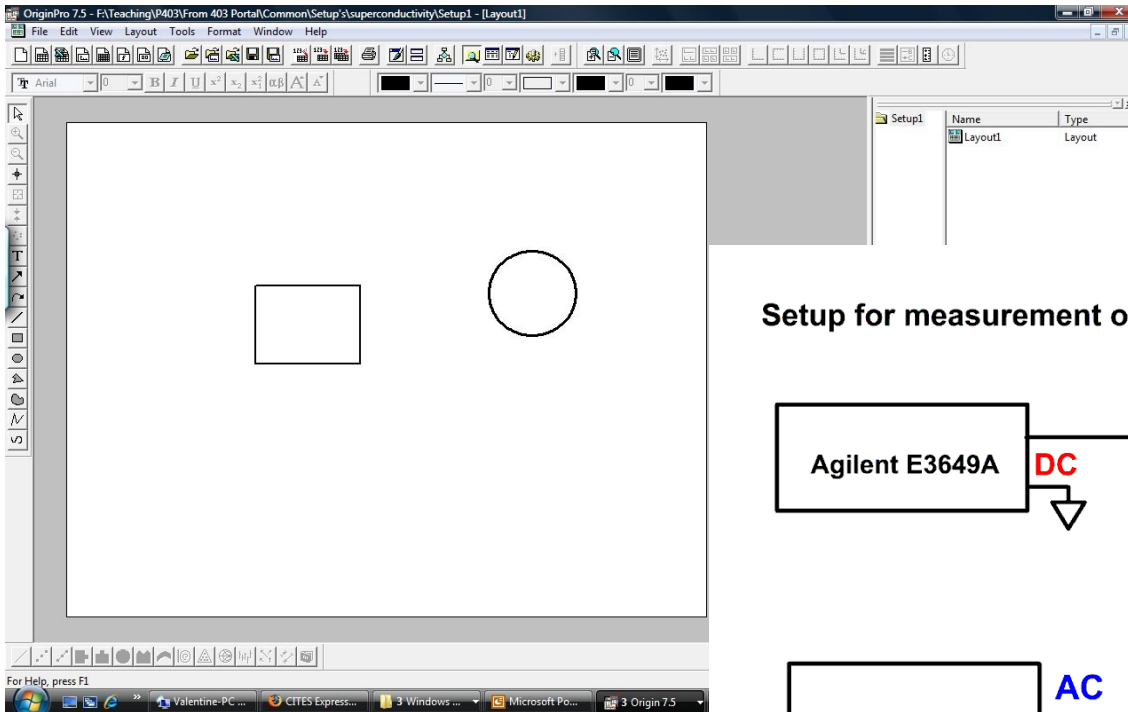
The image displays the OriginPro 7.5 software interface. The main window shows a data table with columns: times[X], TK[M], Pmm[M], TpK[Y], UacV[Y], fHz[Y], XV[Y], YV[Y], and RV[Y]. A context menu is open over the 'times[X]' column, and the 'Set Column Values...' option is selected. A dialog box titled 'Set Column Values' is open, showing the 'Abs(x)' function selected for row (i) and 'col(TK)' selected for the column. The dialog also shows the resulting formula 'col(TK)-273'. A large blue arrow points from the dialog box towards the data table.

times[X]	TK[M]	Pmm[M]	TpK[Y]	UacV[Y]	fHz[Y]	XV[Y]	YV[Y]	RV[Y]
time [s]	T [K]	P [mm]	Tp [K]	Uac [V]	f [Hz]	X [M]	Y [M]	R [M]
7968	3814.75		1.8147	5	81			
7969	3815.265		1.84566	5	81			
7970	3815.765		1.89667	5	81			
7971	3816.281		1.86944	5	81			
7972	3816.781		1.81355	5	81			
7973	3817.297		1.8823	5	81			
7974	3817.797		1.87936	5	81			
7975	3818.312		1.86944	5	81			
7976	3818.812		1.81355	5	81			
7977	3819.328		1.88327	5	81			
7978	3819.84299		1.87936	5	81			
7979	3820.34299		1.82937	5	81			
7980	3820.85899		1.82937	5	81			
7981	3821.375		1.8881	5	81			
7982	3821.875		1.89194	5	81			
7983	3822.39		1.82937	5	81			
7984	3822.906		1.81355	5	81			
7985	3823.406		1.90876	5	81			
7986	3823.922		1.88714	5	81			
7987	3824.422		1.81355	5	81			
7988	3824.937		1.82492	5	81			
7989	3825.453		1.90043	5	81			
7990	3825.953		1.86029	5	81			

