OriginLab® Scientific Graphing and Analysis Software

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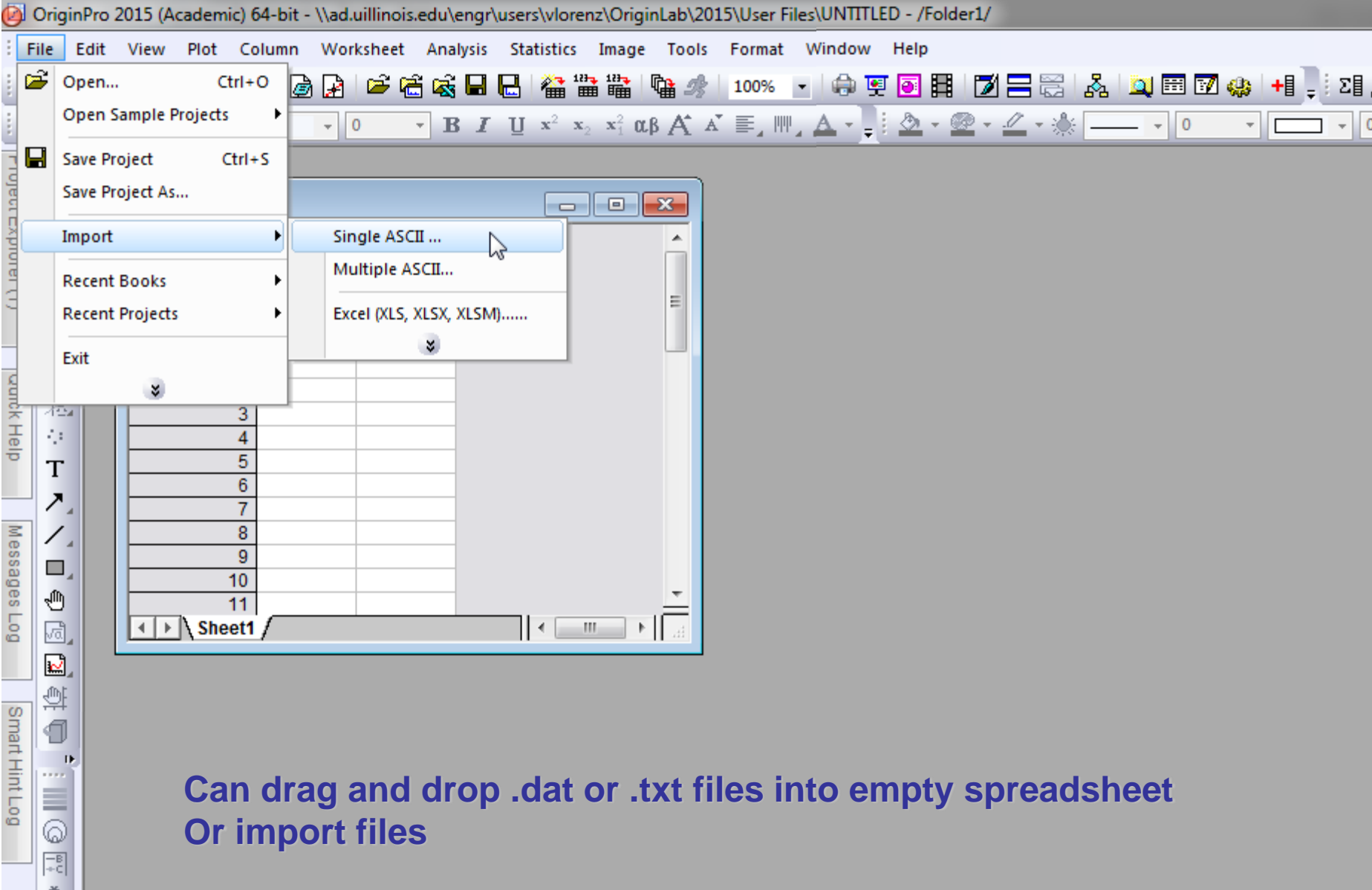What it can do:

1. **Graphical presentation of data**

2. **Data analysis**

3. **Preparation of publication-quality figures**

- Specially designed for <u>scientific</u> 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

Graphical presentation of data: Basic Plot

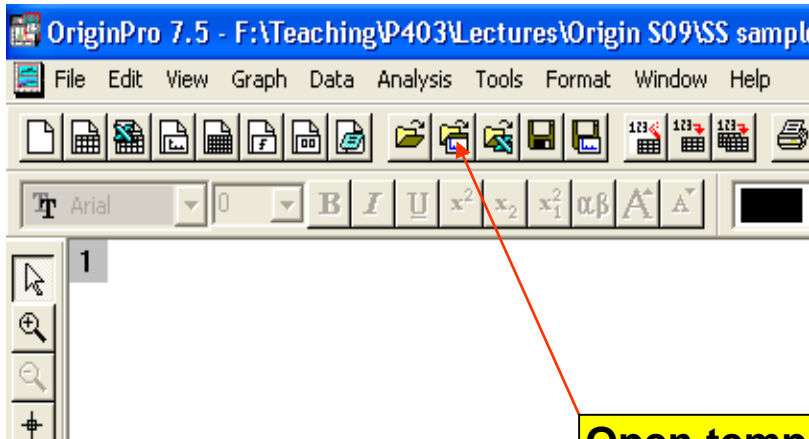# Graphical presentation of data: Basic Plot

