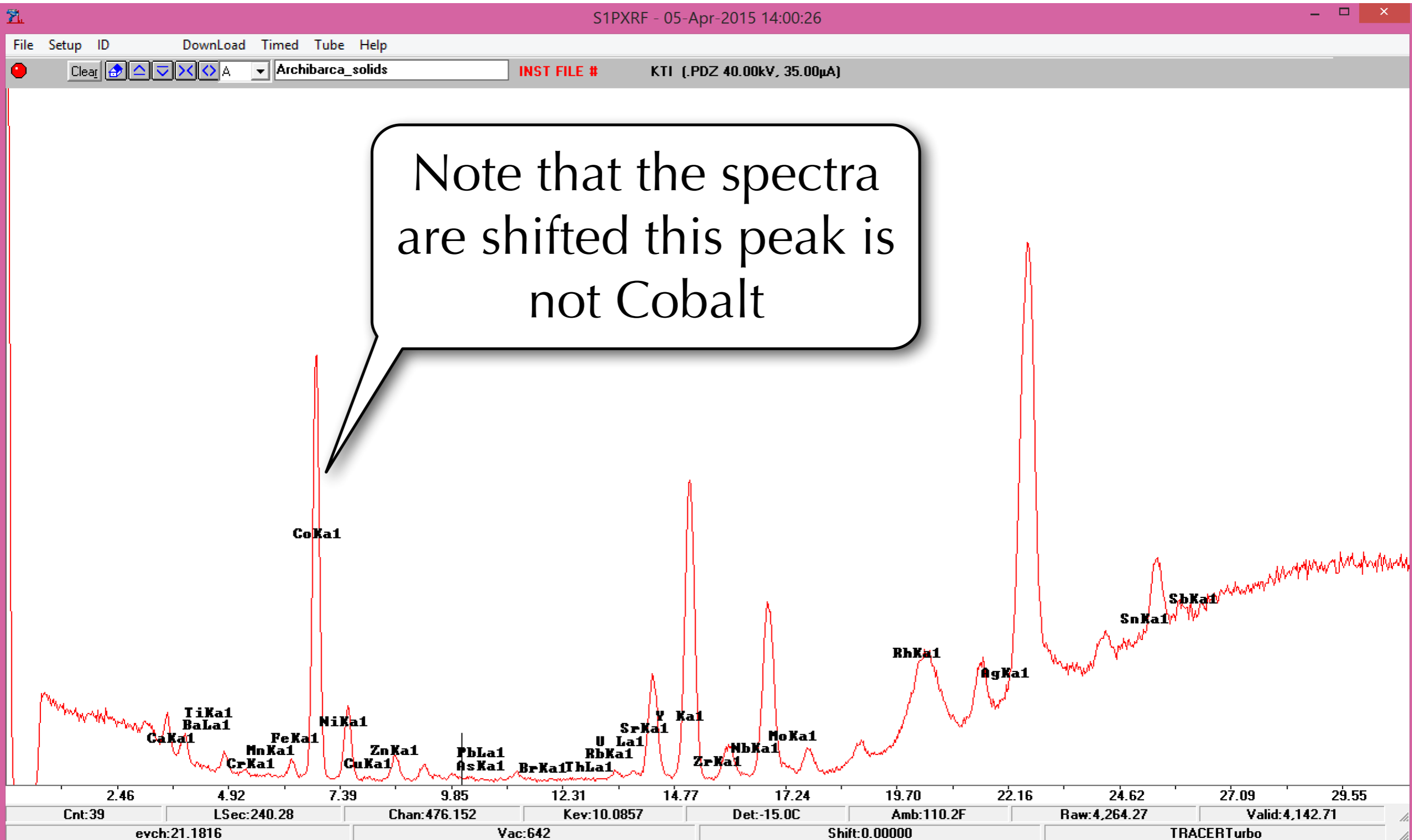


# Energy Calibration

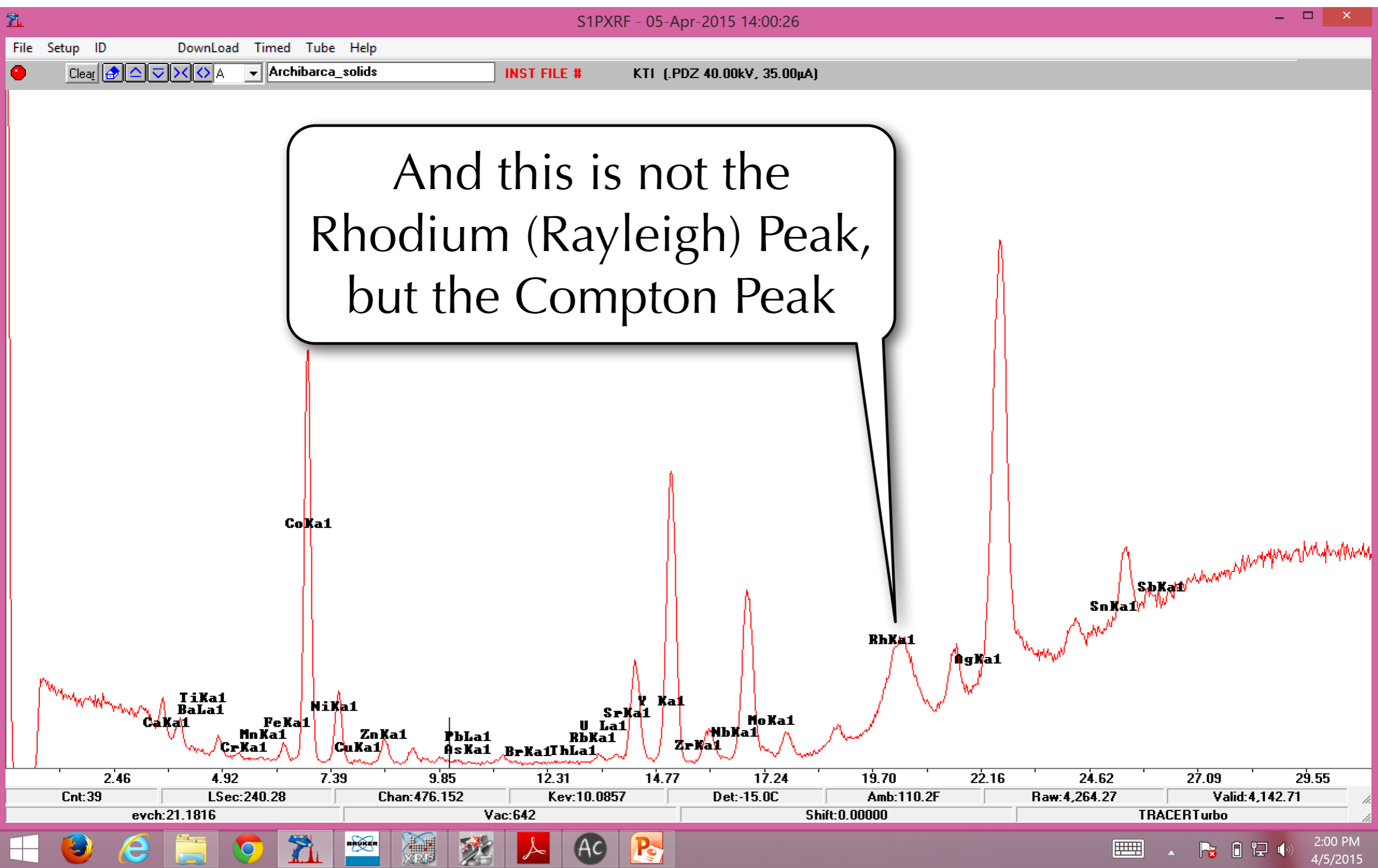
This presentation is designed to provide a step-by-step followthrough. If you have any questions, do not hesitate to contact us.

Make sure you only edit a copy of your spectra, keep the original data in a separate folder

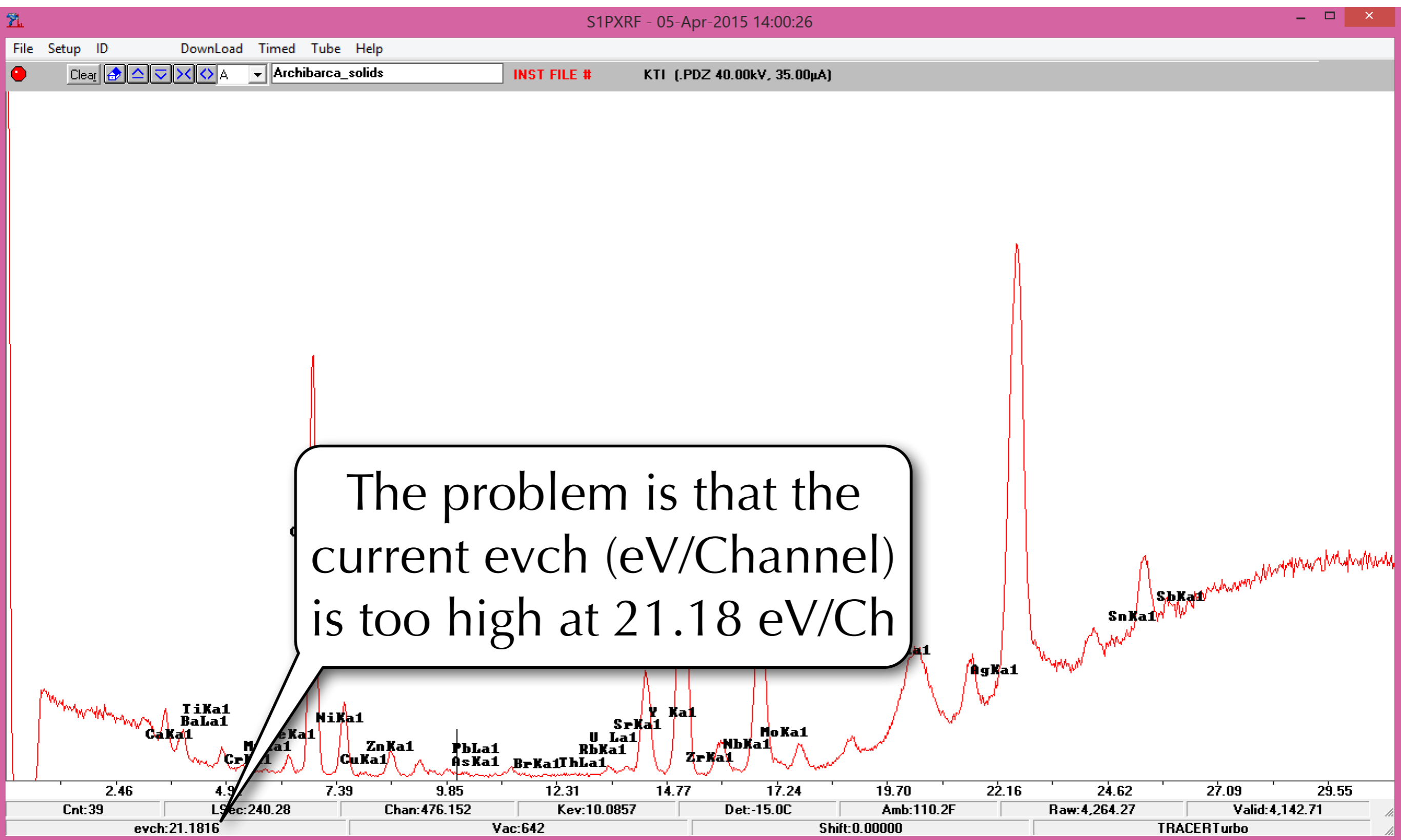
# Developing a Calibration



# Developing a Calibration



# Developing a Calibration



The problem is that the current evch (eV/Channel) is too high at 21.18 eV/Ch

# Energy Calibration

The screenshot shows a Windows 8.1 desktop with a File Explorer window open to the folder `C:\Program Files (x86)\S1PXRF`. The file `KTIS1LE.INI` is selected. A text box overlaid on the image provides instructions on how to fix a calibration issue by removing this file.

Name	Date modified	Type	Size
DPPTempCor.dll	9/24/2003 3:32 AM	Application extension	213 KB
KTIEnergyTableRevision.cs	11/19/2008 9:04 PM	Microsoft Excel Co...	24 KB
KTIExp4.ini	10/2/2007 8:00 PM	Configuration settin...	3 KB
KTIParam.ini	10/2/2007 7:59 PM	Configuration settin...	2 KB
<b>KTIS1LE.INI</b>		Configuration settin...	1 KB
KTIS1Parser.dll	3/6/2009 2:26 AM	Application extension	52 KB
S1PXRF.exe	8/24/2010 12:01 AM	Application	737 KB
S1PXRF.Mca	4/5/2015 1:59 PM	MCA File	2 KB
Samples.ini	10/2/2003 1:19 AM	Configuration settin...	2 KB
SpecAdj.dll	4/3/2009 12:39 AM	Application extension	56 KB
SpecOps5.dll	5/27/2010 7:06 PM	Application extension	108 KB
ST6UNST.LOG	12/15/2014 2:23 AM	Text Document	5 KB
ViewComPorts.exe	5/5/2009 10:39 PM	Application	5 KB

To fix this, we need to remove the automatic calibration file. First, navigate to `C:/Program Files (x86)/S1PXRF`

# Energy Calibration

The screenshot displays a Windows 8.1 desktop environment. A File Explorer window is open, showing the contents of the 'S1PXRF' folder located at 'C:\Program Files (x86)\S1PXRF'. The file 'KTIS1LE.INI' is selected and highlighted in blue. A callout box with a black border and white background points to this file, containing the text: 'The file is called 'KTIS1LE.INI''. The File Explorer window also shows a list of other files and folders, including 'Downloads', 'iCloud Drive (Mac)', 'Dropbox (Mac)', 'Photo Library (Mac)', 'SkyDrive', 'This PC', 'Desktop', 'Documents', 'Music', 'Pictures', 'Production', 'Videos', 'BOOTCAMP (C:)', 'Local Disk (D:)', 'Nifty on 'psf' (V:)', 'Dropbox on 'psf' (O:)', 'Photo Library on 'p', 'iCloud on 'psf' (Y:)', 'Home on 'psf' (Z:)', 'Network', 'JEFFERSON', and 'JUSTANETWORK'. The taskbar at the bottom of the screen shows several application icons, including the Start button, Internet Explorer, Google Chrome, and several PDF files. The system tray in the bottom right corner shows the date and time as 2:05 PM on 4/5/2015.

Name	Date modified	Type	Size
DPPTempCor.dll	9/24/2003 3:32 AM	Application extension	213 KB
KTIEnergyTableRevision.csv	11/19/2008 9:04 PM	Microsoft Excel Co...	24 KB
KTIExp4.ini	10/2/2007 8:00 PM	Configuration settin...	3 KB
KTIParam.ini	10/2/2007 7:59 PM	Configuration settin...	2 KB
<b>KTIS1LE.INI</b>		Configuration settin...	1 KB
KTIS1Parser.dll	3/6/2009 2:26 AM	Application extension	52 KB
S1PXRF.exe	8/24/2010 12:01 AM	Application	737 KB
S1PXRF.mca	4/5/2015 1:59 PM	MCA File	2 KB
Sample.ini	10/2/2003 1:19 AM	Configuration settin...	2 KB
SpecAcq.dll	4/3/2009 12:39 AM	Application extension	56 KB
SpecO.dll	5/27/2010 7:06 PM	Application extension	108 KB
ST6UNLOG	12/15/2014 2:23 AM	Text Document	5 KB
ViewCarts.exe	5/5/2009 10:39 PM	Application	5 KB

# Energy Calibration

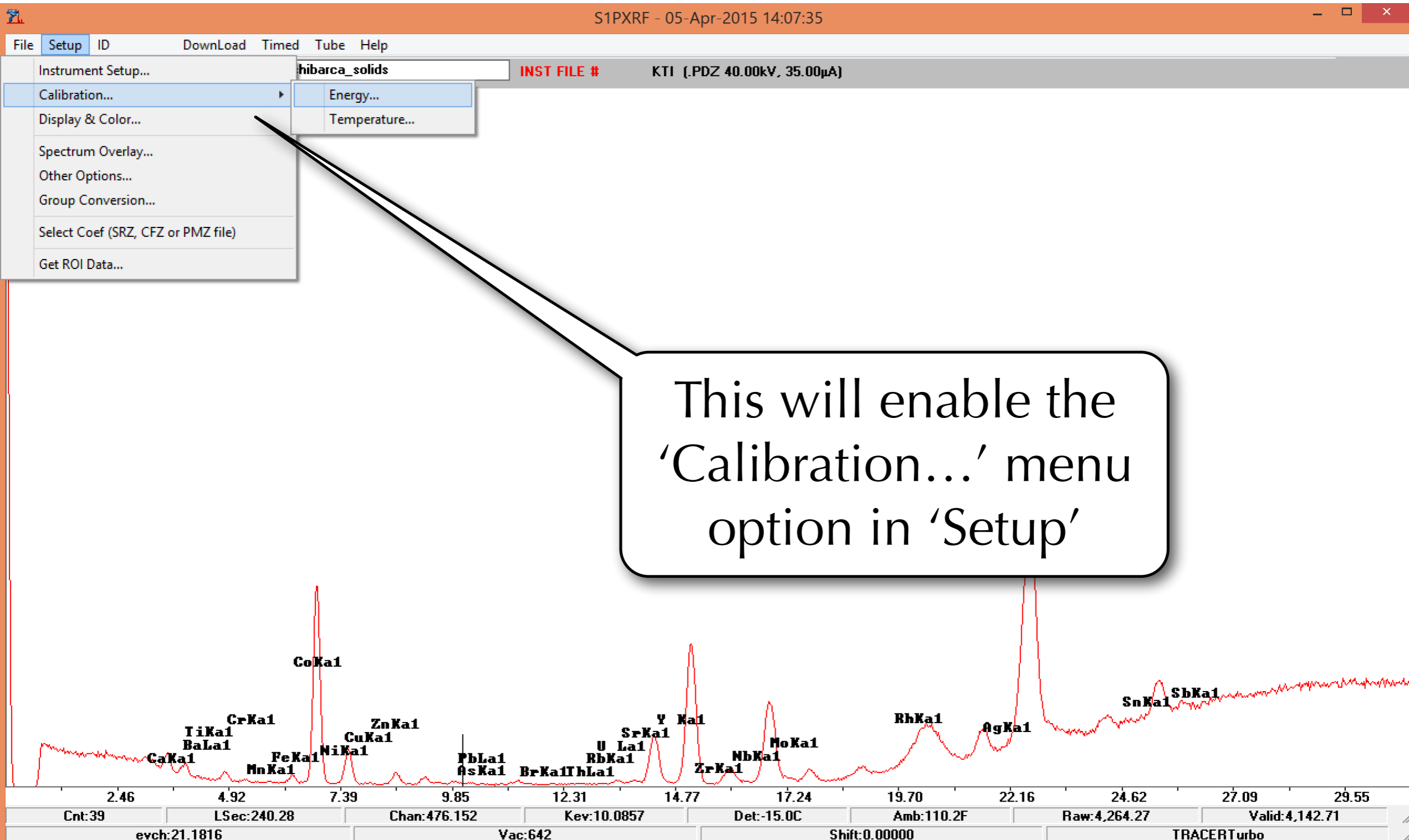
The screenshot shows a Windows 8.1 Pro desktop environment. The desktop background is a dark, abstract image. The taskbar at the bottom contains several icons, including the Start button, Internet Explorer, Edge, File Explorer, Chrome, and various application icons. A File Explorer window is open, displaying the contents of the folder 'S1PXR' located at 'This PC > BOOTCAMP (C:) > Program Files (x86) > S1PXR'. The window title bar reads 'S1PXR'. The File Explorer ribbon shows 'File', 'Home', 'Share', and 'View' tabs. The address bar shows the path 'This PC > BOOTCAMP (C:) > Program Files (x86) > S1PXR'. The main pane displays a list of files with columns for Name, Date modified, Type, and Size. A callout box with a black border and white background is overlaid on the File Explorer window, containing the text: 'Move (don't delete) this file to another destination, in this case we are putting it on the Desktop'. The system tray at the bottom right shows the date and time as '2:06 PM 4/5/2015' and the system status icons.