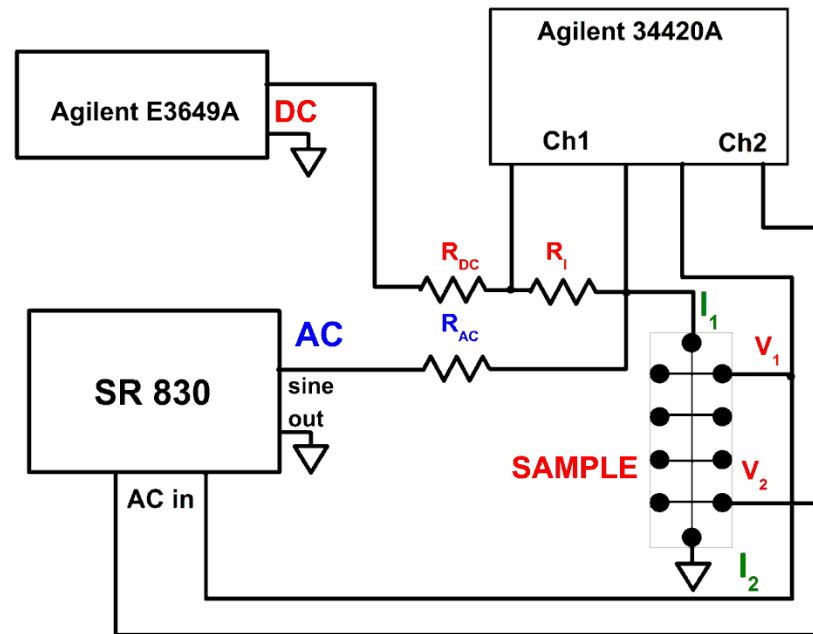
Set Column Values dialog box details:

- Abs(x): Absolute value
- For row (i): Auto
- to: Auto
- abs() Add Function
- col(TK) Add Column
- Co(TK)-
- col(TK)-273
- AutoUpdate
- OK Cancel

# Layouts.



Setup for measurement of s/c properties



# Origin at UIUC Webstore and OriginLab site.

UNIVERSITY OF ILLINOIS  
URBANA-CHAMPAIGN • CHICAGO • SPRINGFIELD

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**OriginPro 8.6**

**\$0.00**

**OriginLab** OriginLab, Inc.

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

<https://webstore.illinois.edu>

[www.originlab.com](http://www.originlab.com)

**OriginLab** Data Analysis and Graphing Software

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**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:

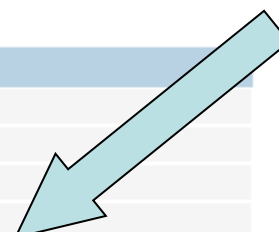
 

## File Exchange

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)