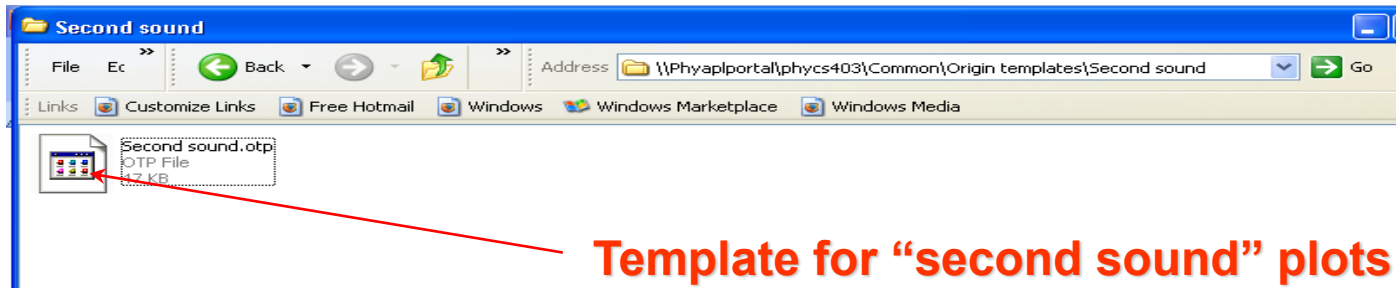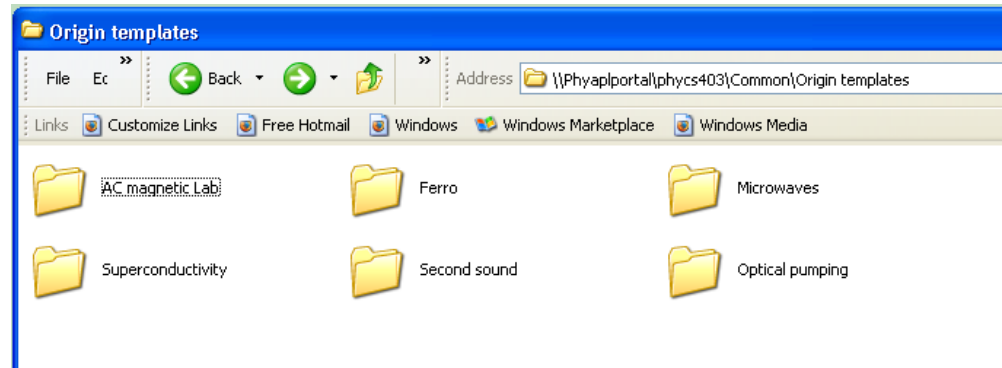

Top and Right axes, grid lines

Axes titles

Bold tick labels.
For a better-looking graph, volts were converted to μV

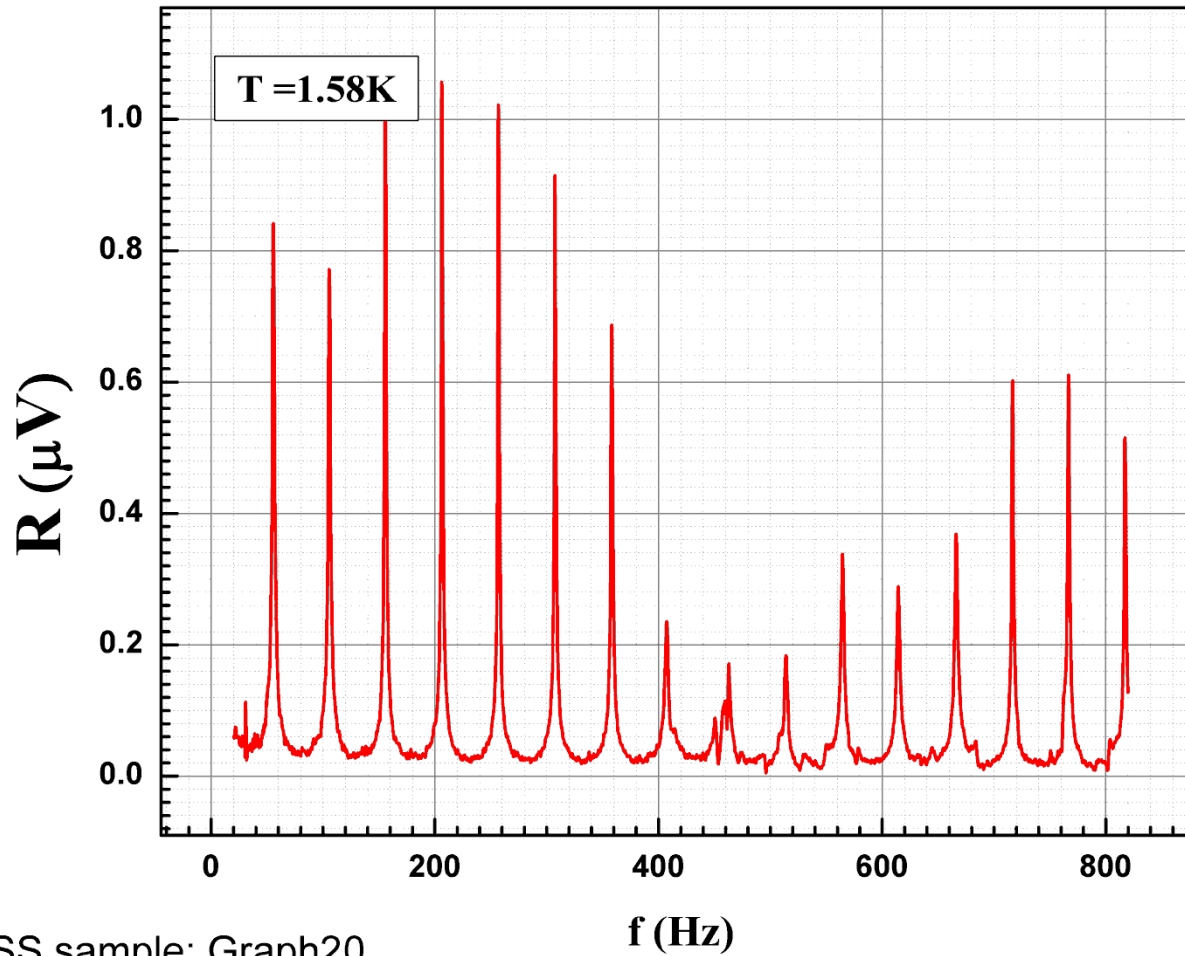# Graphical presentation of data: Templates
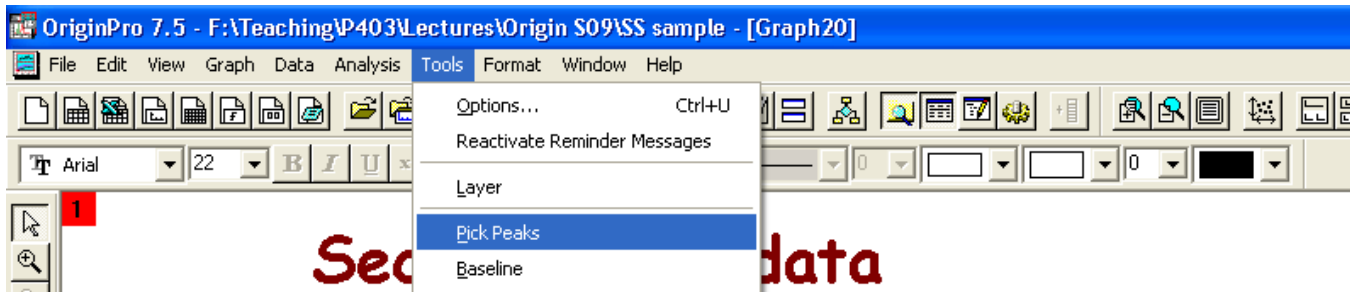

Open template

Template for "second sound" plots

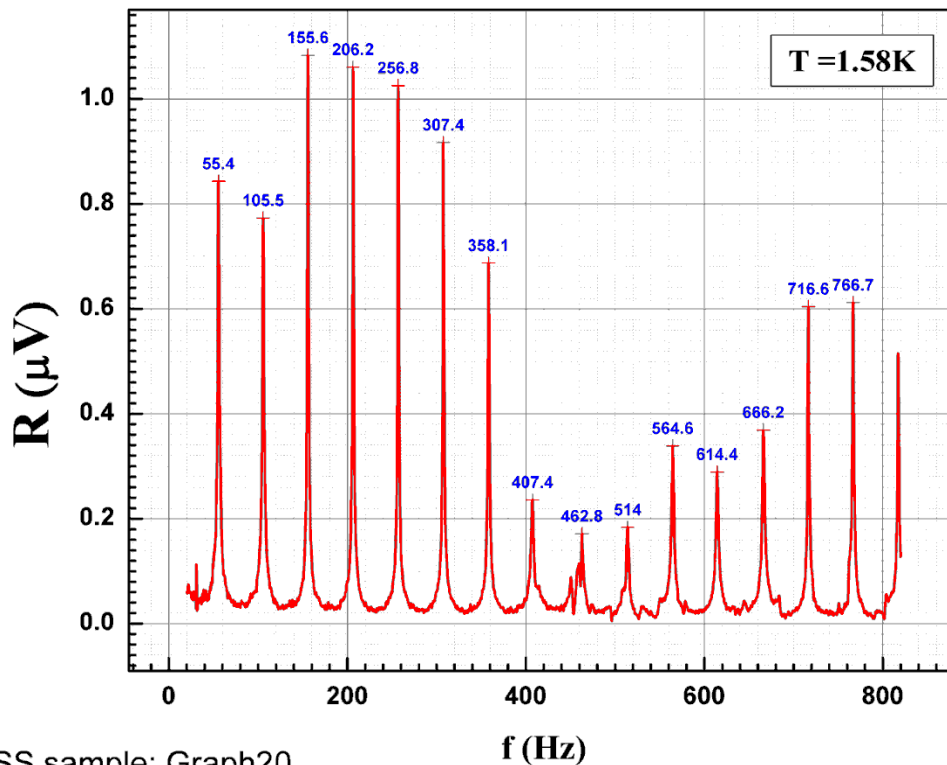# Graphical presentation of data: Templates