Name	Date modified	Type	Size
DPPTempCor.dll	9/24/2003 3:32 AM	Application extension	213 KB
KTIEnergyTableRevision.csv	11/19/2008 9:04 PM	Microsoft Excel Co...	24 KB
KTIExp4.ini	10/2/2007 8:00 PM	Configuration settin...	3 KB
KTIParam.ini	10/2/2007 7:59 PM	Configuration settin...	2 KB
KTIS1Parser.dll	3/6/2009 2:26 AM	Application extension	52 KB

Move (don't delete) this file to another destination, in this case we are putting it on the Desktop

Windows 8.1 Pro  
Build 9600  
2:06 PM  
4/5/2015

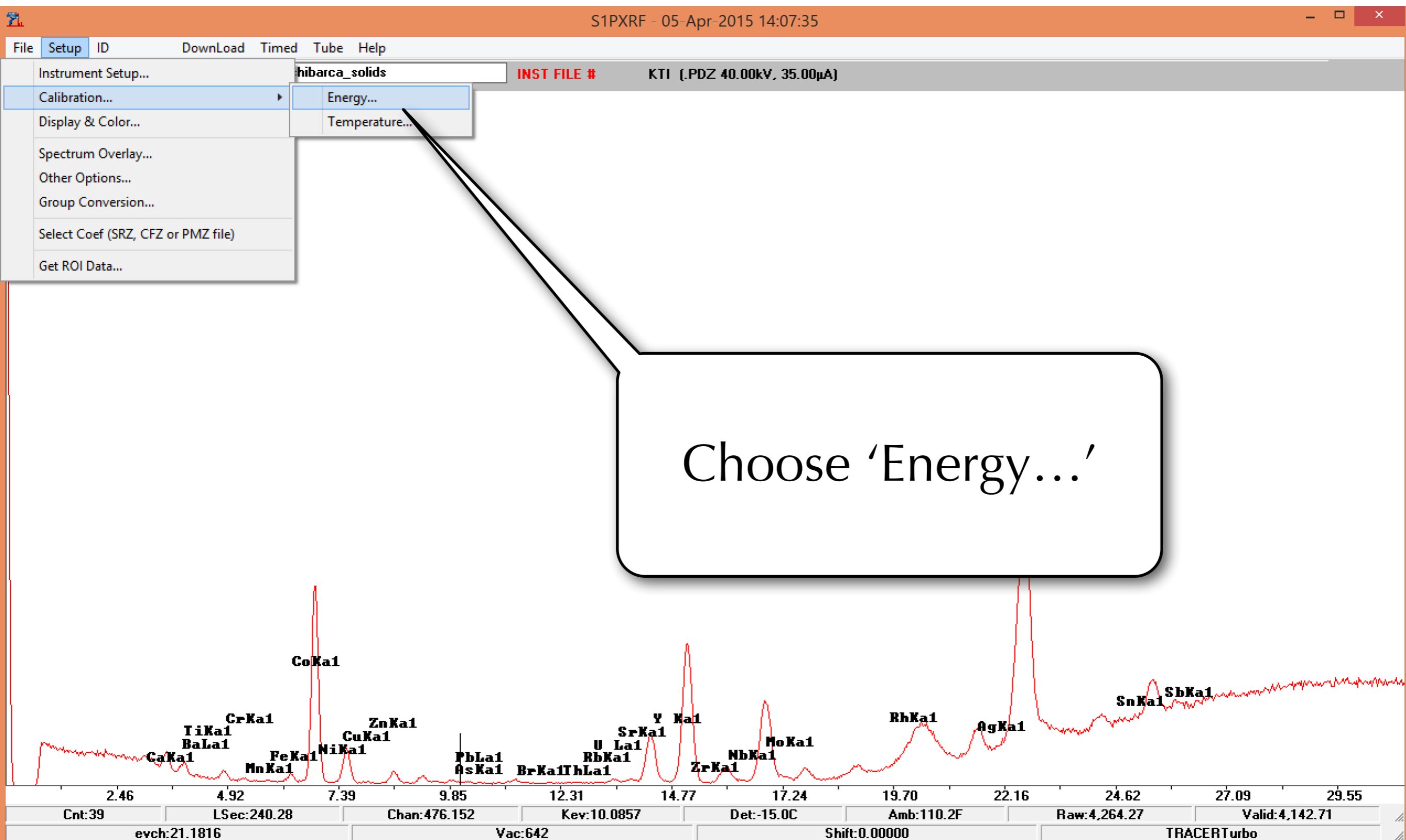
# Energy Calibration



This will enable the 'Calibration...' menu option in 'Setup'

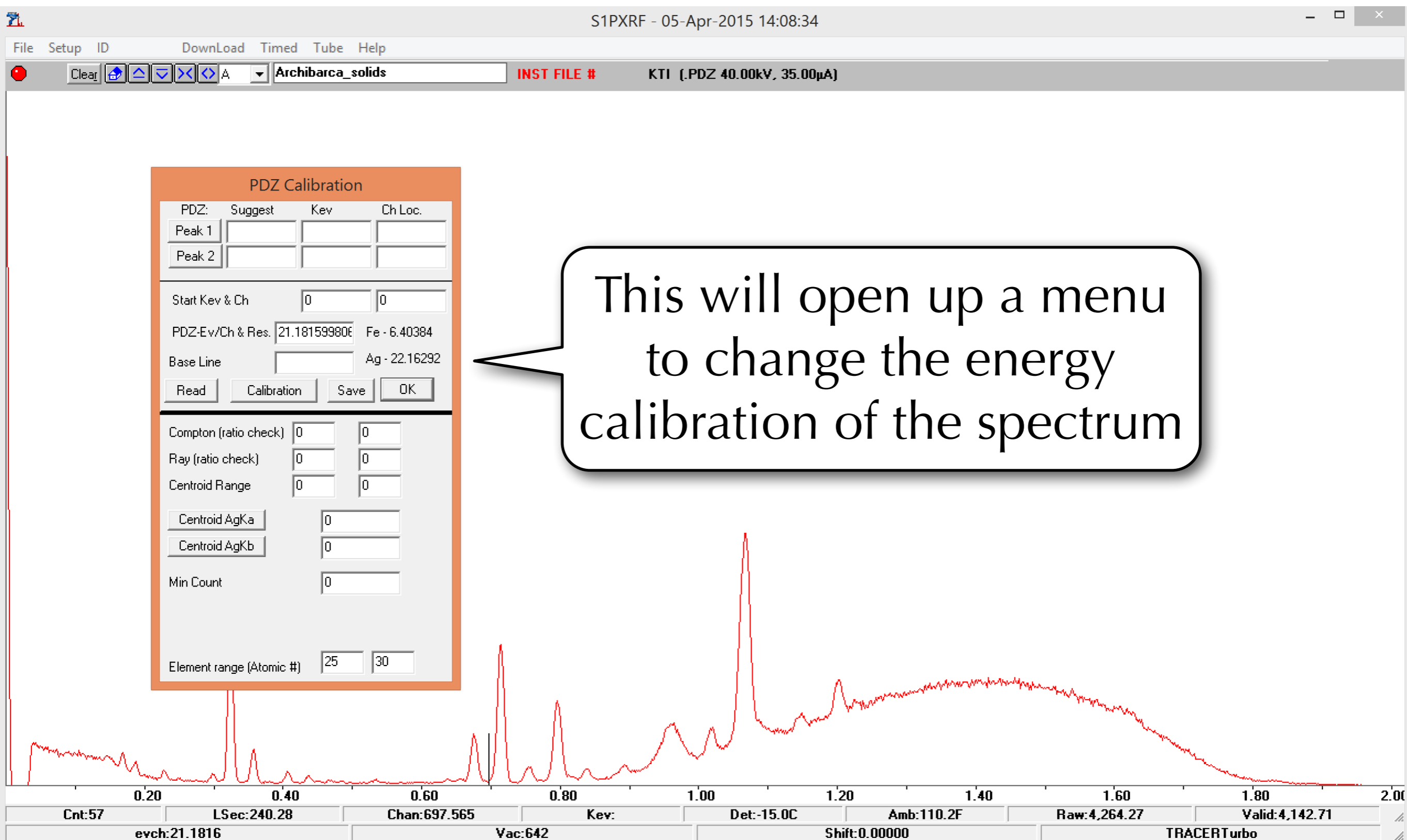


# Energy Calibration



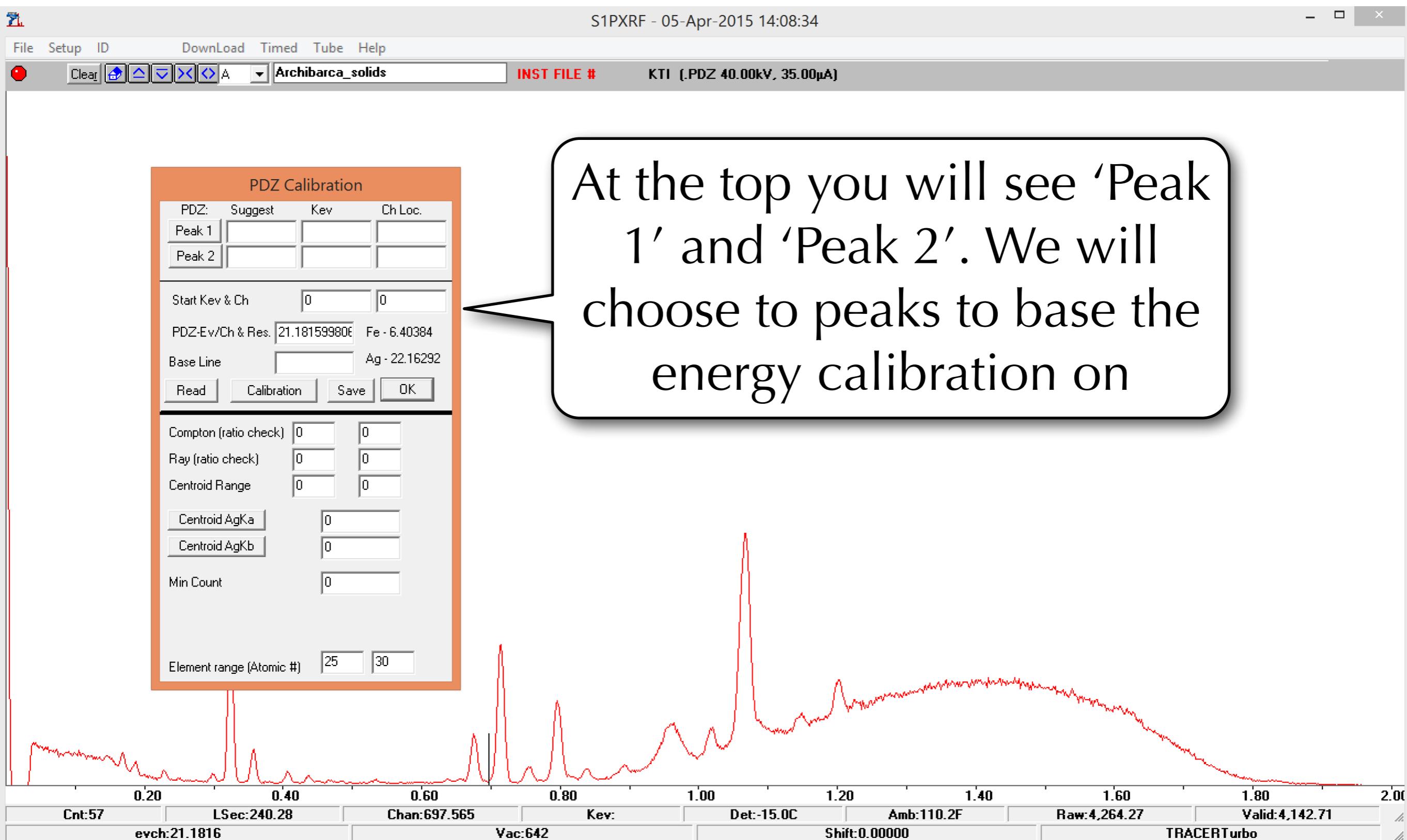
Choose 'Energy...'

# Energy Calibration



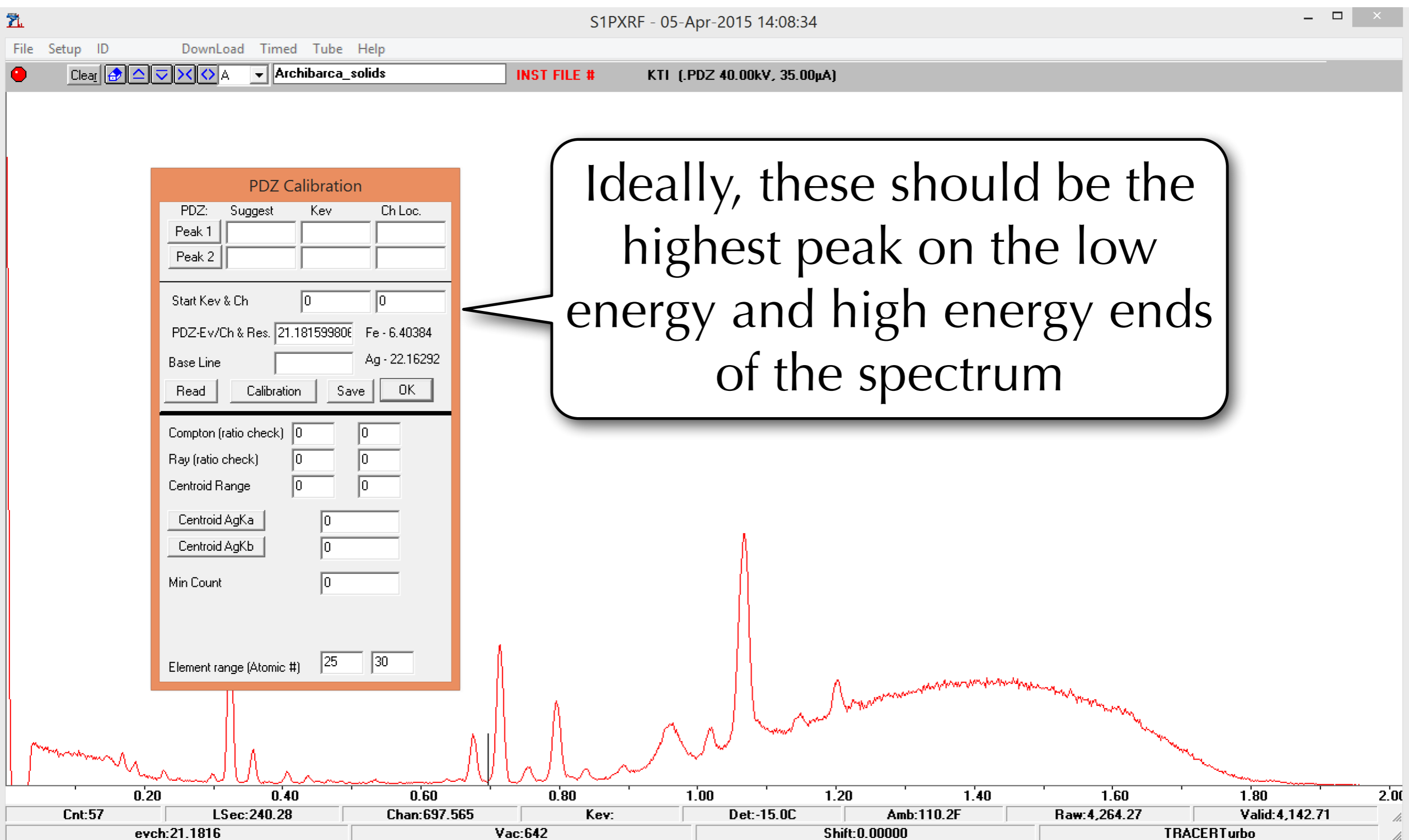
This will open up a menu to change the energy calibration of the spectrum