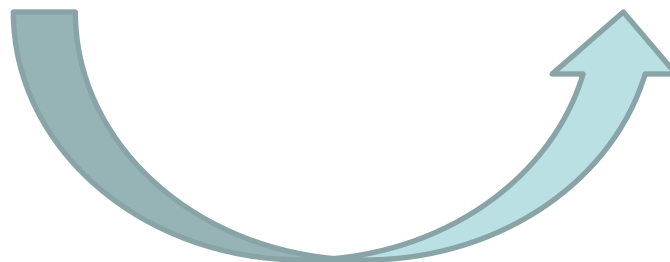
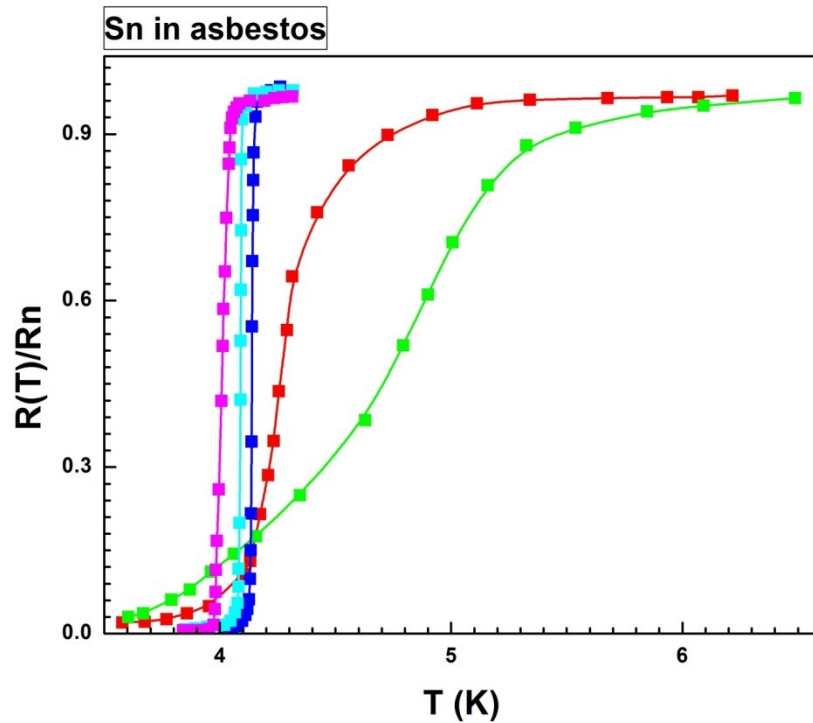
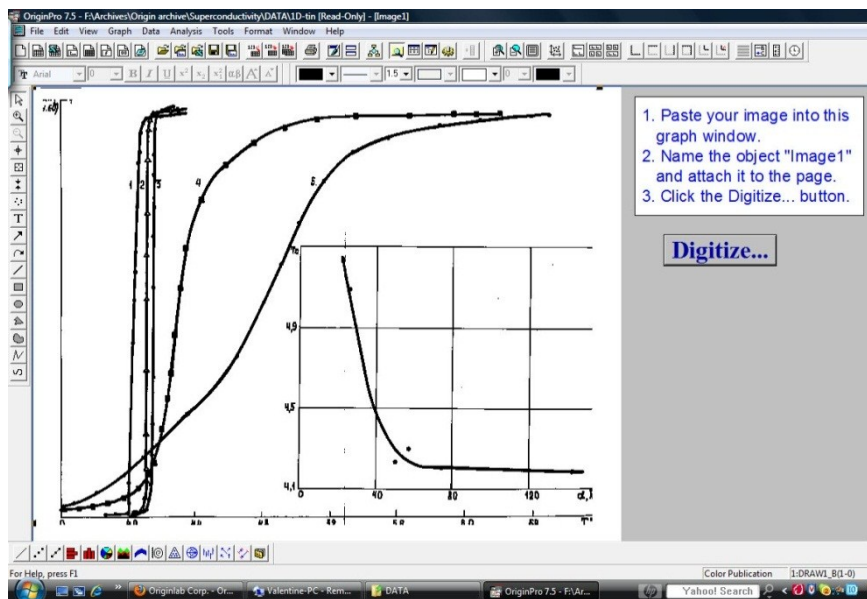


**Digitizer**

### 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

# Origin. Using digitizer script.

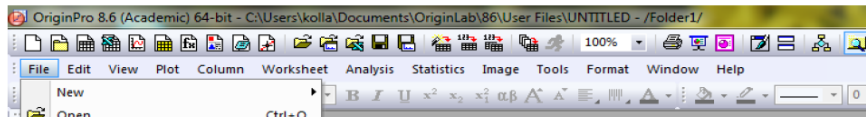


# Origin manuals



Working with Origin 8.6.