Second sound data

SS sample: Graph20

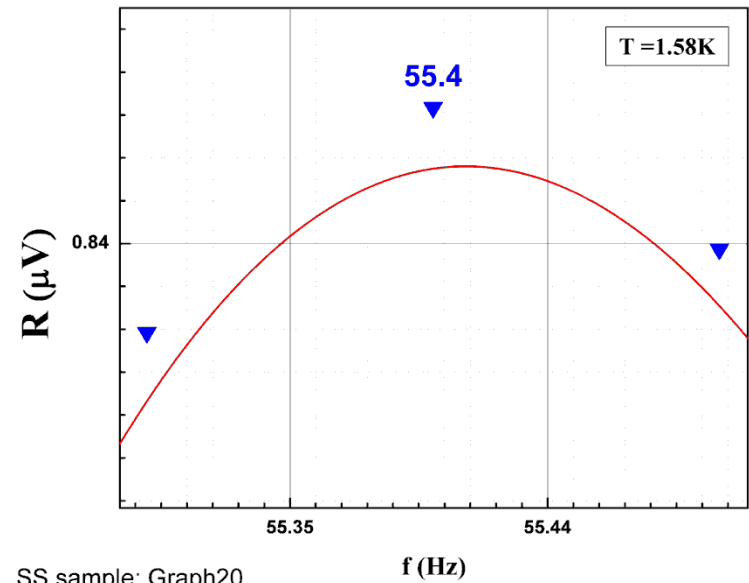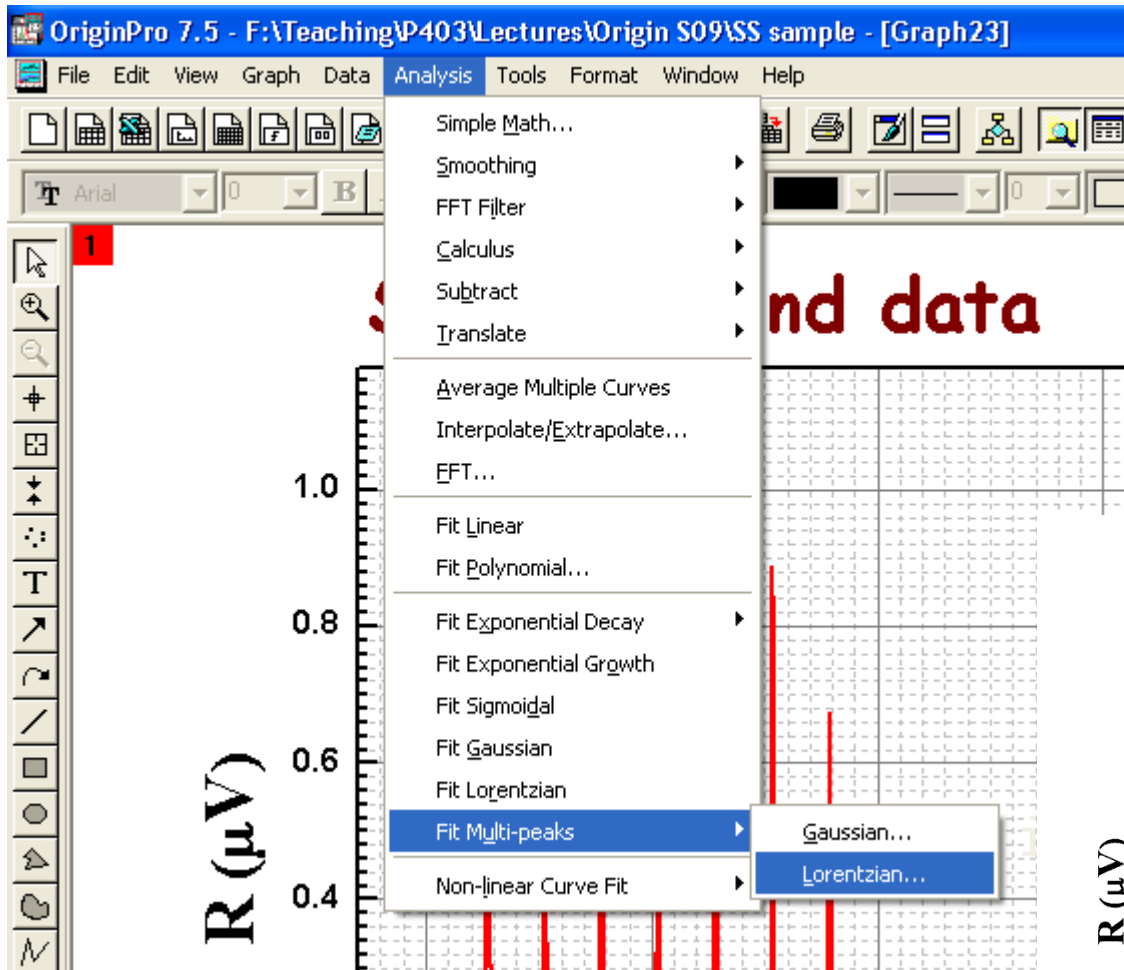# Graphical presentation of data: Fitting, etc.