# Energy Calibration

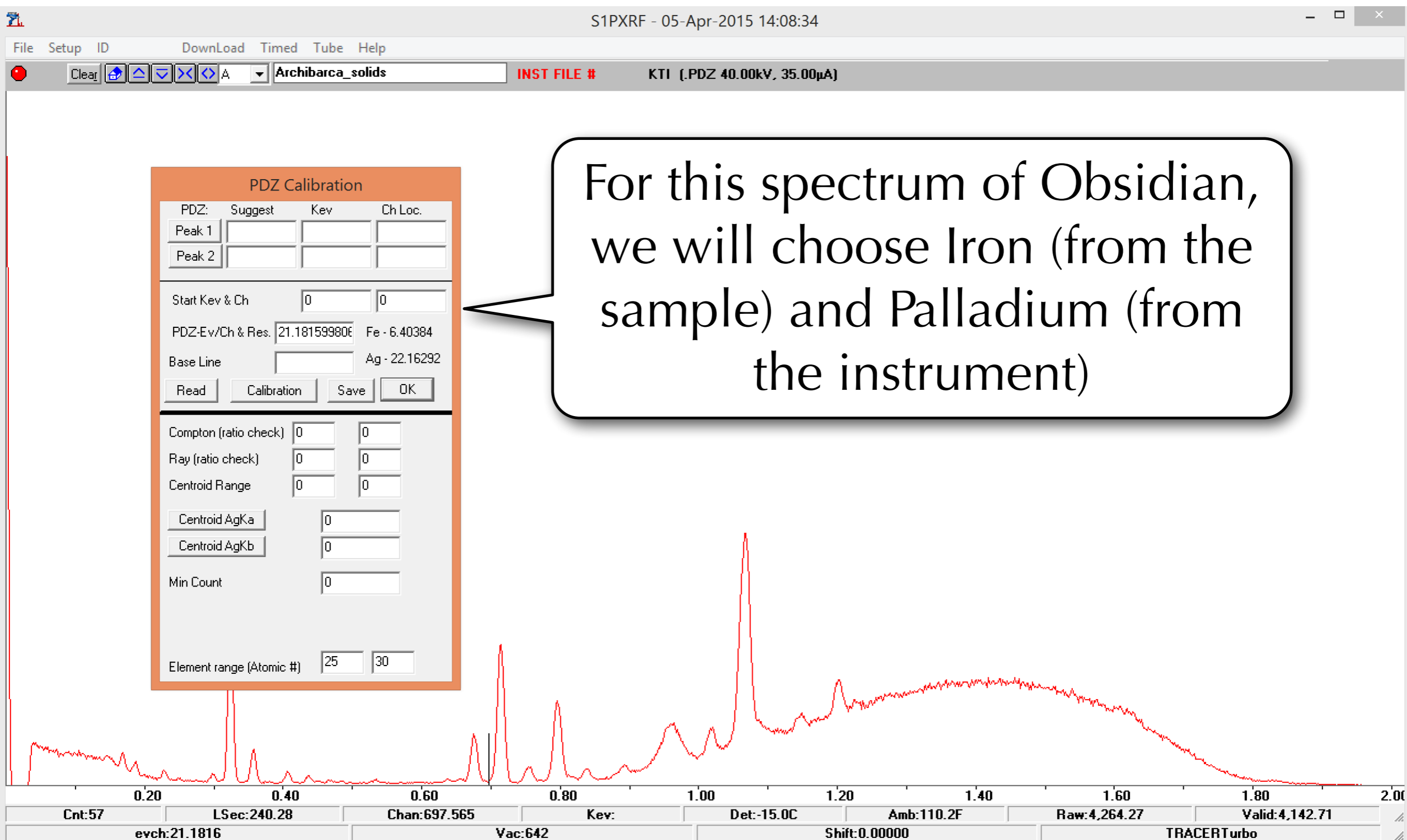


At the top you will see 'Peak 1' and 'Peak 2'. We will choose to peaks to base the energy calibration on

# Energy Calibration

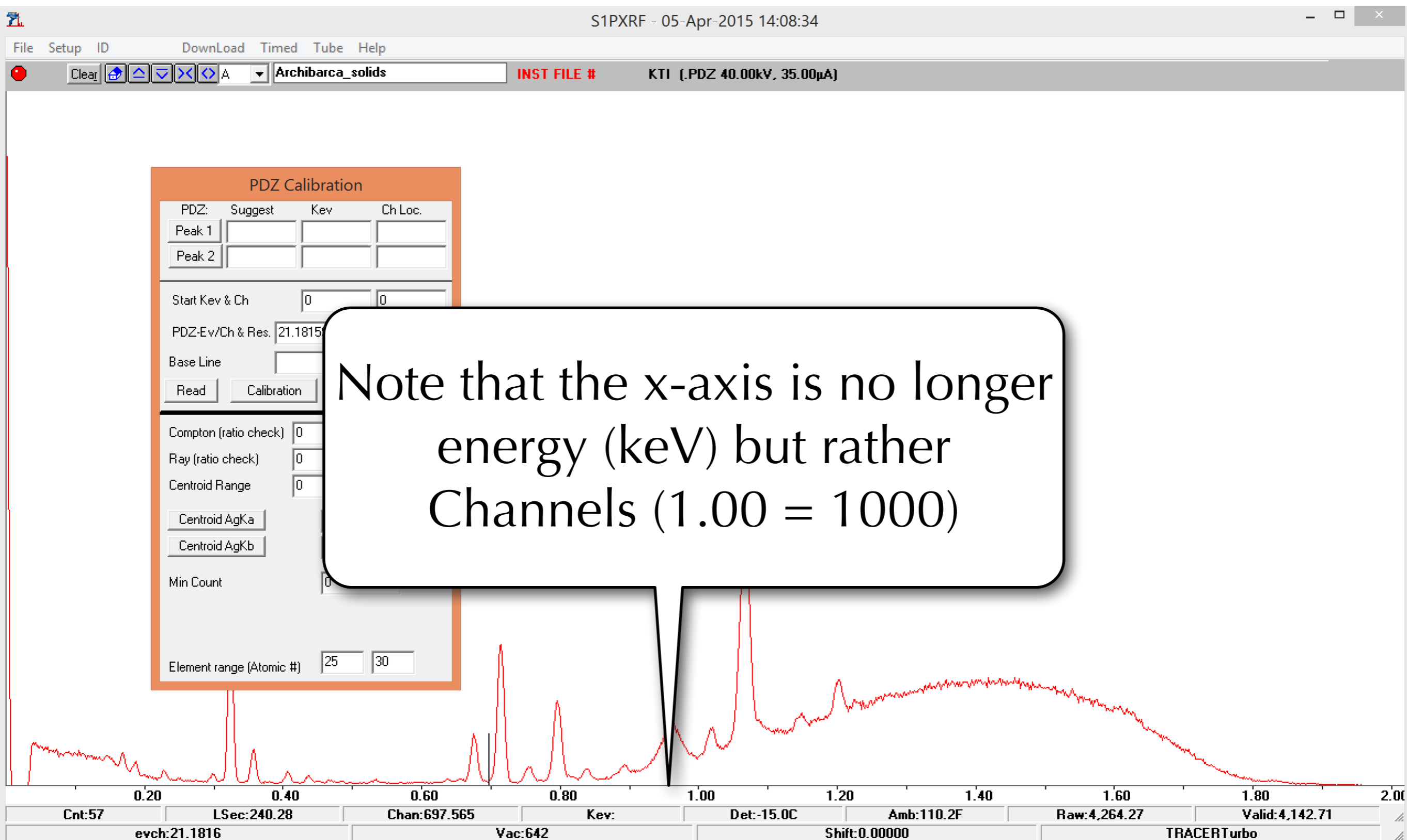


# Energy Calibration

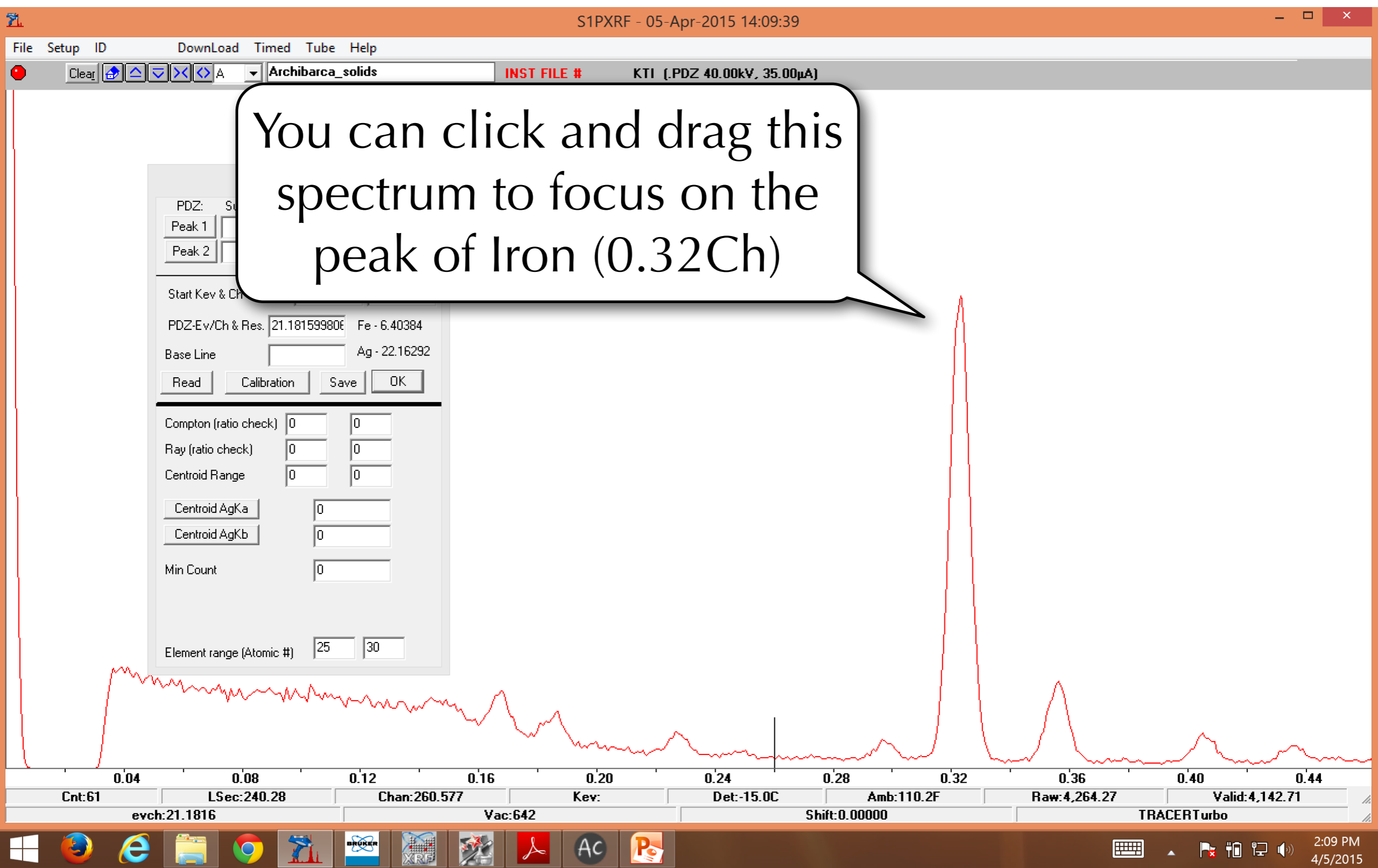


For this spectrum of Obsidian, we will choose Iron (from the sample) and Palladium (from the instrument)