*Step1. Importing data*

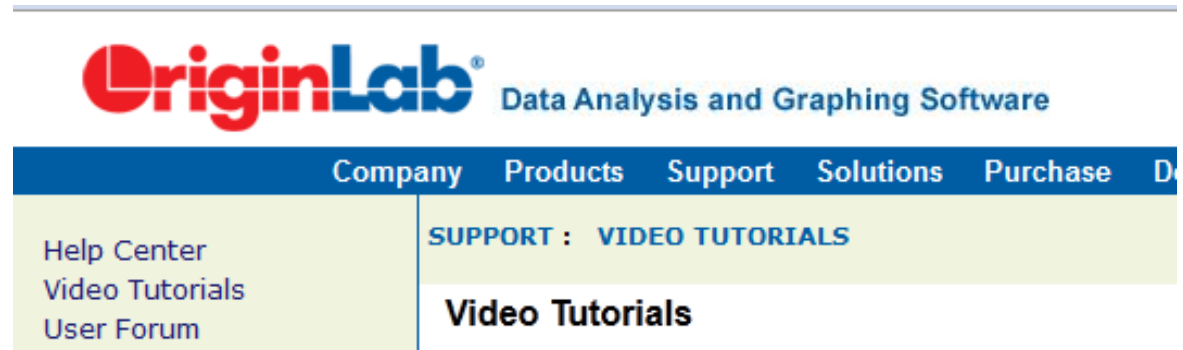


Very short and simple manual which covers only main general operations with Origin. Document located on server (\\Phyapportal\PHYCS403\Common\Origin manuals).

There are (\\Phyapportal\PHYCS403\Common\Origin manuals) also manuals from OriginLab.

Do not forget about Origin Help

Video Tutorials at the site of the company



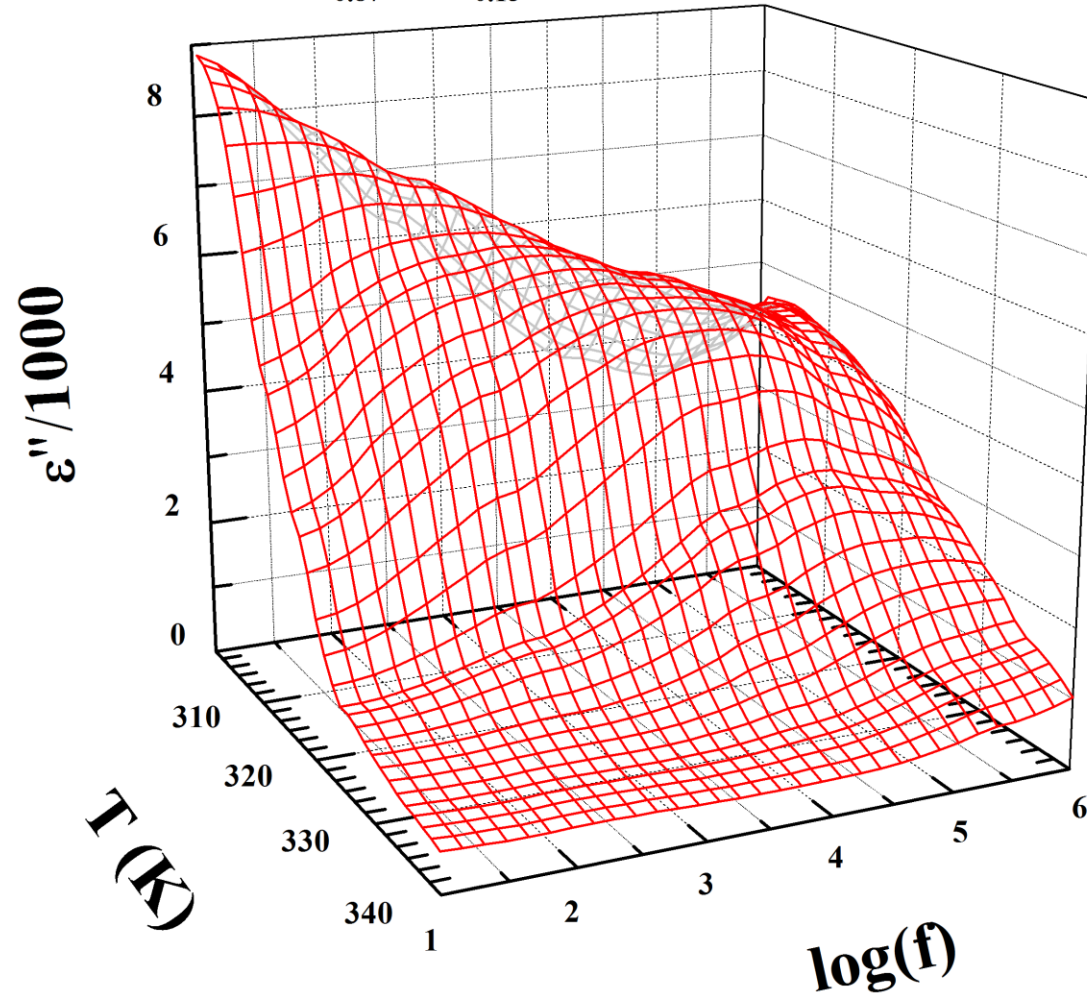
<http://www.originlab.com/index.aspx?go=SUPPORT/VideoTutorials>