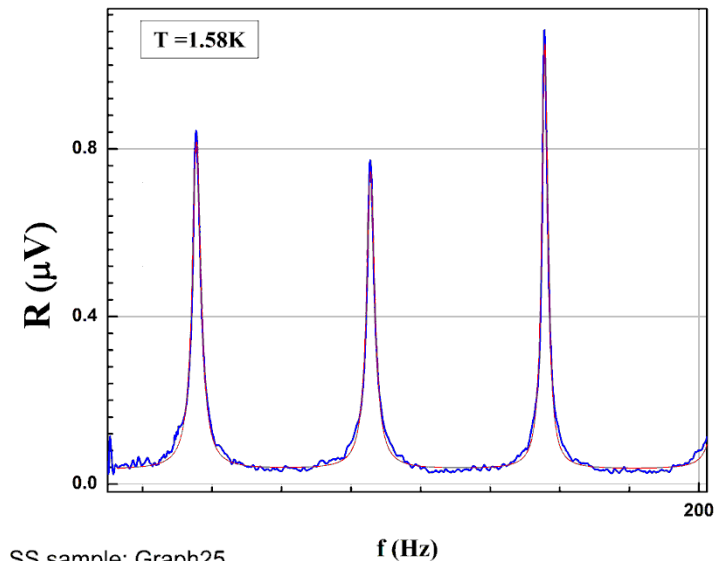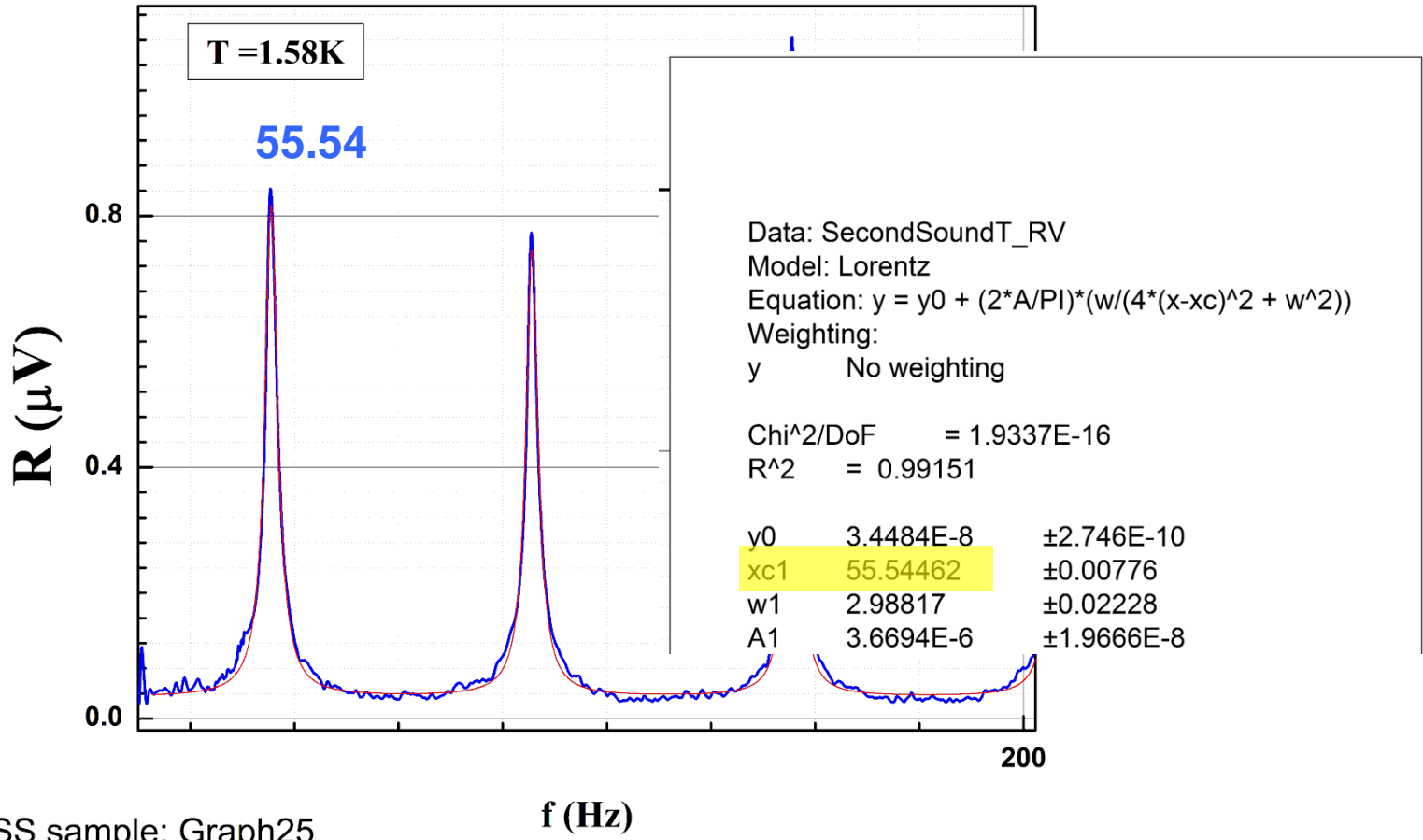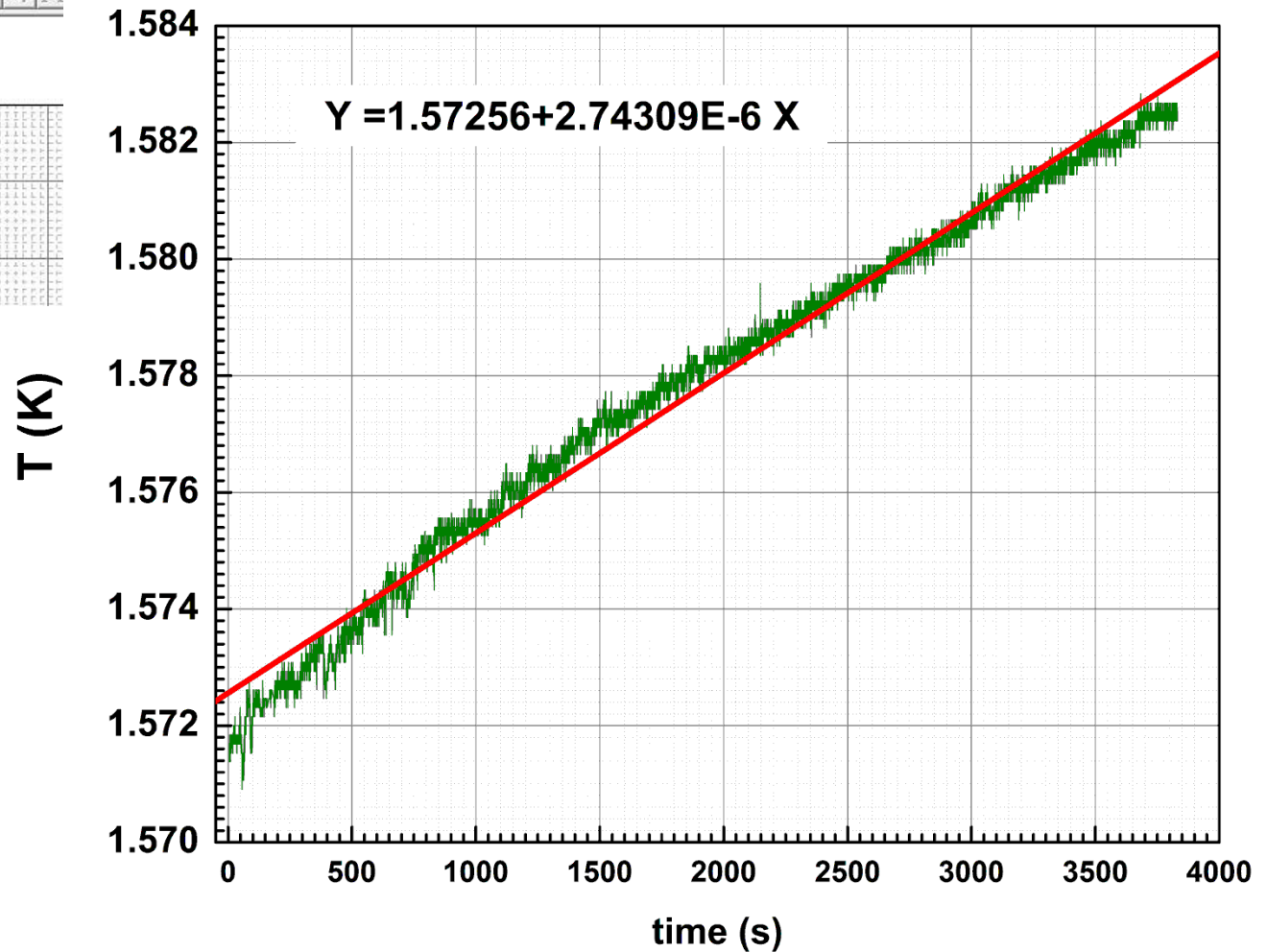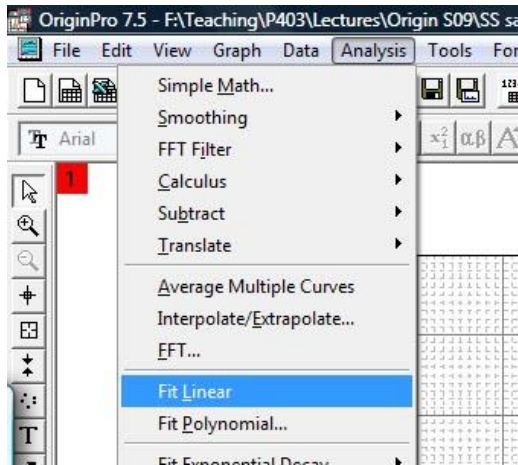# Graphical presentation of data: Fitting, etc.

SS sample: Graph25

Graphical presentation of data: Fitting, etc.

Second sound data

T = 1.58K

55.54

R (μV)

0.8

0.4

0.0

f (Hz)

200

Data: SecondSoundT_RV
Model: Lorentz
Equation: y = y0 + (2*A/PI)*(w/(4*(x-xc)^2 + w^2))
Weighting:
y   No weighting

Chi^2/DoF   = 1.9337E-16
R^2   = 0.99151

y0   3.4484E-8   ±2.746E-10
xc1   55.54462   ±0.00776
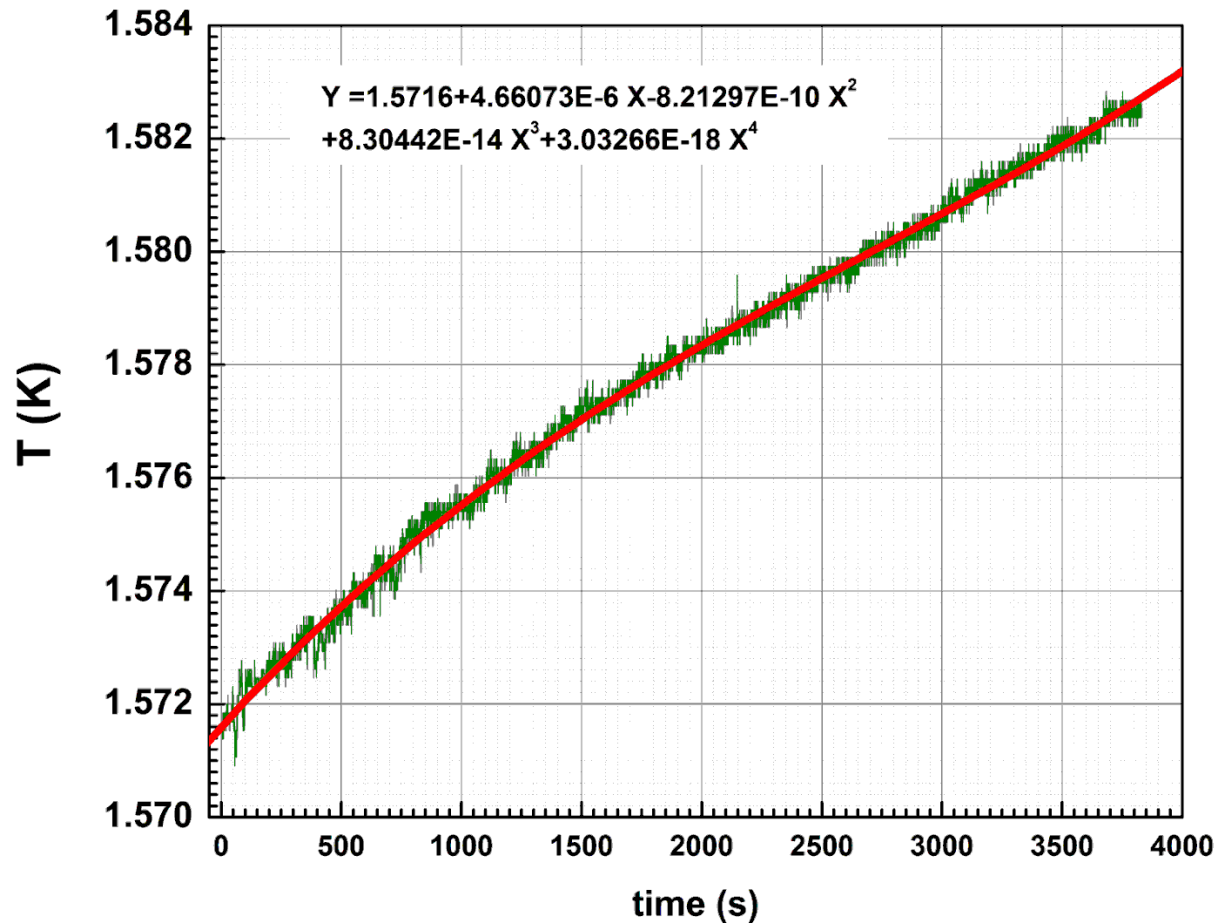w1   2.98817   ±0.02228
A1   3.6694E-6   ±1.9666E-8