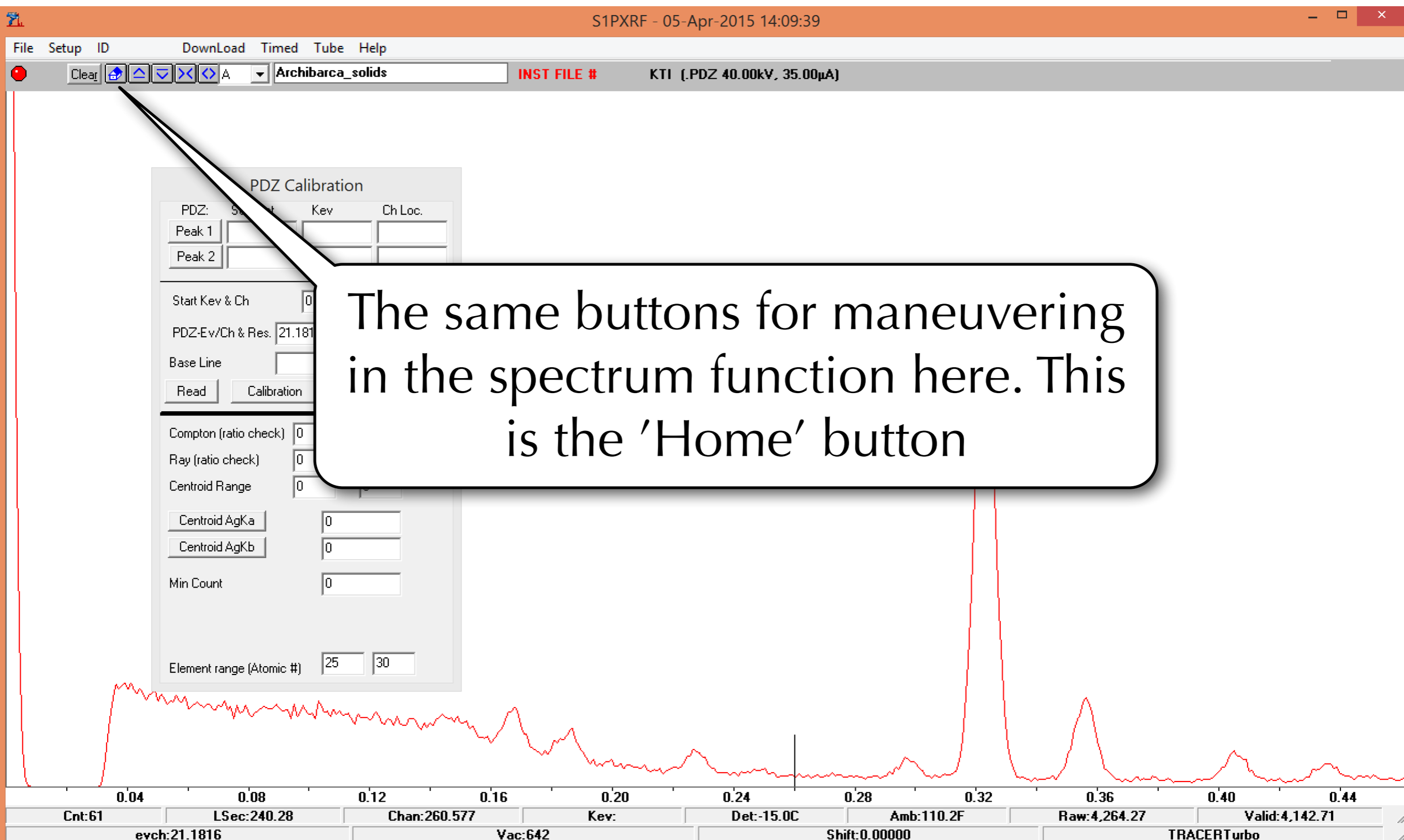
# Energy Calibration



# Energy Calibration



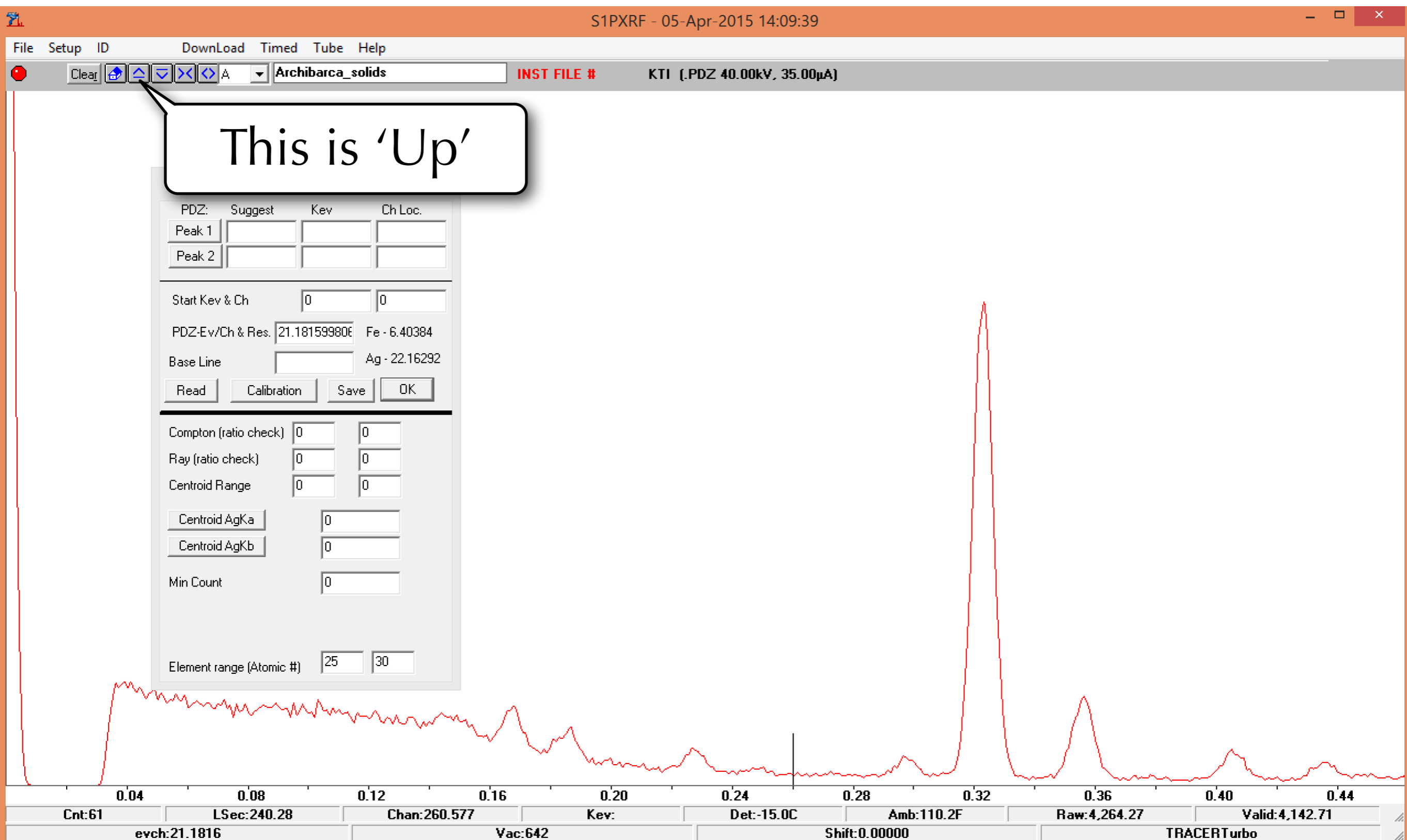
# Energy Calibration



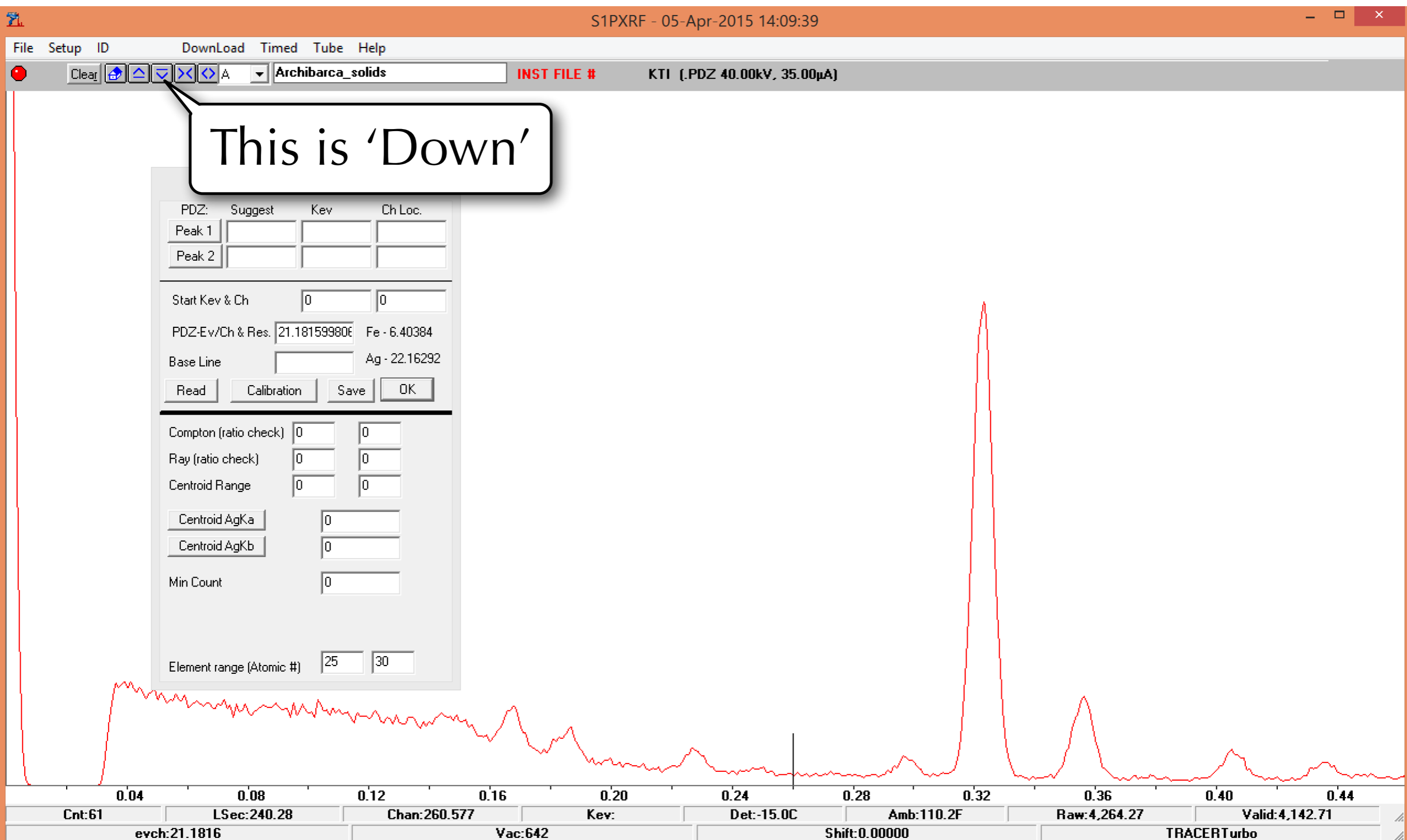
The same buttons for maneuvering in the spectrum function here. This is the 'Home' button