# Origin graphs. Examples.

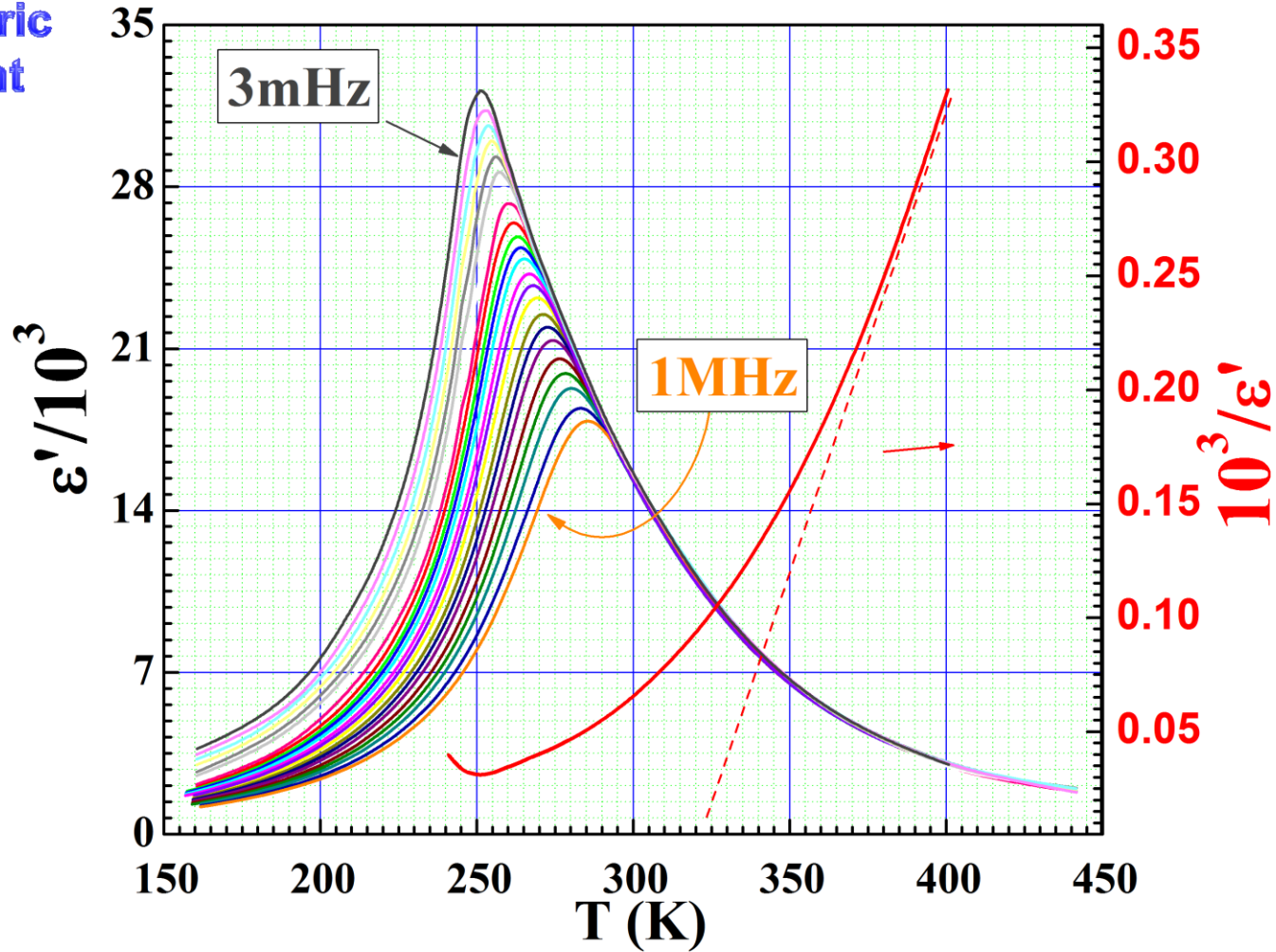
$(\text{PMN})_{0.87}(\text{PT})_{0.13}$ , single crystal