SS sample: Graph25
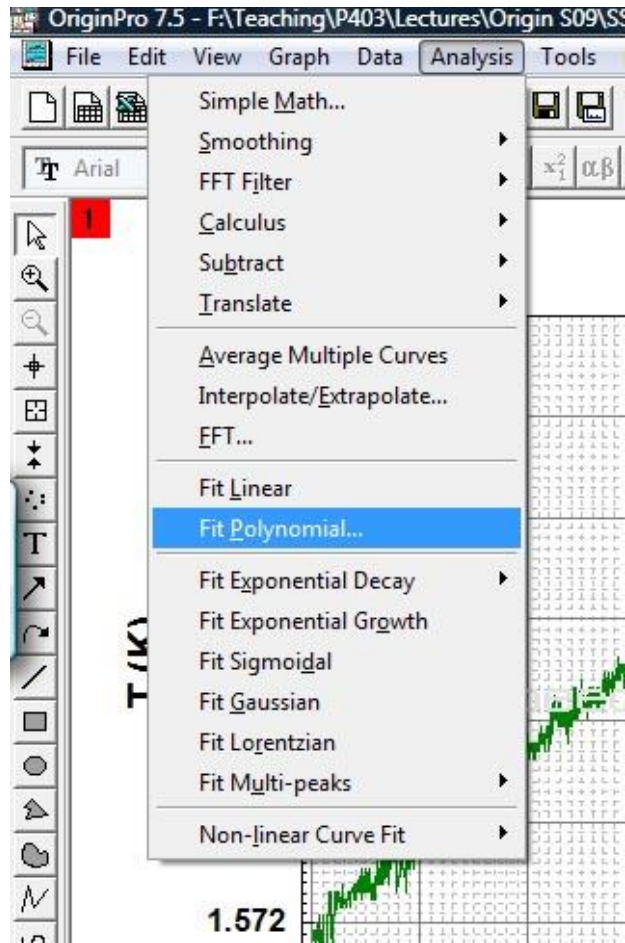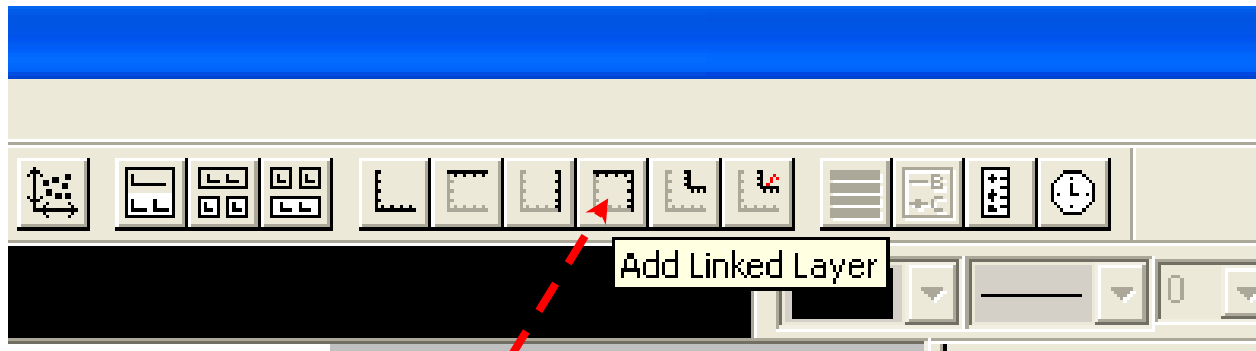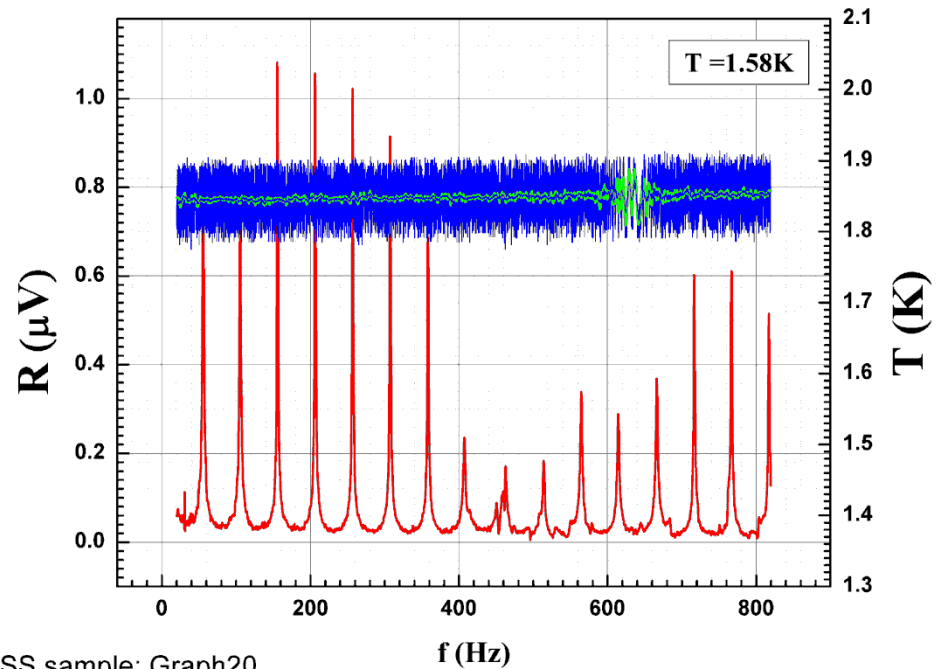
Graphical presentation of data: Fit Linear