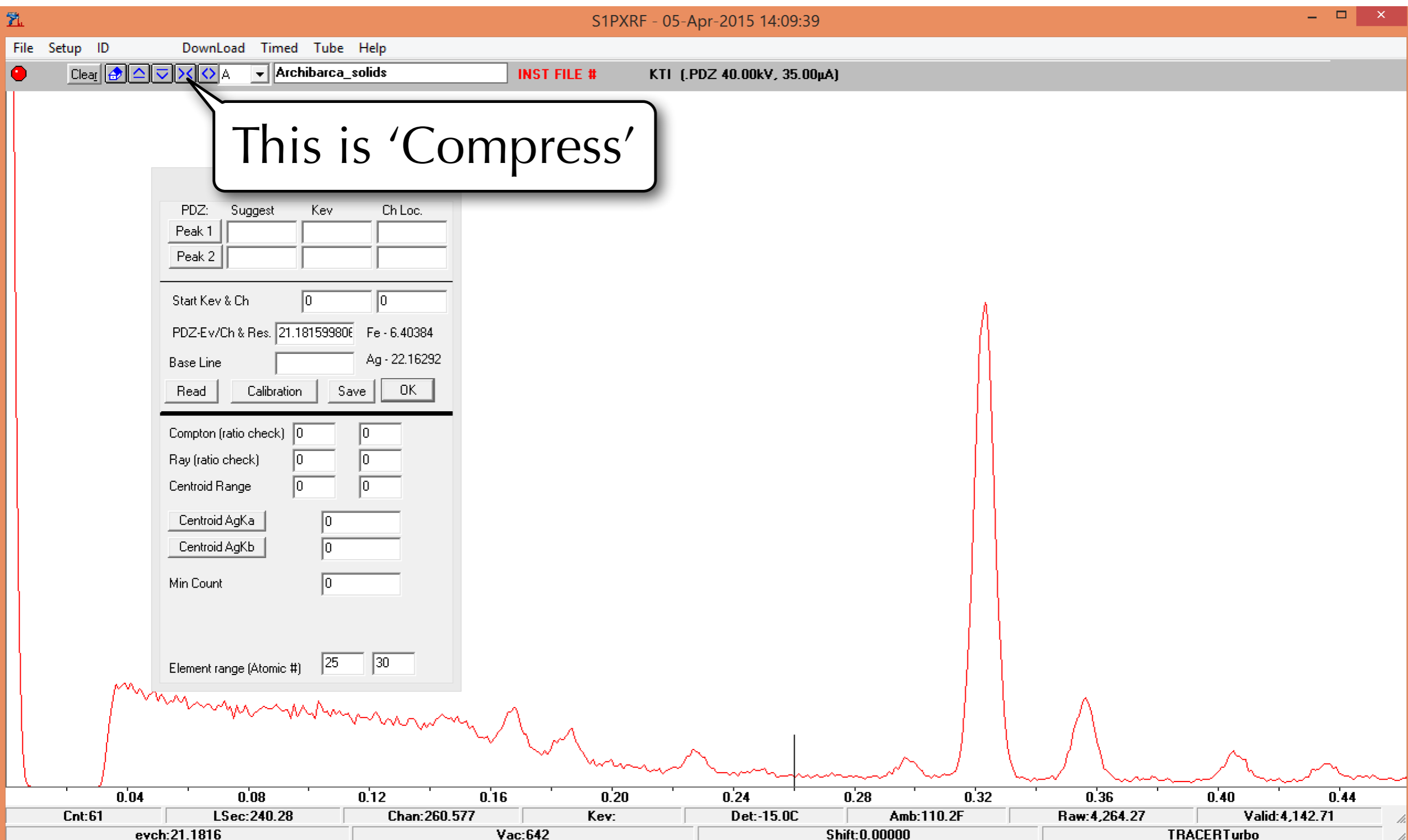
# Energy Calibration



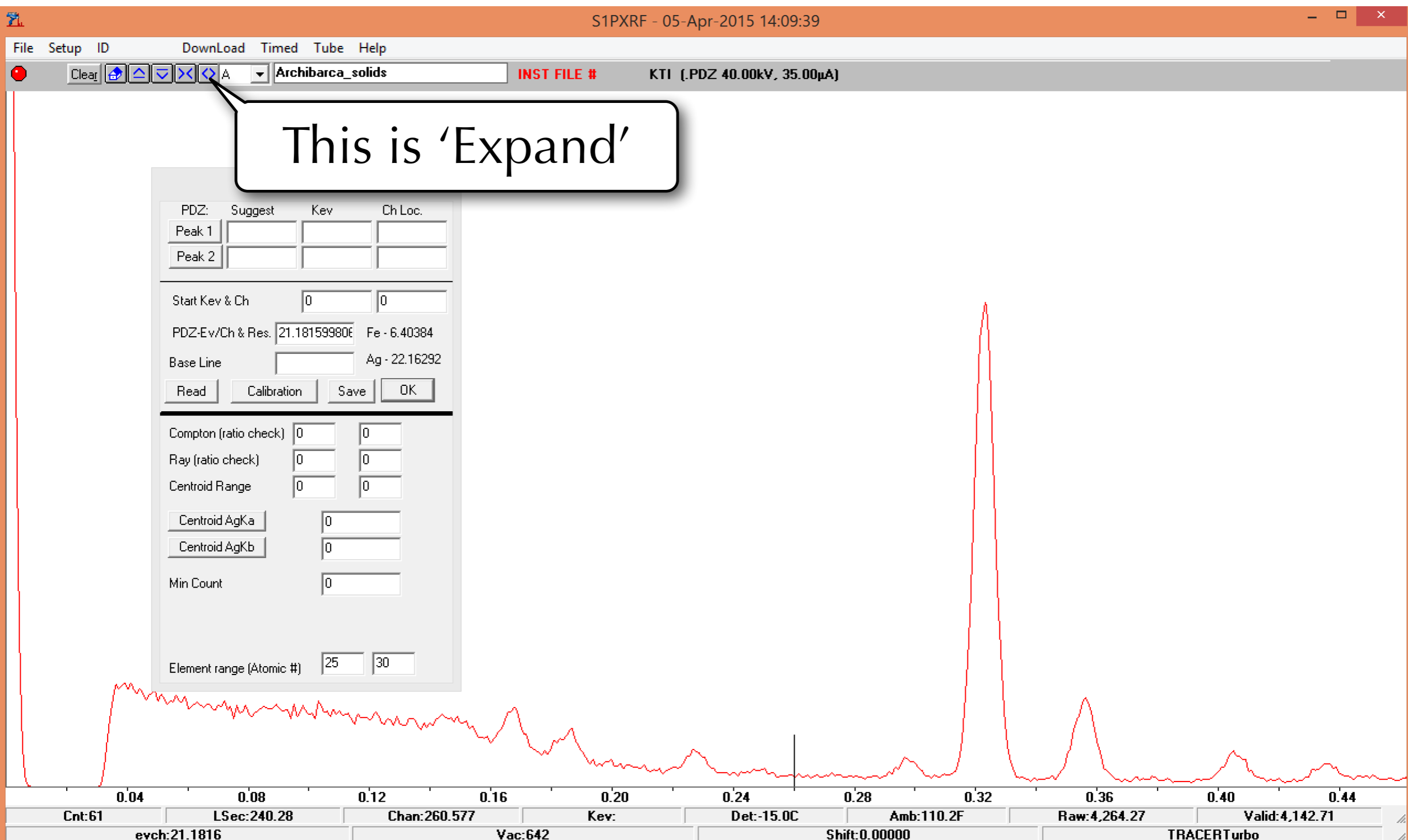
# Energy Calibration



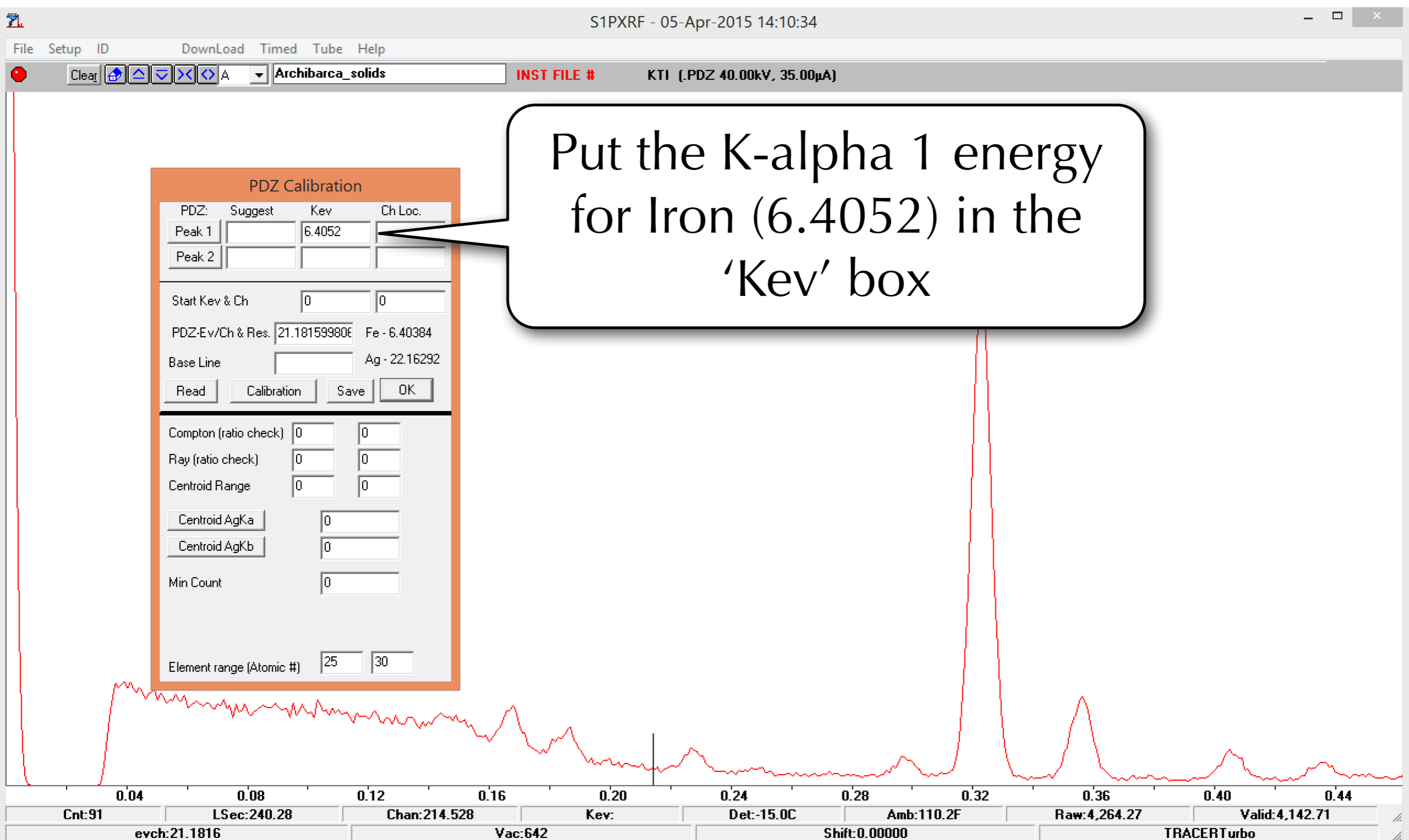
# Energy Calibration



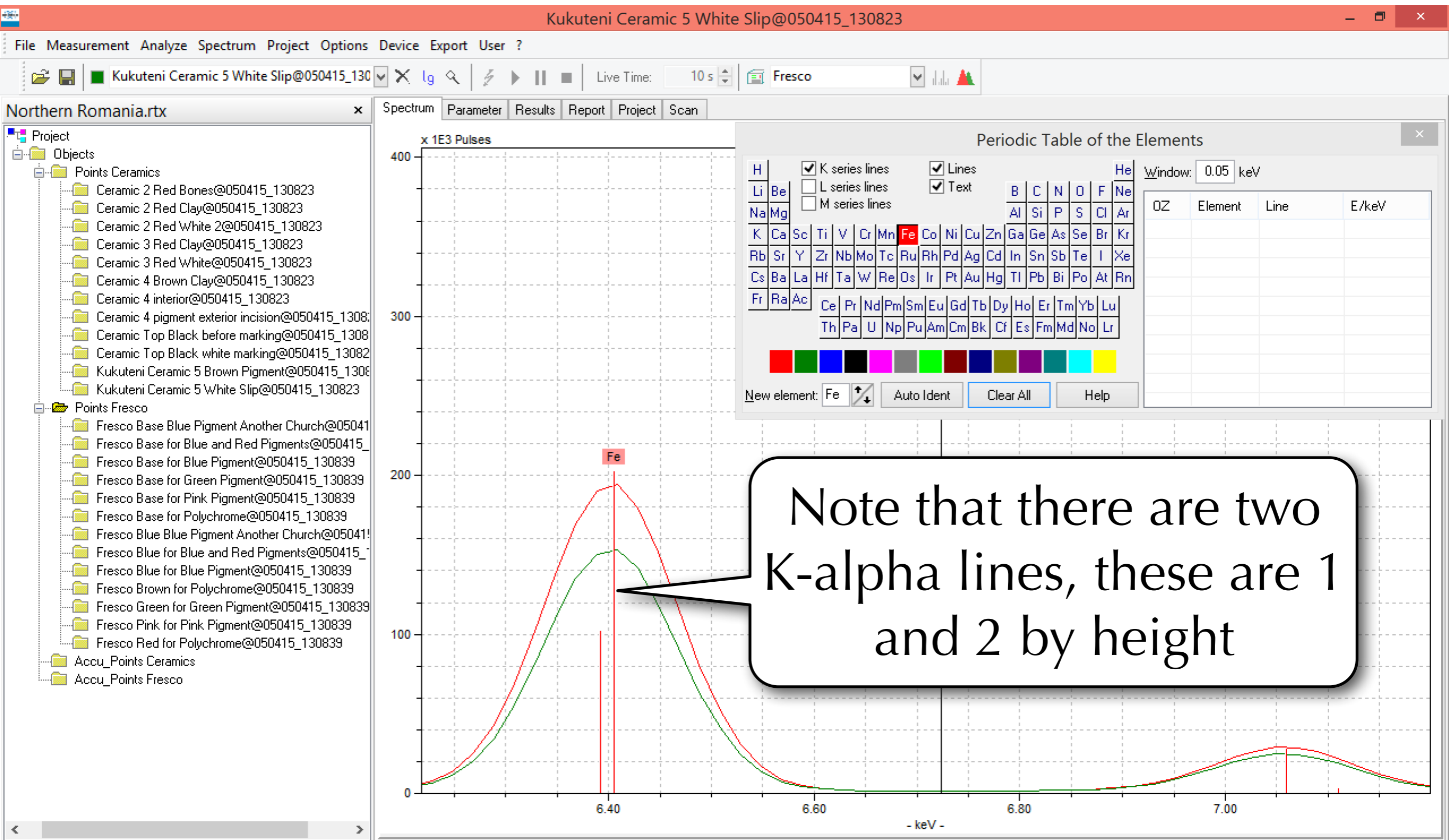
# Energy Calibration



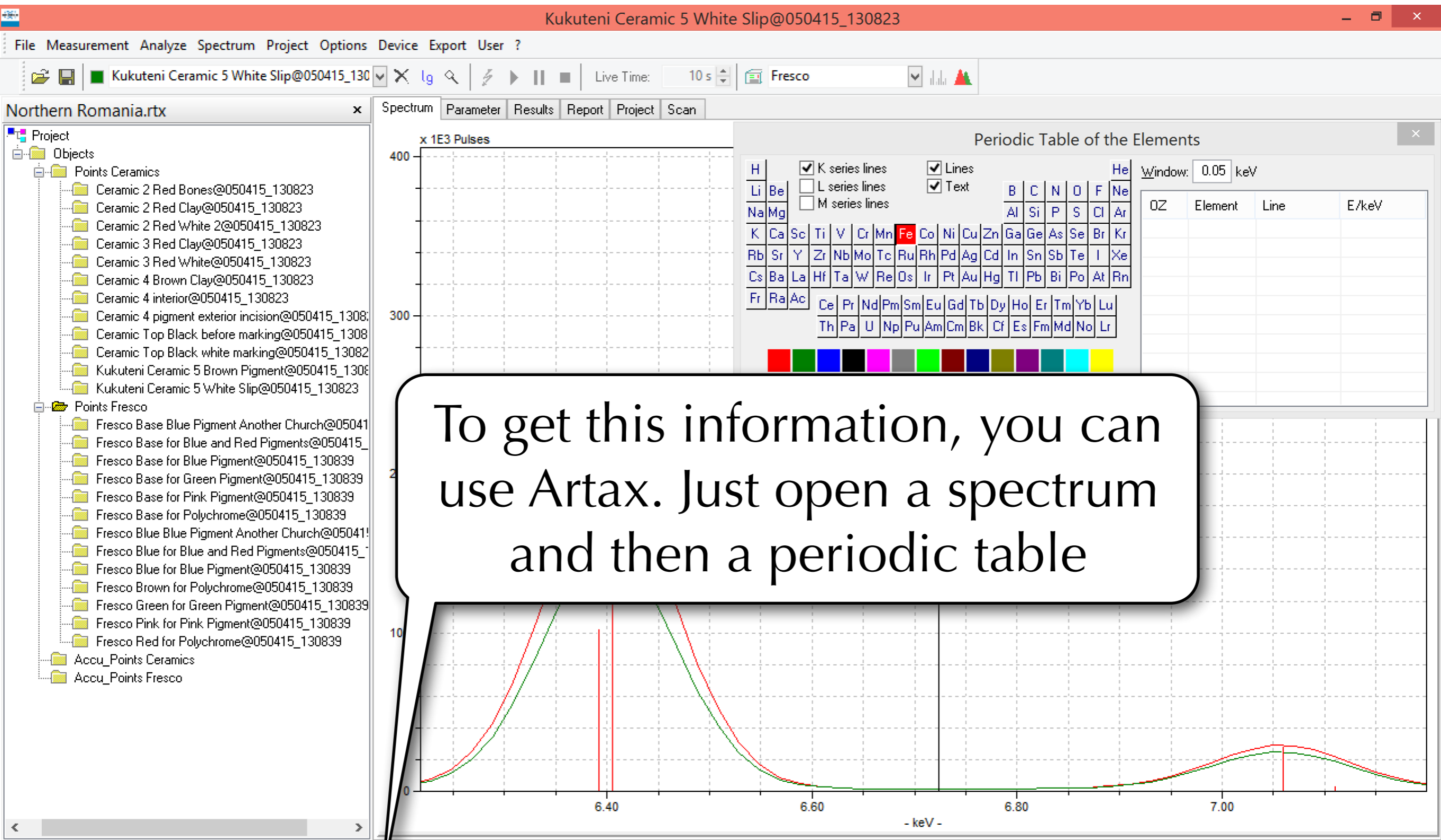
# Energy Calibration



# Energy Calibration

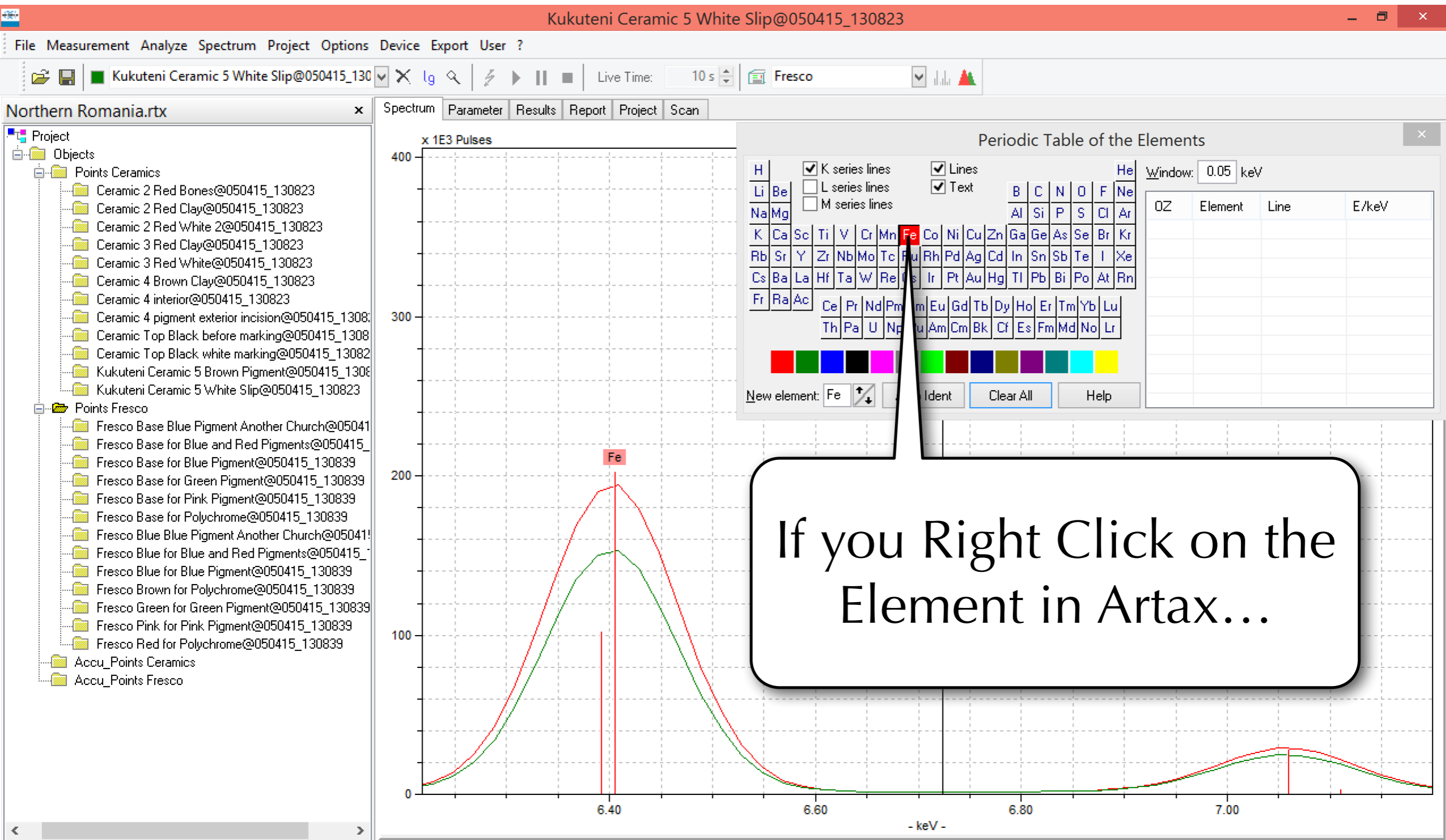


# Energy Calibration



E: 6.72 keV Cnts: 1488 User: Administrator OFFLINE

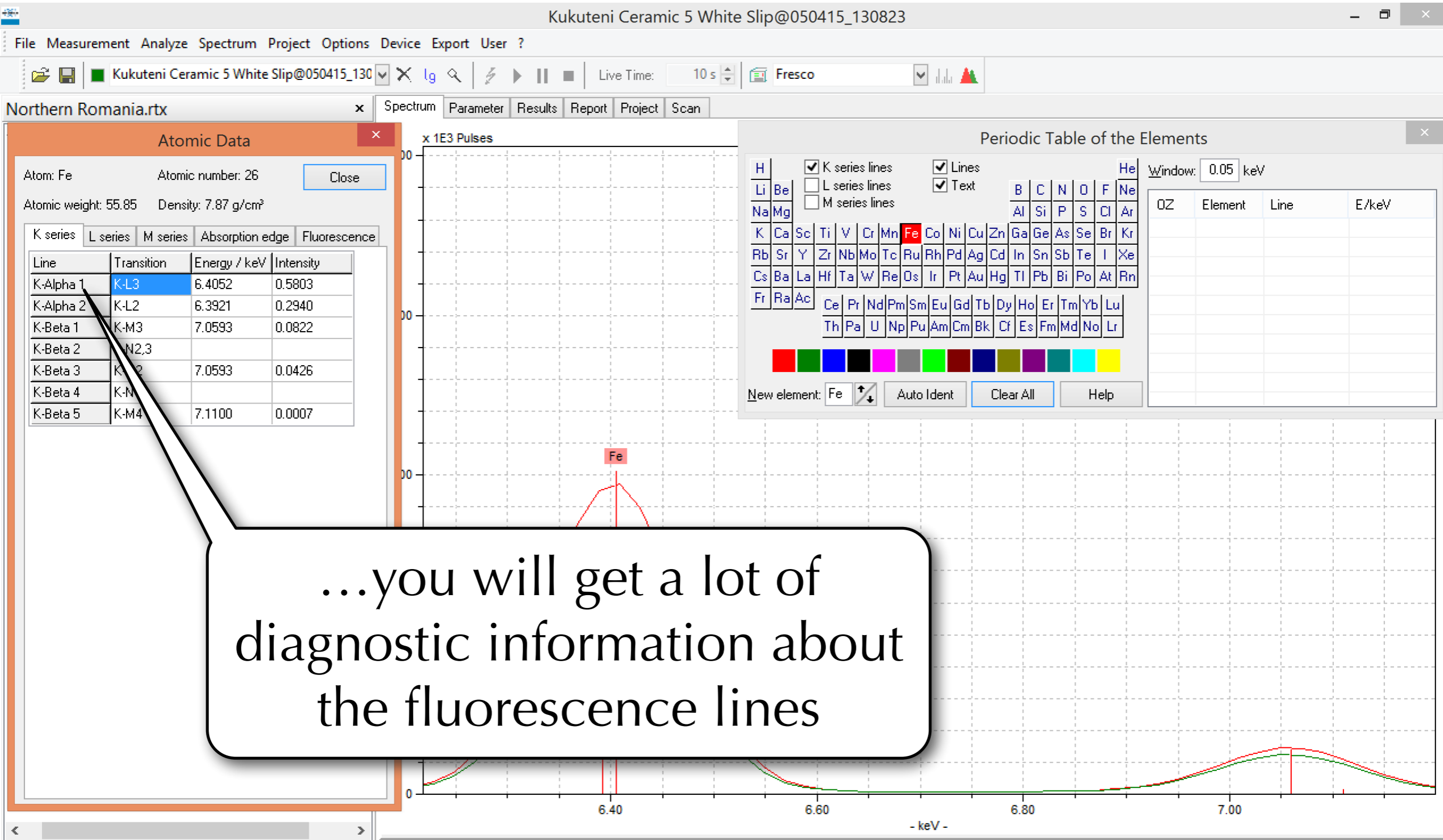
# Energy Calibration



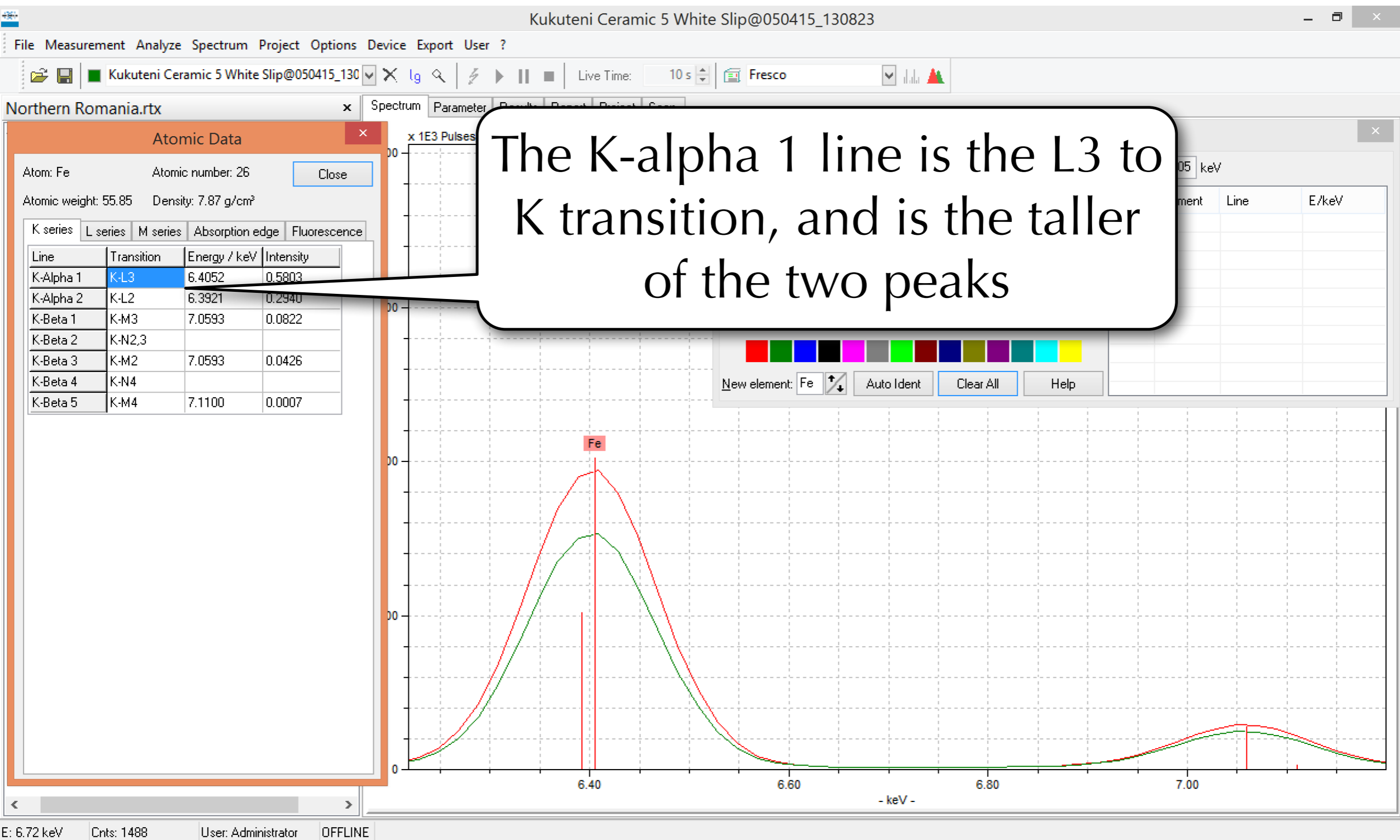
If you Right Click on the Element in Artax...