Ferroelectric  
Experiment



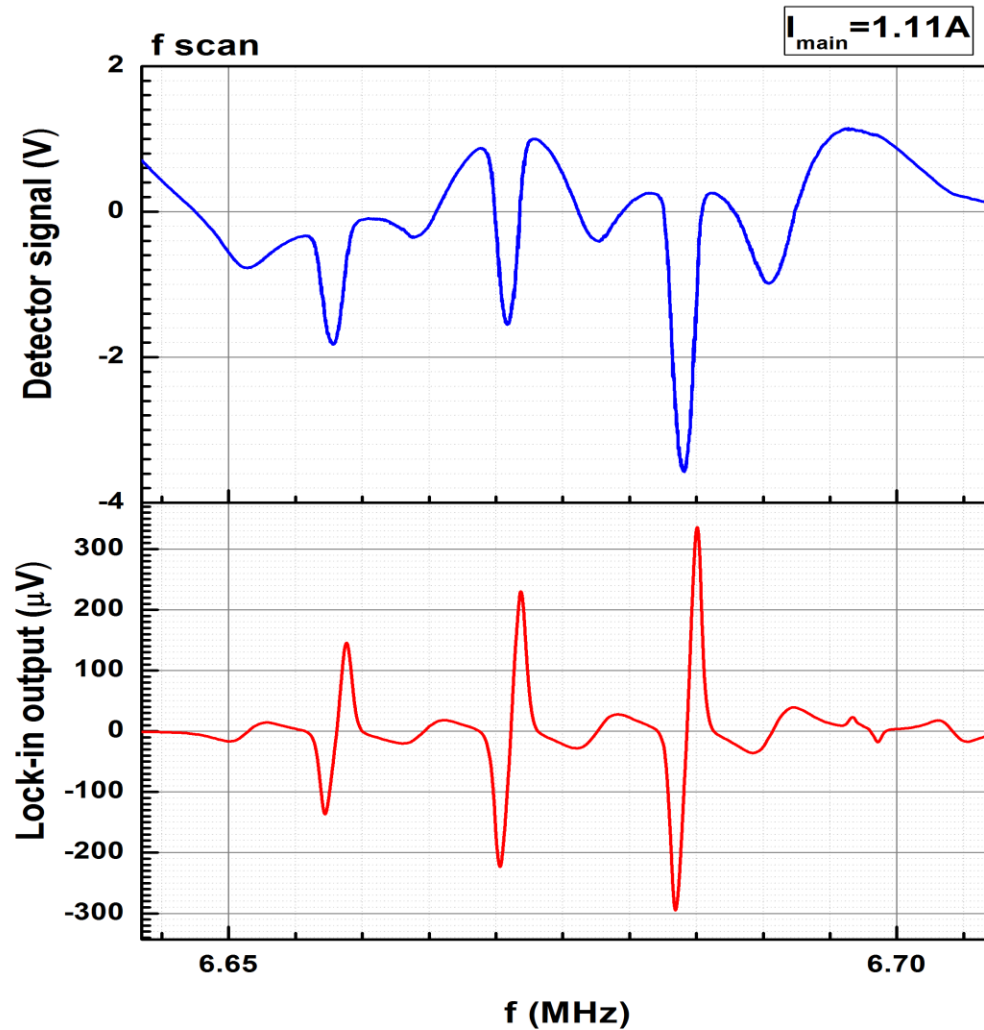
# Origin graphs. Examples.