Graphical presentation of data: Fit Polynomial
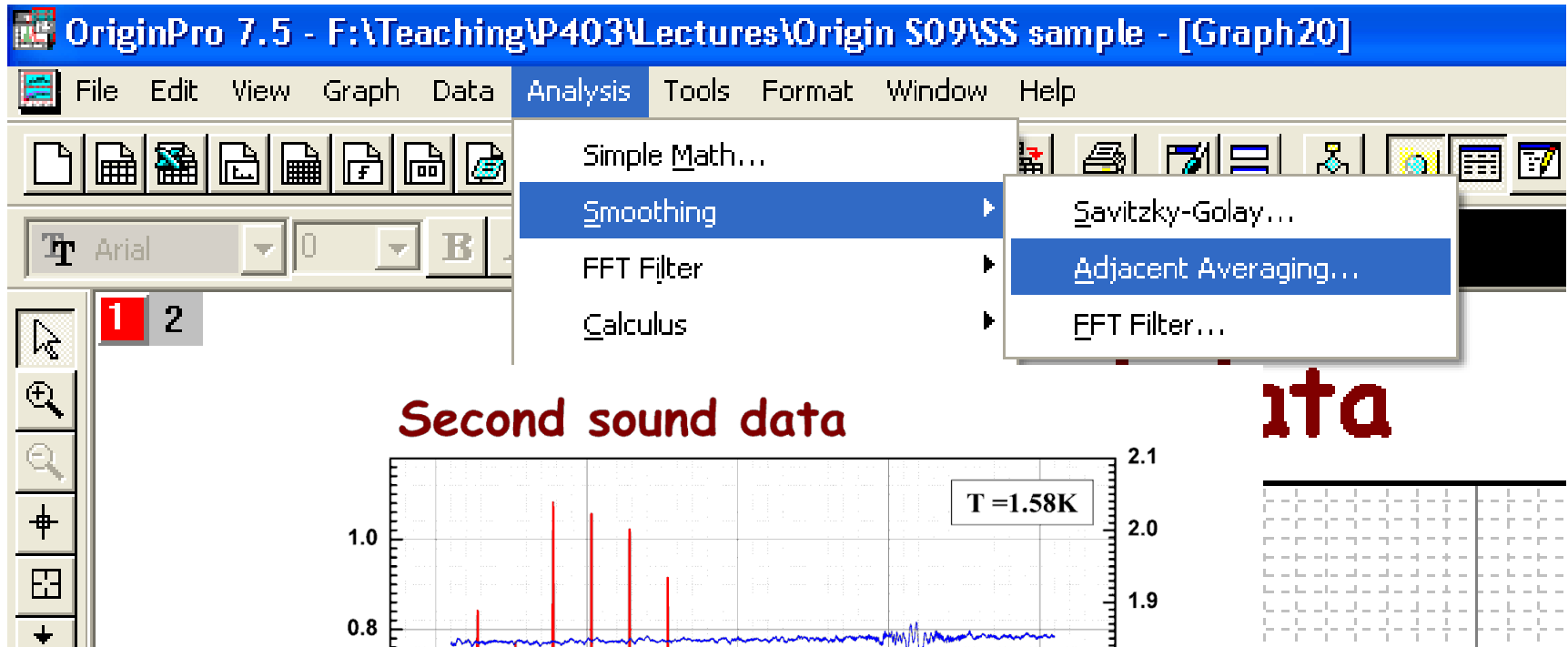
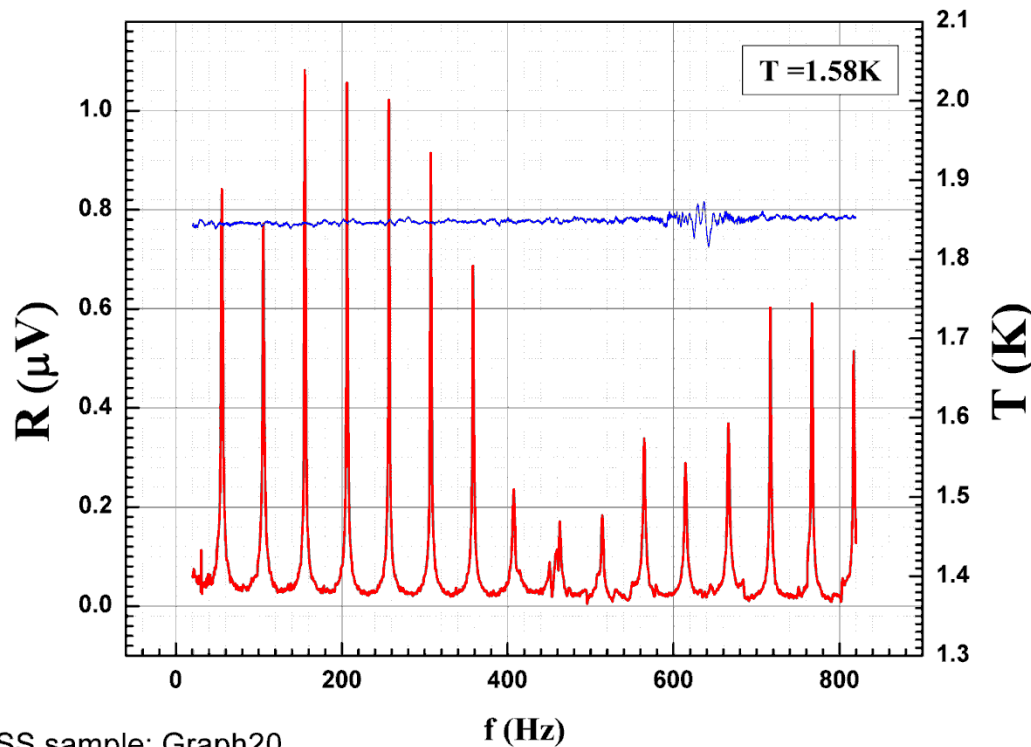# Graphical presentation of data: 2-layer graph

Add Linked Layer

Add Layer

Second sound data

T = 1.58K

SS sample: Graph20

Graphical presentation of data: Smoothing

Working with data: Worksheets

Working with data: Worksheets

Layouts

Setup for measurement of s/c properties

Custom tools

Using digitizer script

Origin at UIUC Webstore and OriginLab site.

https://webstore.illinois.edu

www.originlab.com

Origin manuals

OriginLab®

Working with Origin 8.6.

Step1. Importing data
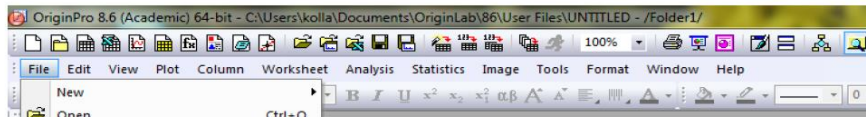
A very short and simple manual covering only the main operations with Origin, and manuals from Origin are on the server (\\Phyaplportal\PHYCS403\Common\Origin manuals).

Do not forget about Origin Help

Video Tutorials on the company website

OriginLab® Data Analysis and Graphing Software

Company   Products   Support   Solutions   Purchase   D

SUPPORT :   VIDEO TUTORIALS

Help Center
Video Tutorials
User Forum

Video Tutorials

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

Example Origin graphs

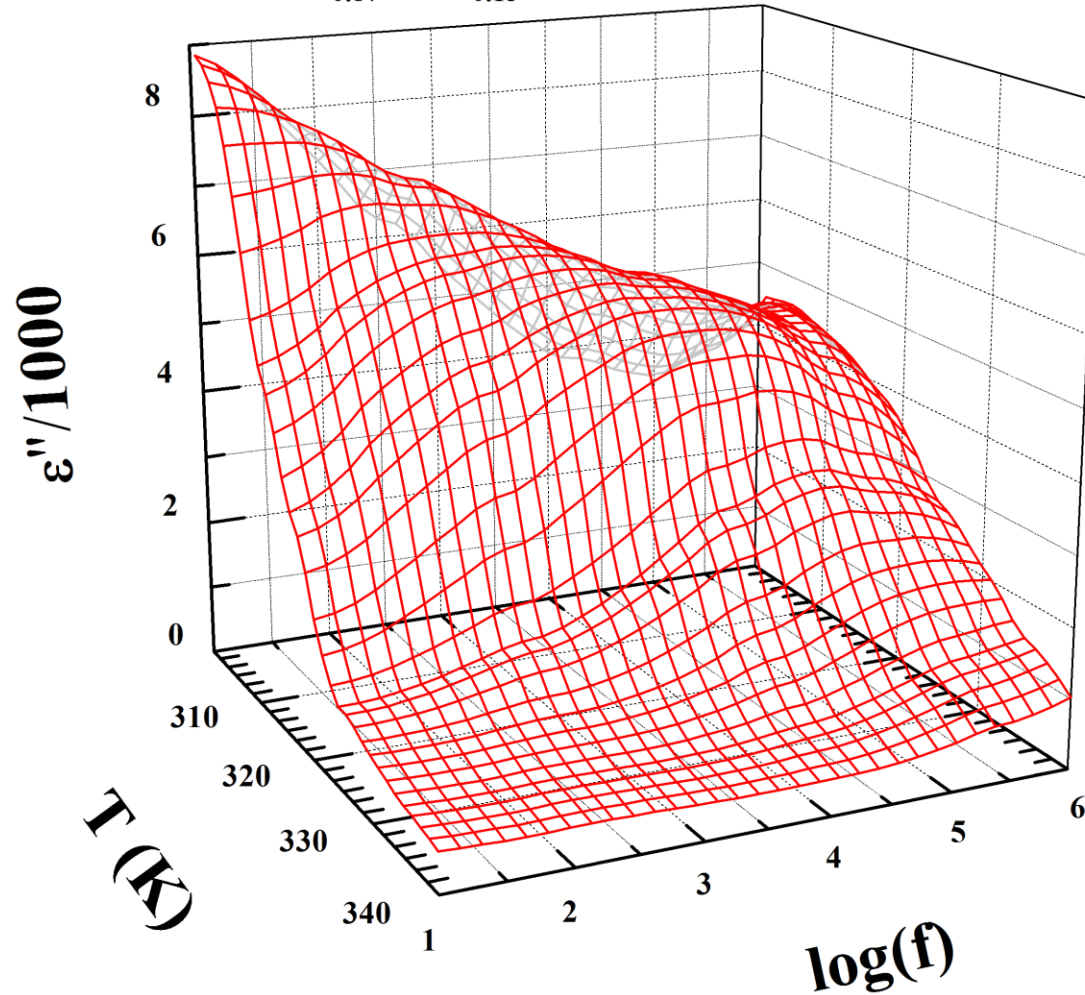(PMN)$_{0.87}$(PT)$_{0.13}$, single crystal