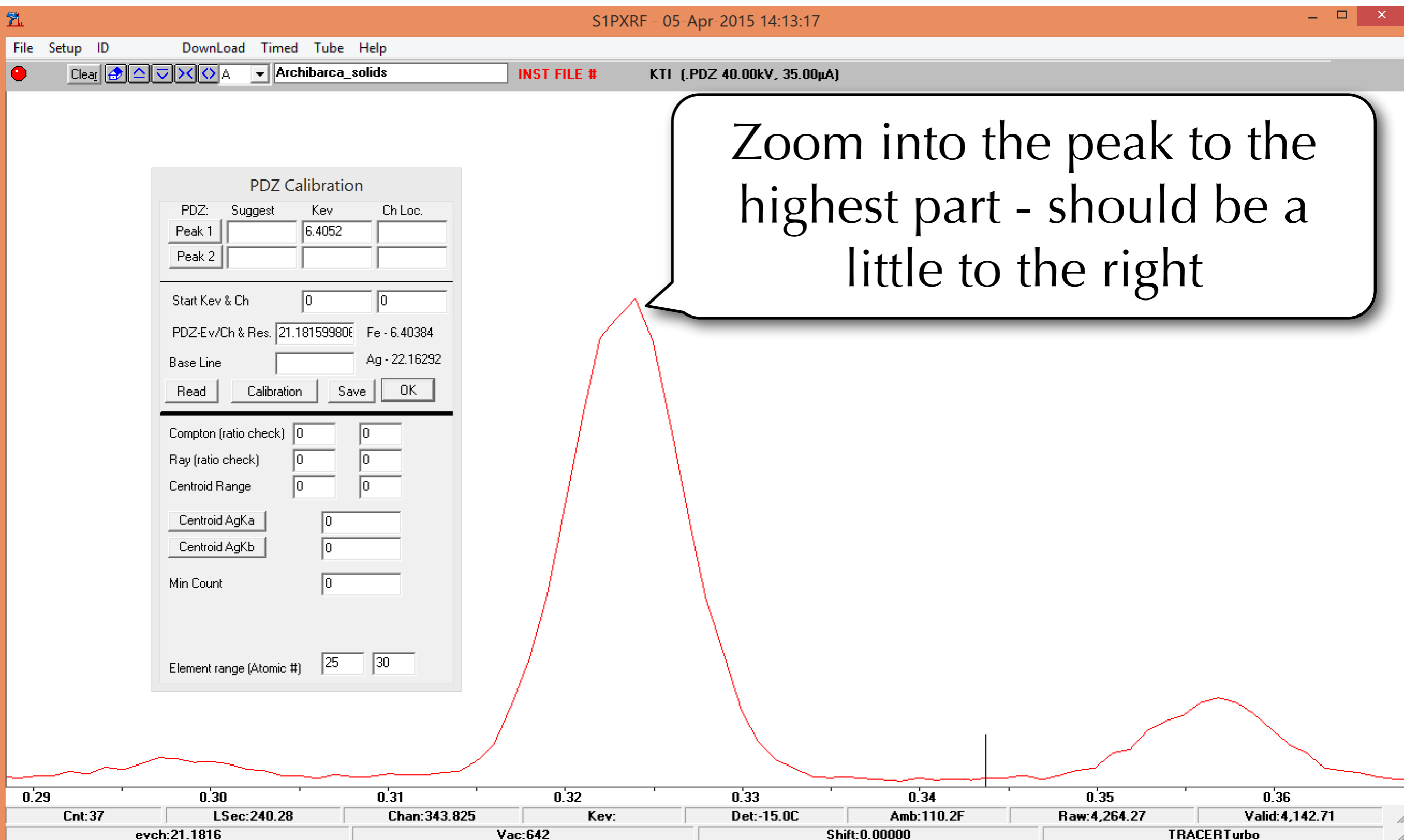
# Energy Calibration



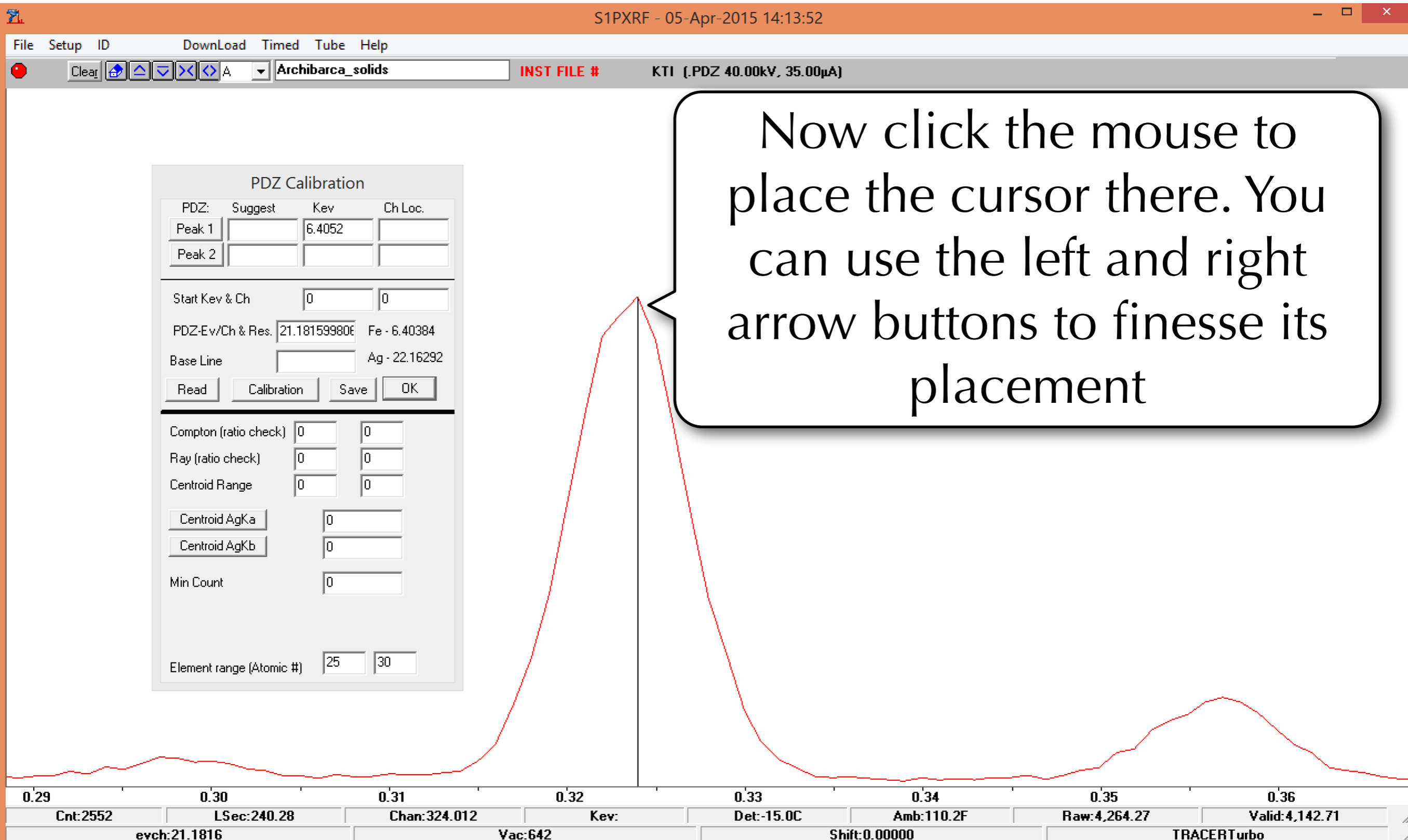
# Energy Calibration



# Energy Calibration

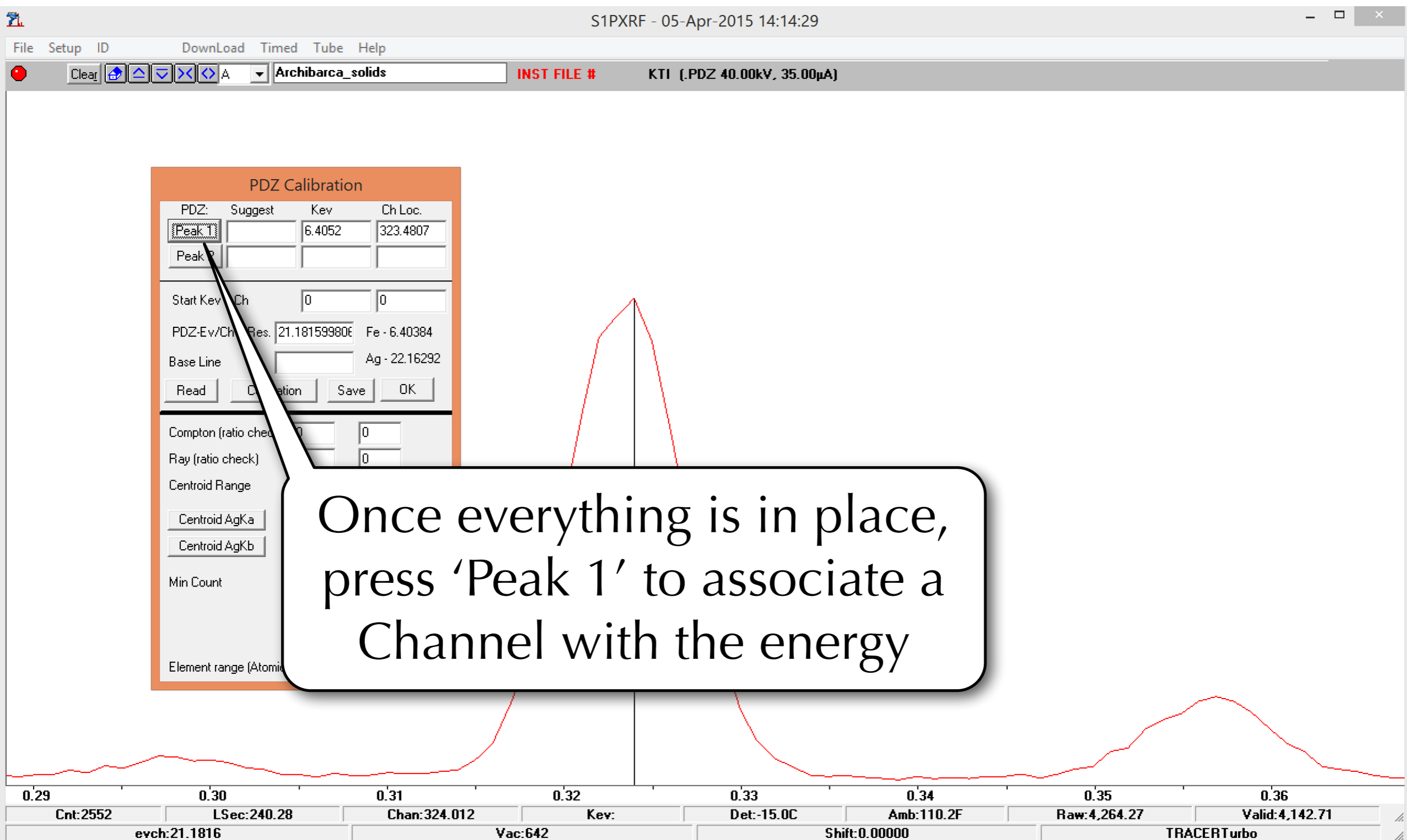


# Energy Calibration



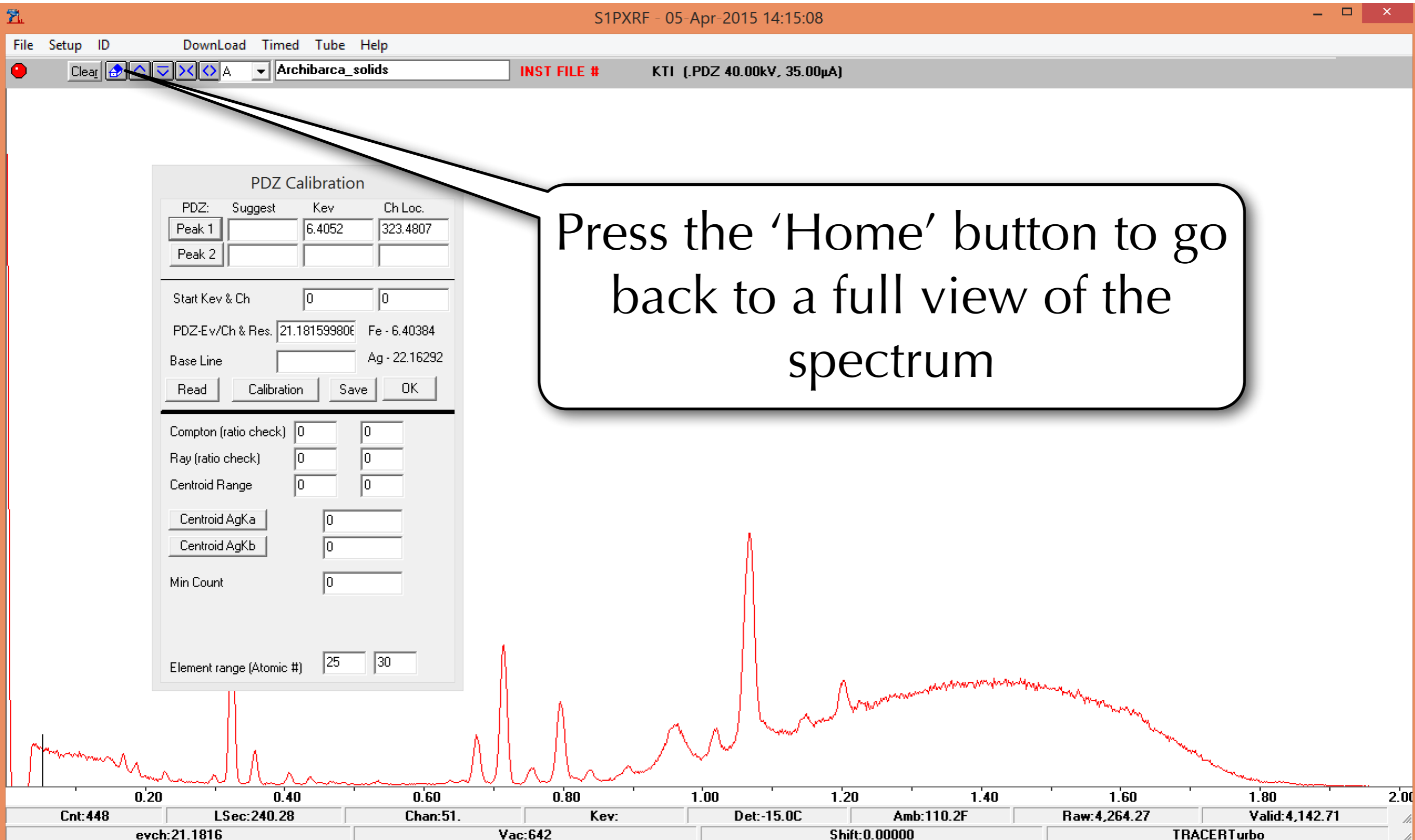
Now click the mouse to place the cursor there. You can use the left and right arrow buttons to finesse its placement

# Energy Calibration

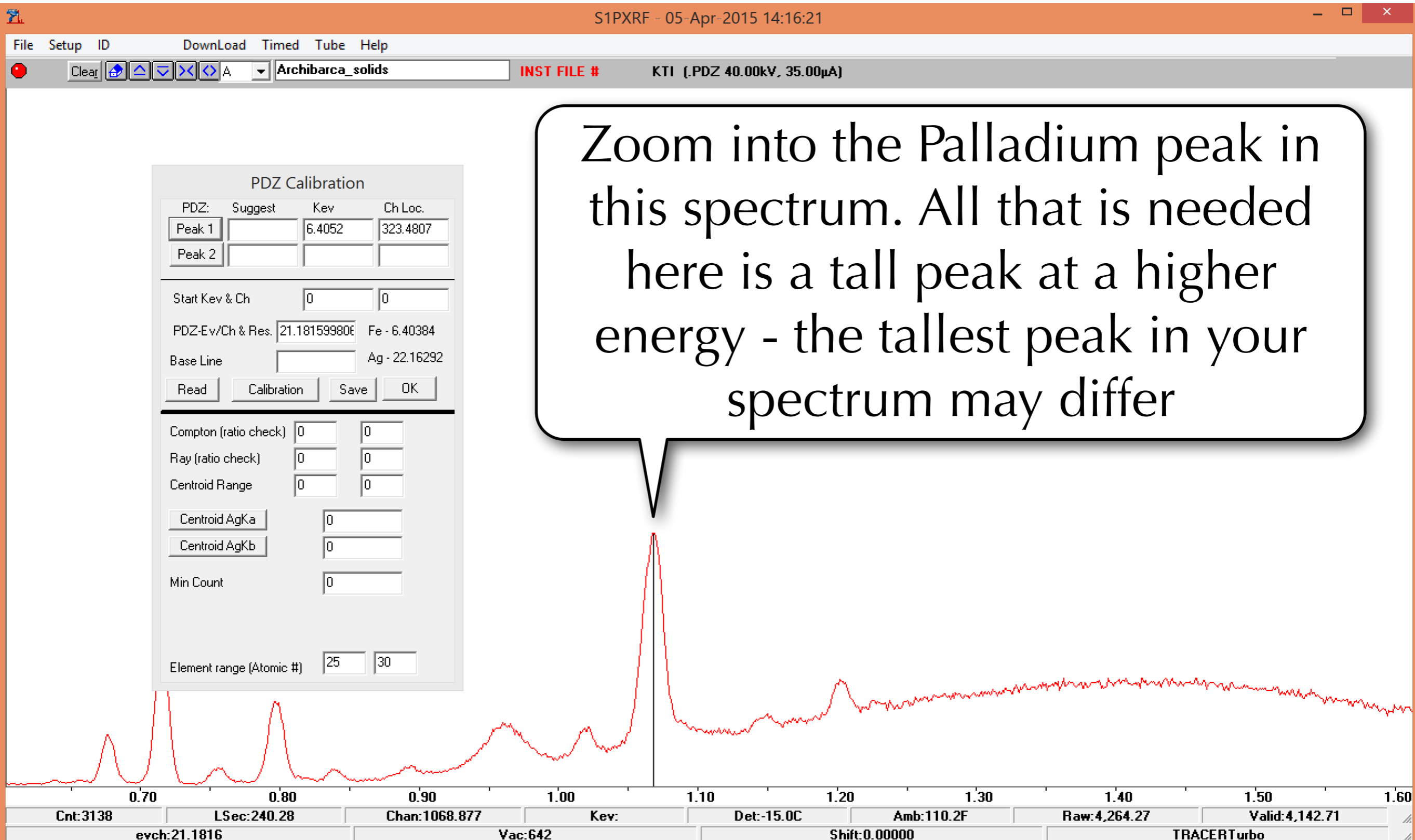


Once everything is in place, press 'Peak 1' to associate a Channel with the energy