Ferroelectric  
Experiment



# Origin graphs. Examples.

Optical  
pumping

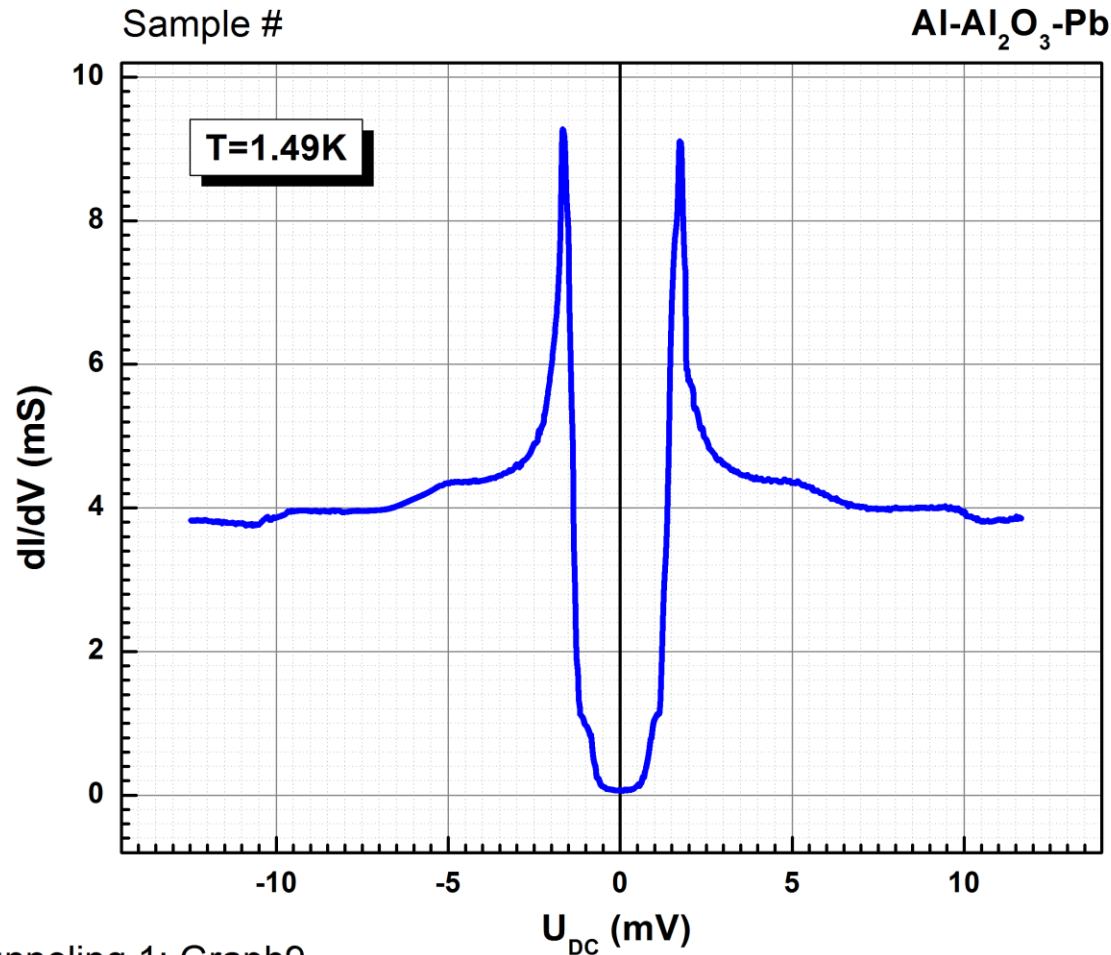


Mapping 0.5-2.5A from March 1st 2012: Graph7



# Origin graphs. Examples.

Tunneling  
Experiment



Tunneling 1: Graph9

Sample n2 run8 zoom temp 1.55K



# Origin graphs. Examples.

Second  
sound