Ferroelectric
Experiment

$\varepsilon''/1000$

T (K)

log(f)

Example Origin graphs

Ferroelectric Experiment

3mHz

1MHz

$\varepsilon'/10^3$

$10^3/\varepsilon'$

T (K)
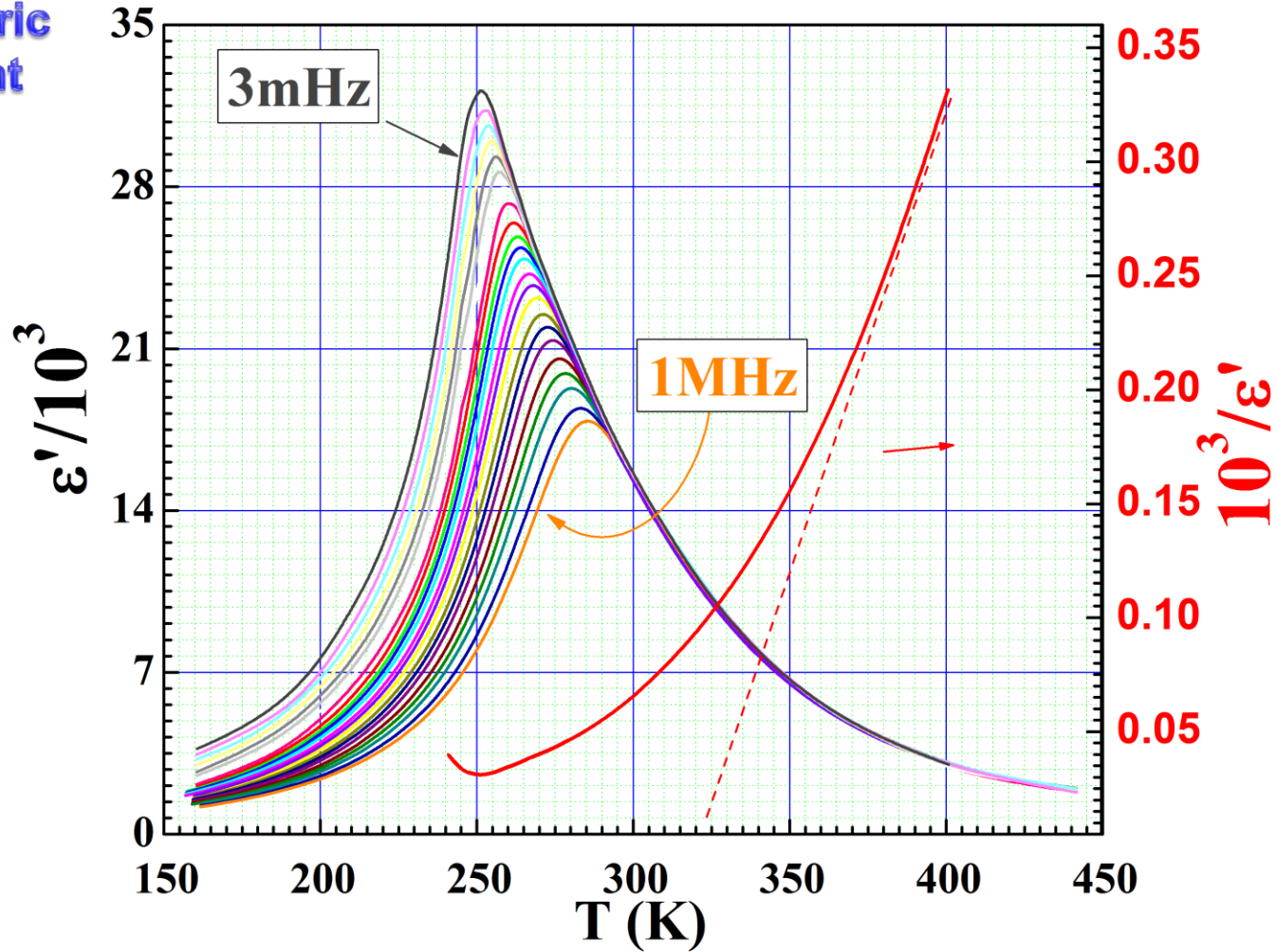
Example Origin graphs

Optical pumping