# Energy Calibration

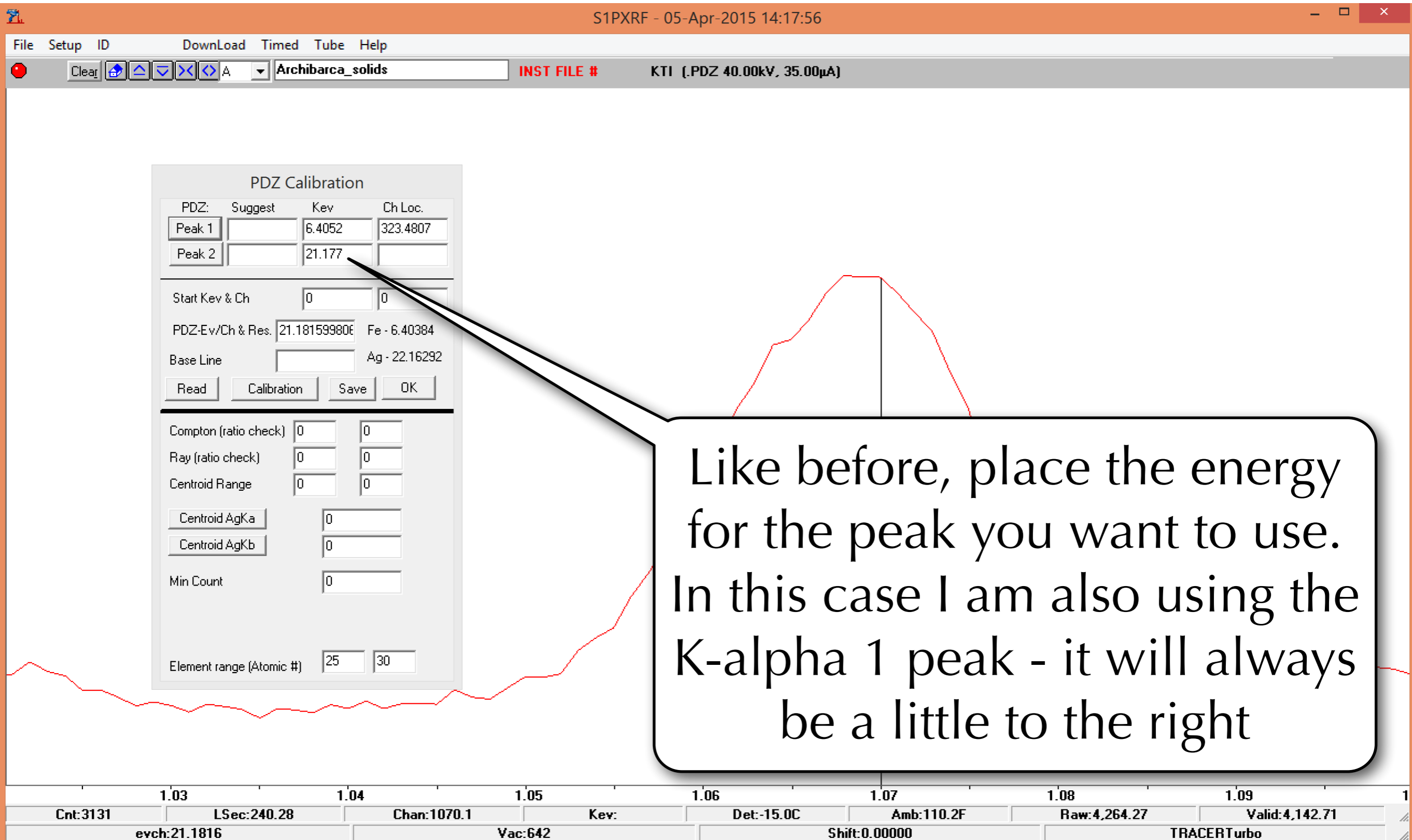


# Energy Calibration



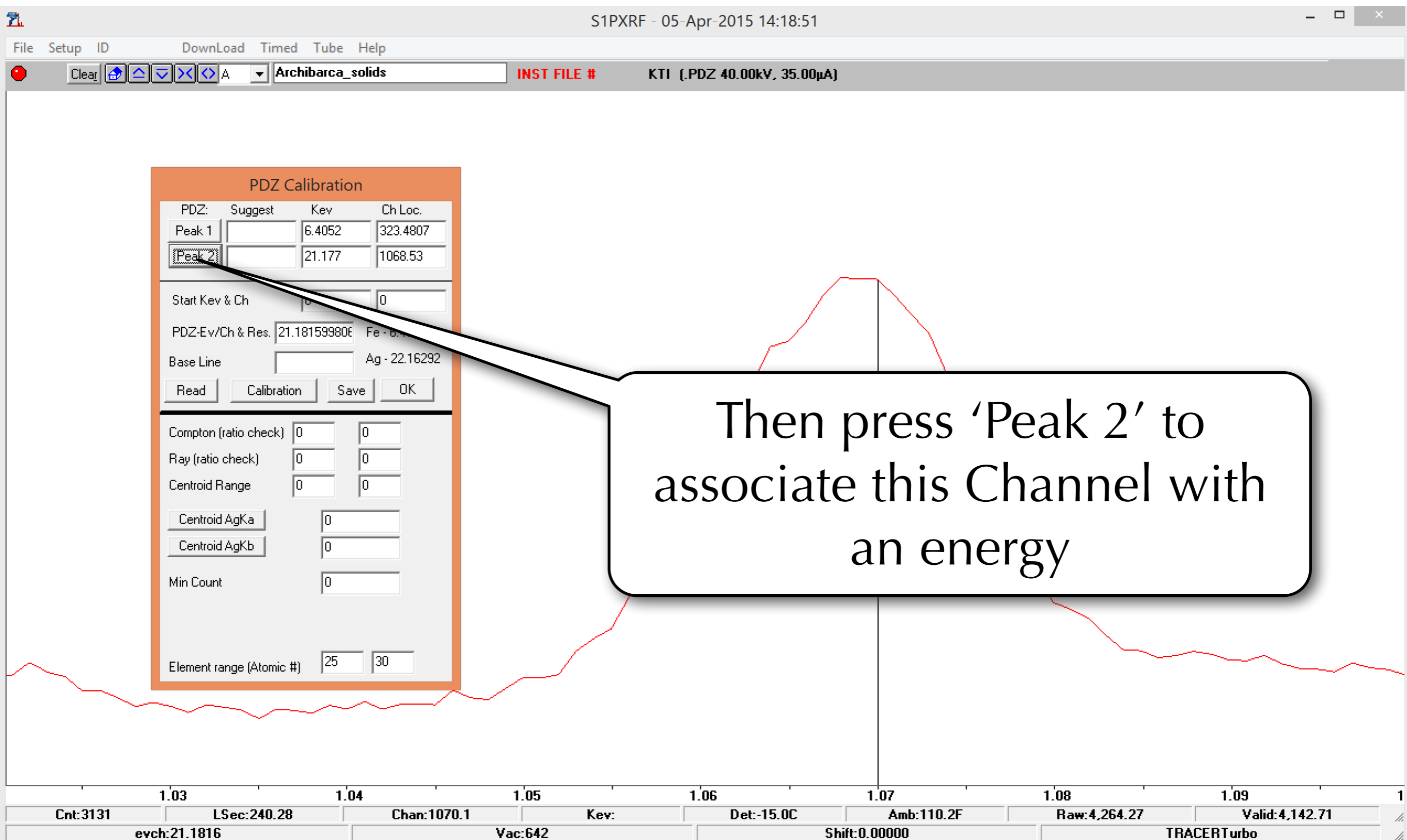
Zoom into the Palladium peak in this spectrum. All that is needed here is a tall peak at a higher energy - the tallest peak in your spectrum may differ

# Energy Calibration

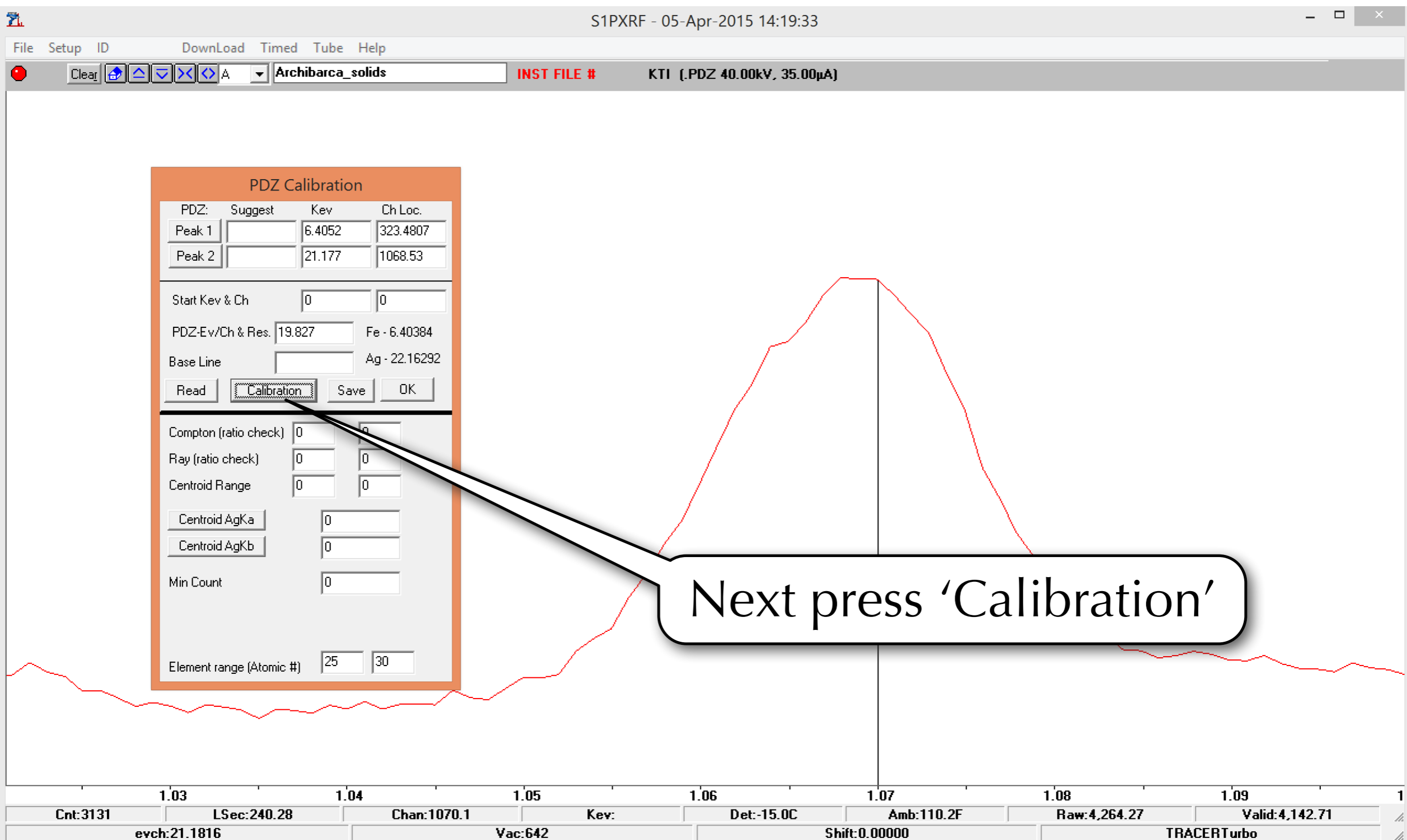




# Energy Calibration

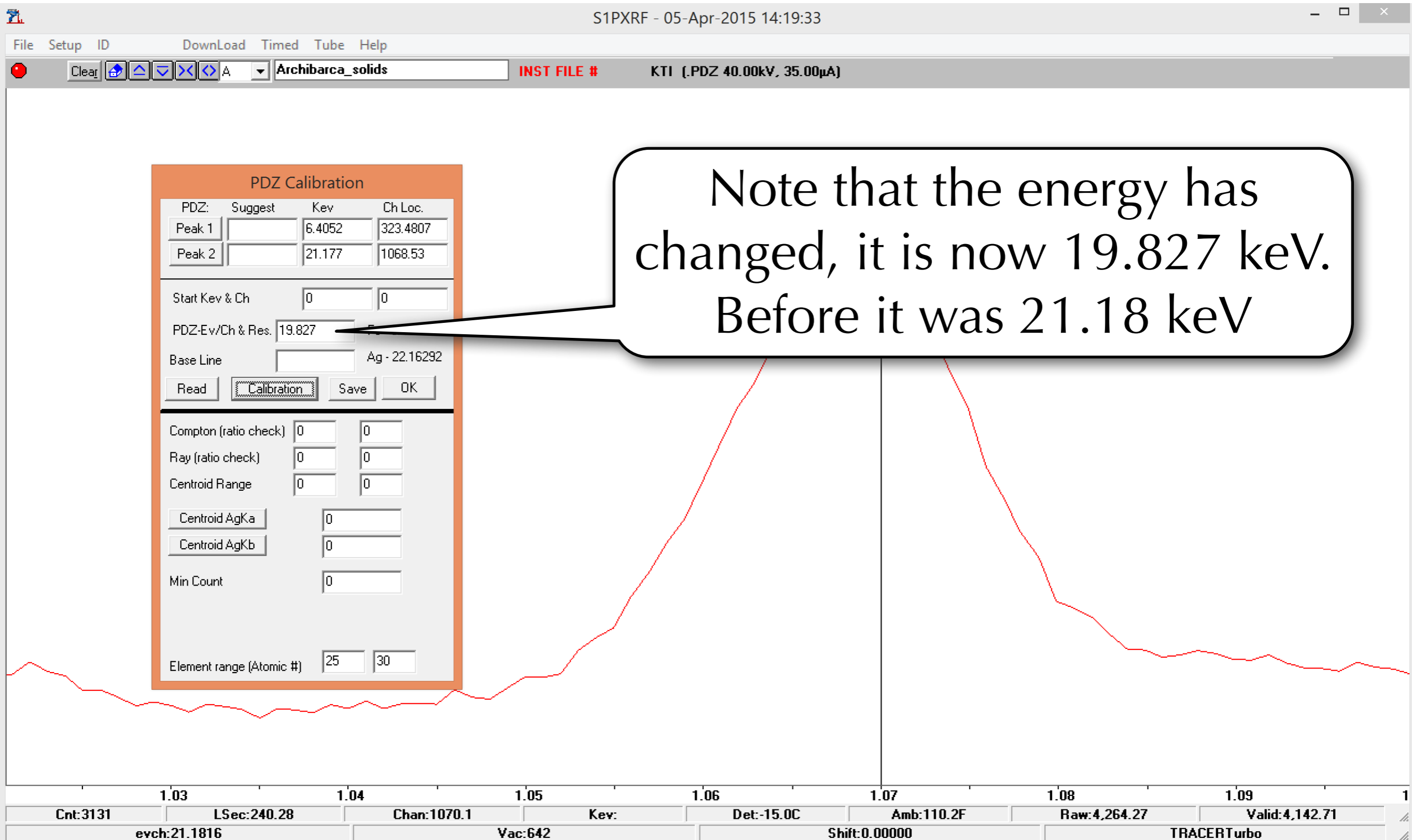


# Energy Calibration

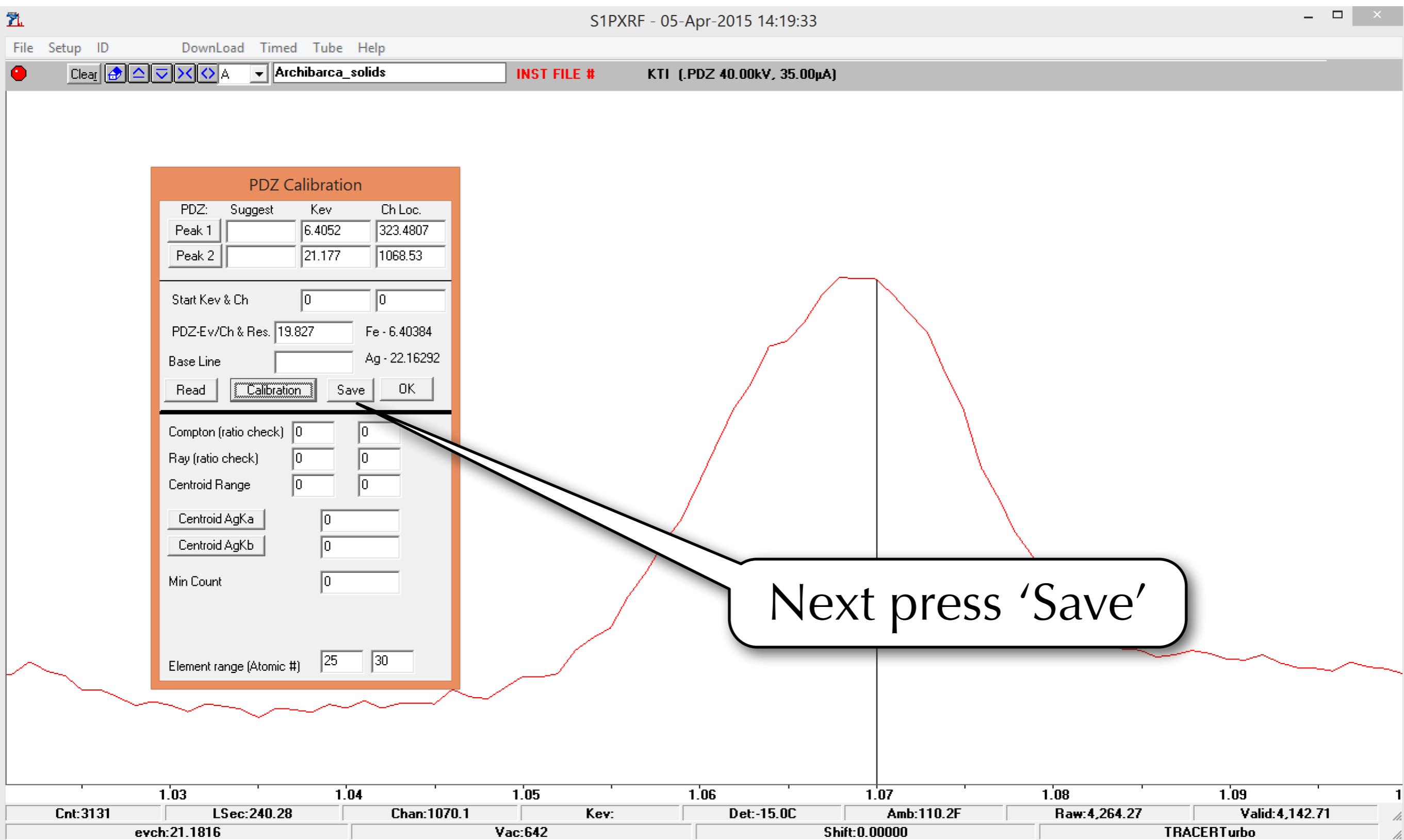


Next press 'Calibration'