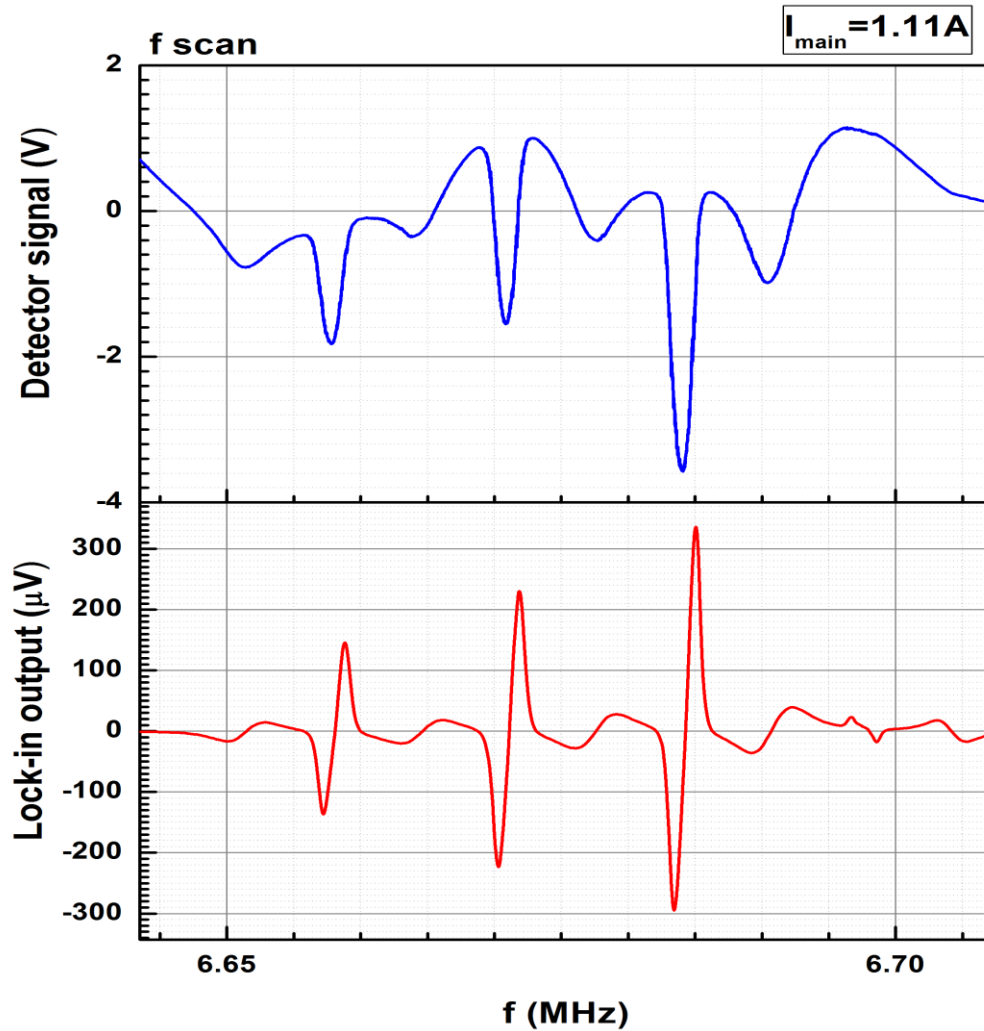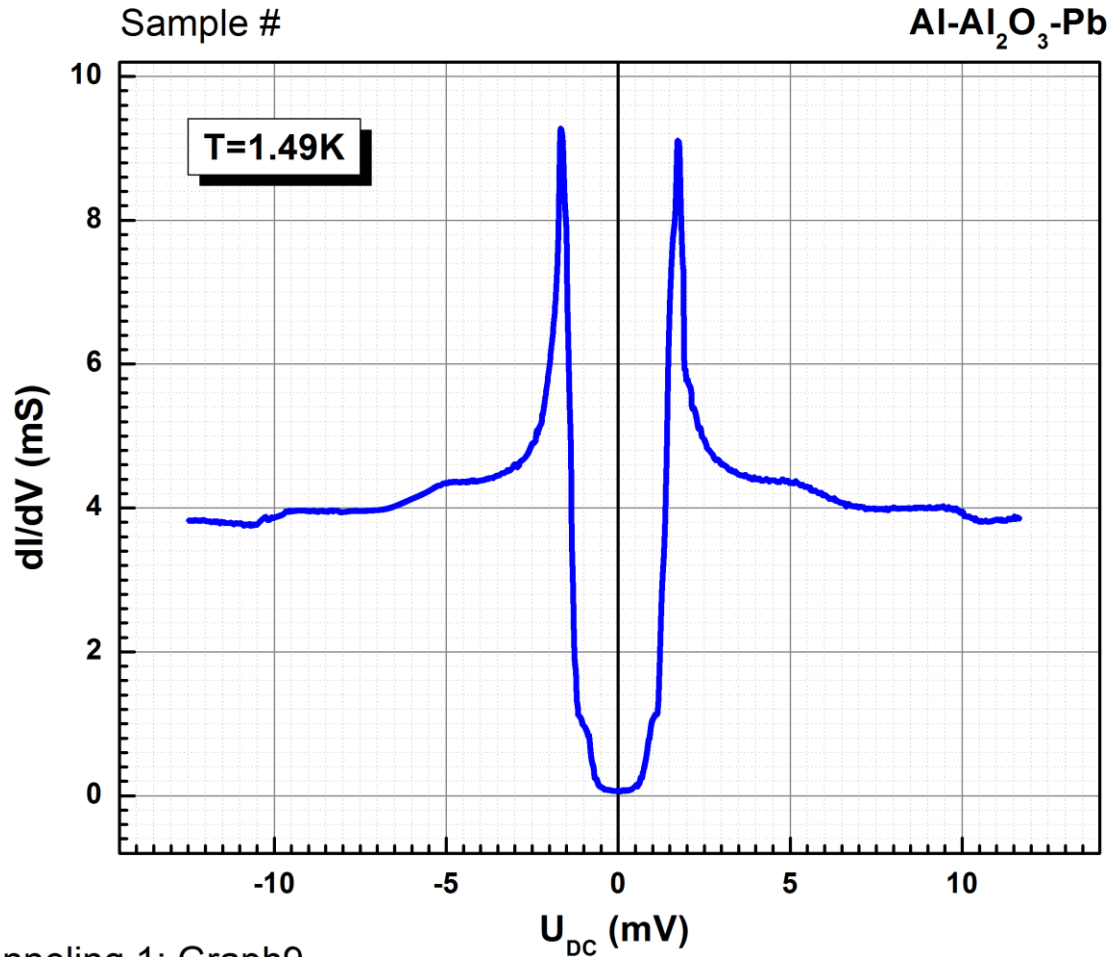

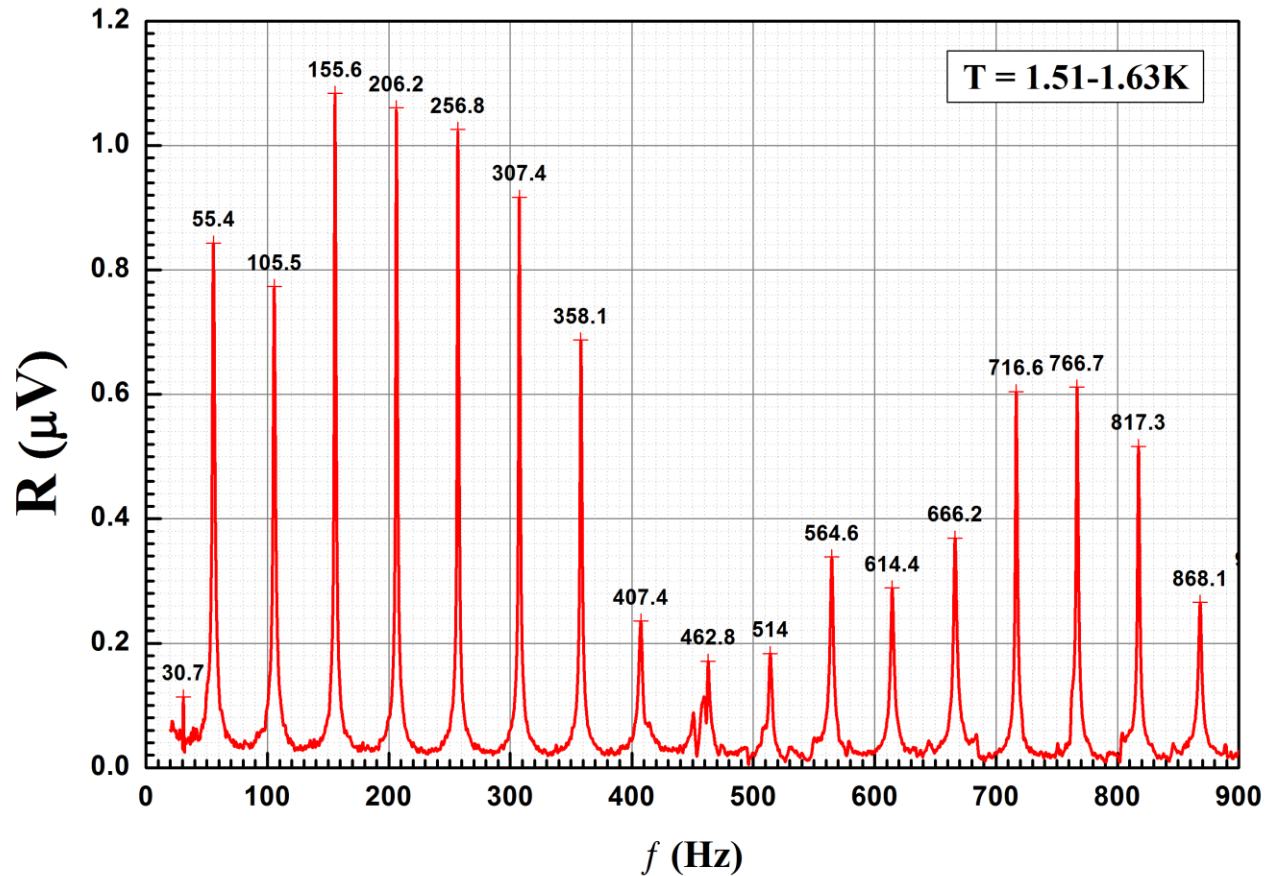Mapping 0.5-2.5A from March 1st 2012: Graph7

Example Origin graphs

Tunneling 1: Graph9

Sample n2 run8 zoom temp 1.55K

Example Origin graphs

Example Origin graphs

Magnet mapping