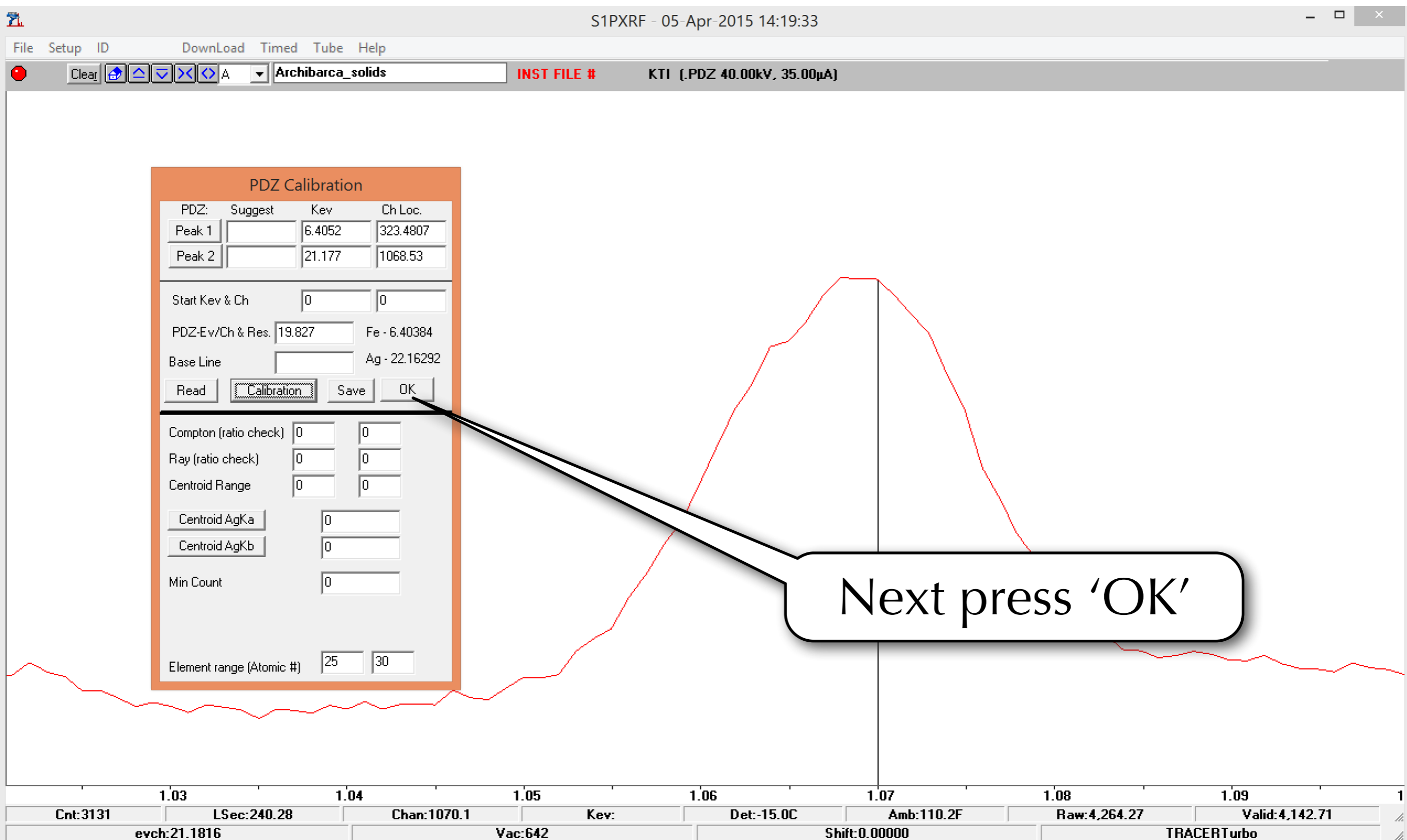
# Energy Calibration



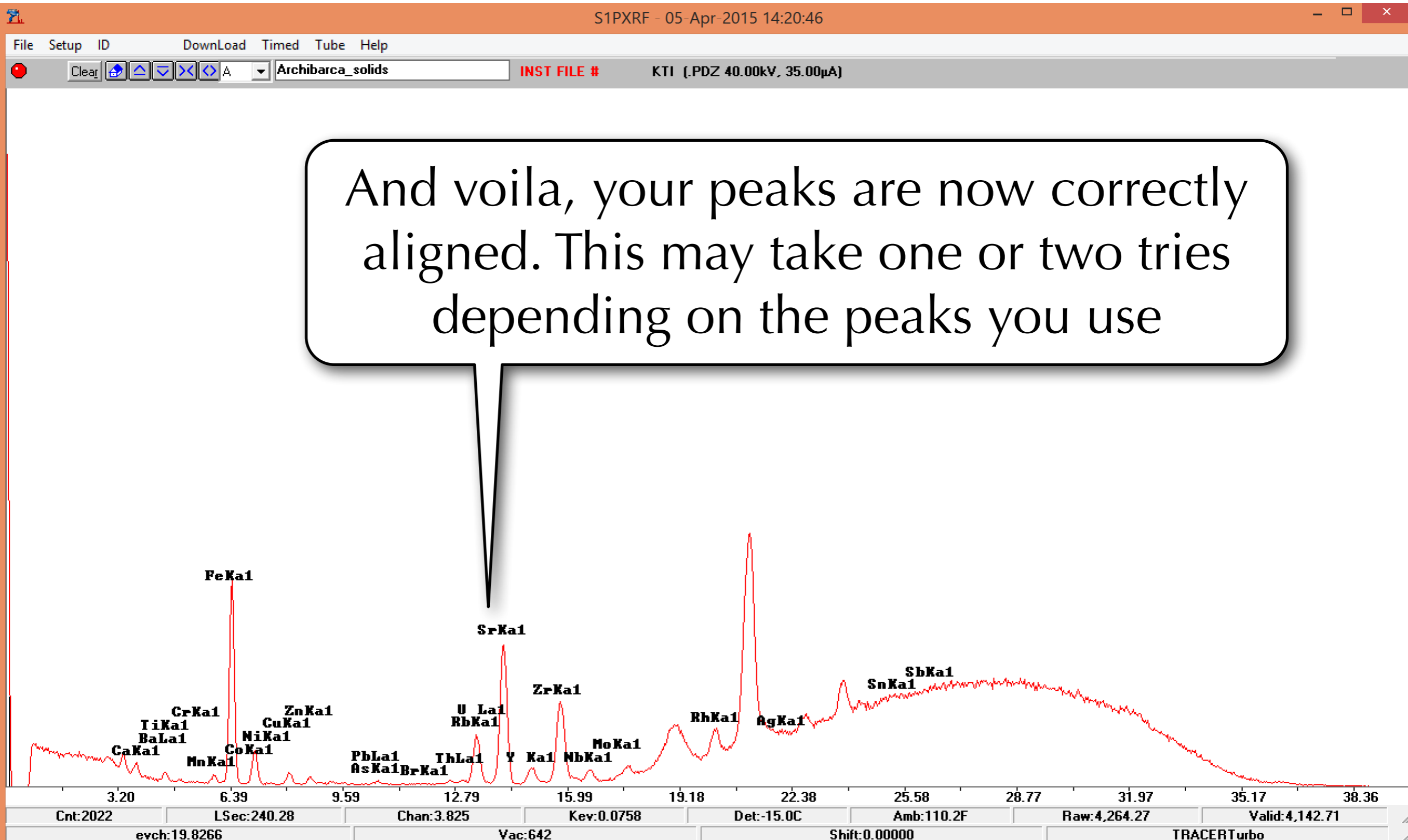
# Energy Calibration



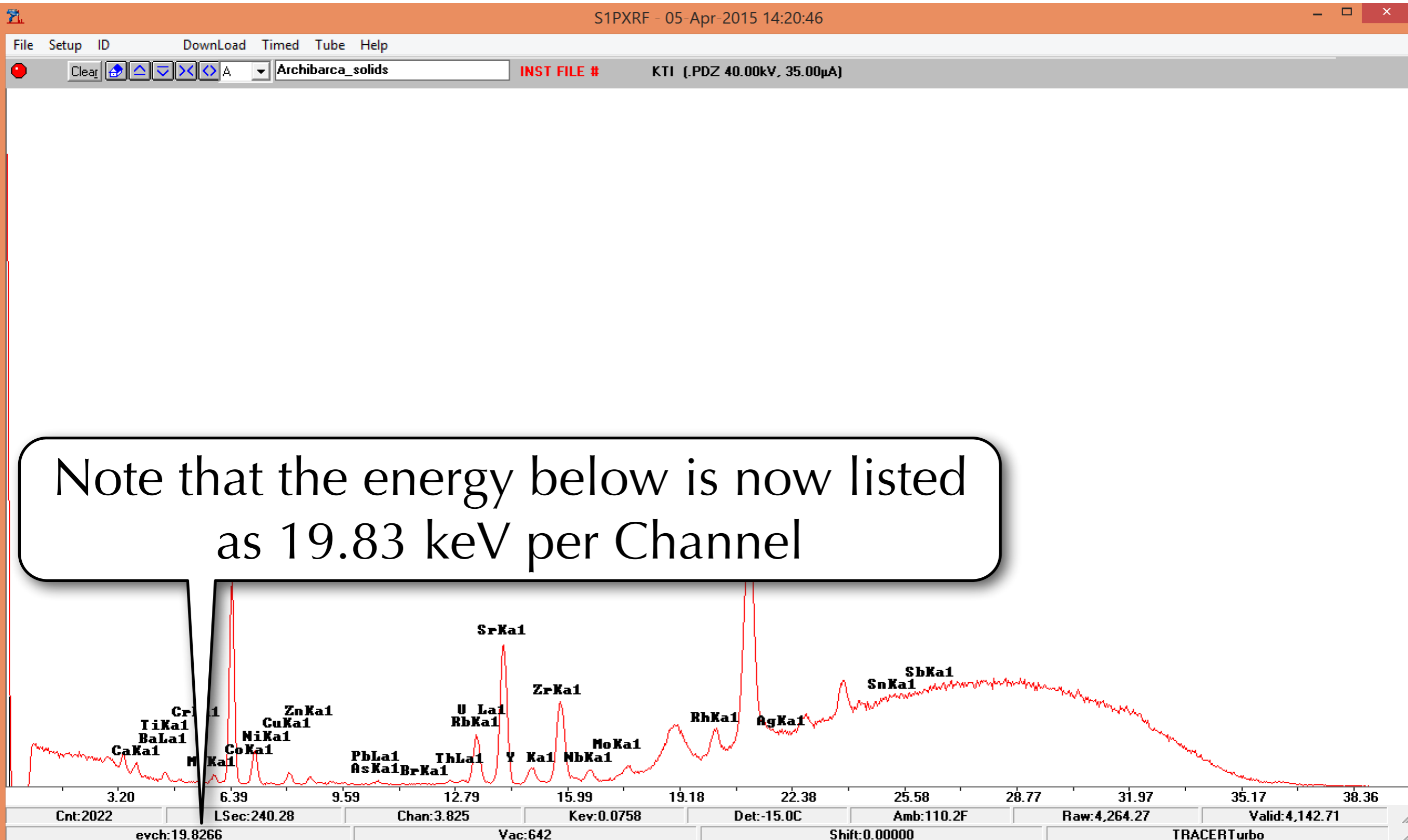
# Energy Calibration



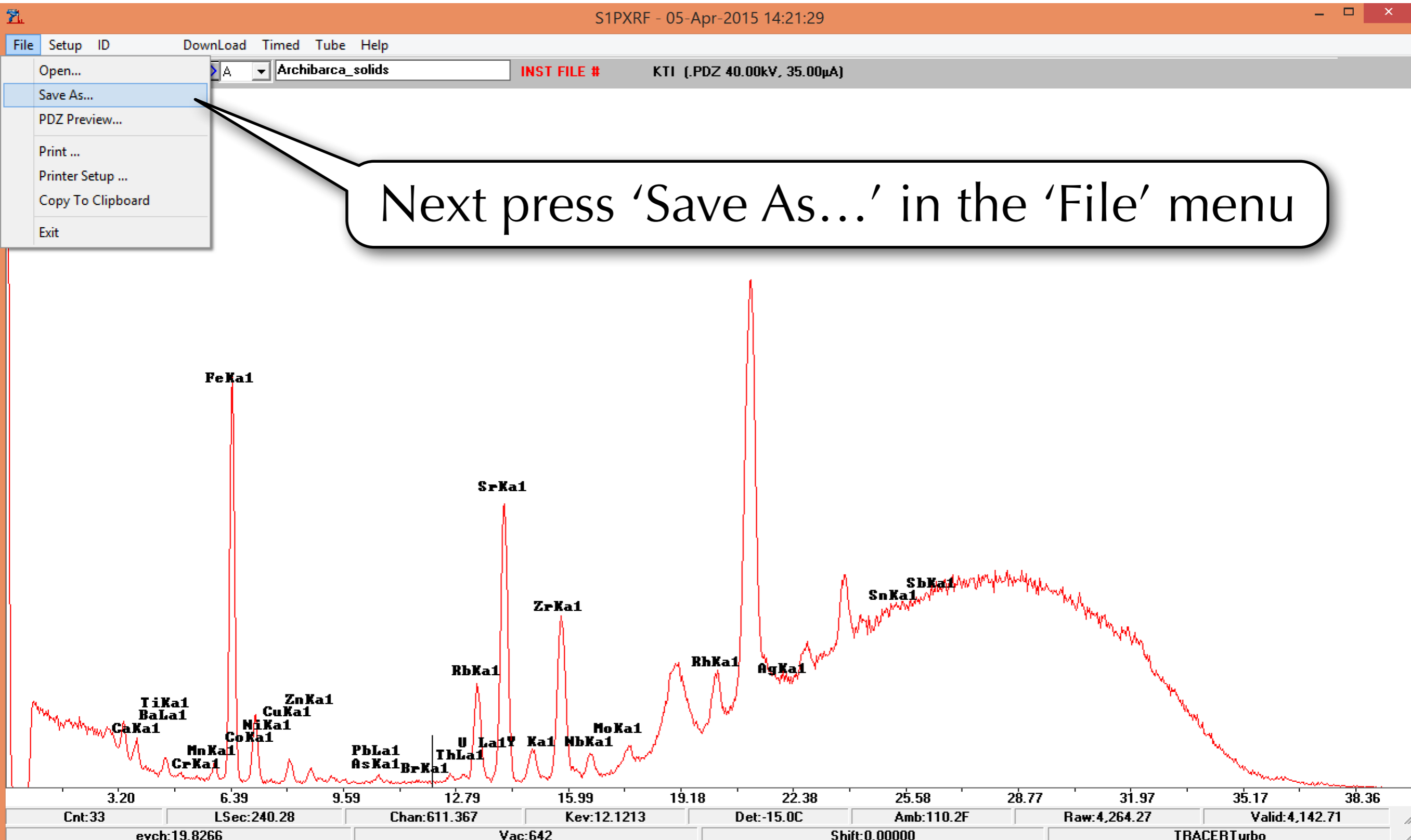
# Energy Calibration



# Energy Calibration



# Energy Calibration





# Energy Calibration

Save File

Obsidian

Organize New folder

Name	Date modified	Type	Size
Archibarca_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
BasaltPlateau_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
BigSouthern_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
BlueMountain_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
BurnsGreen_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
Cannonball_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
CasaDiablo_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
CerrodelMedio_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
Chickahominy_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
CougerMountain_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
DavisCreek_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
EastMedicineCreek_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
EIParaiso_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
EIPeceno_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
GlassButte_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
GrasshopperFlat_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
GregoryCreek_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
GuadalupeVictoria_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
InmanCreek_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
KES276_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
KES362_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
McDanielCreek_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
MeydanTeppe_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
MonoCrater_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB

File name: Archibarca\_solids.pdz

Save as type: PDZ data (\*.pdz)

Save Cancel

2:22 PM 4/5/2015

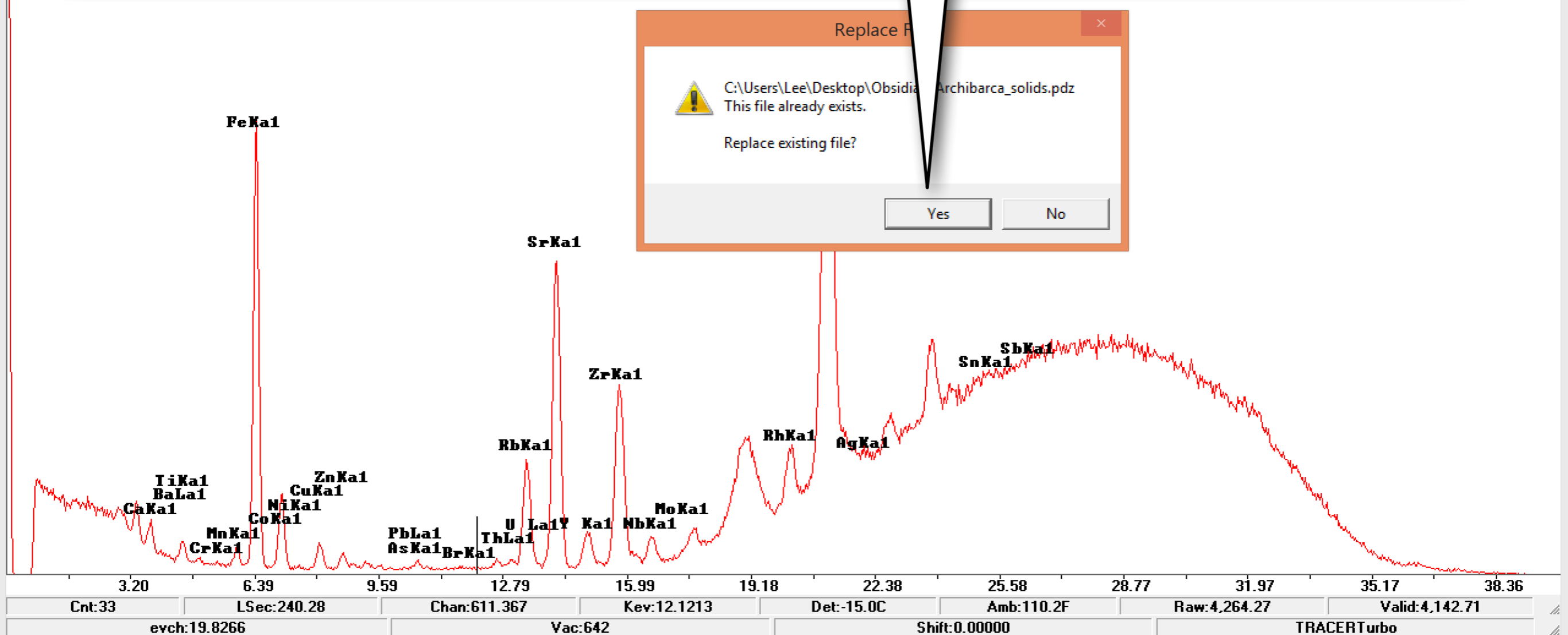
# Energy Calibration

S1PXRF - 05-Apr-2015 14:22:40

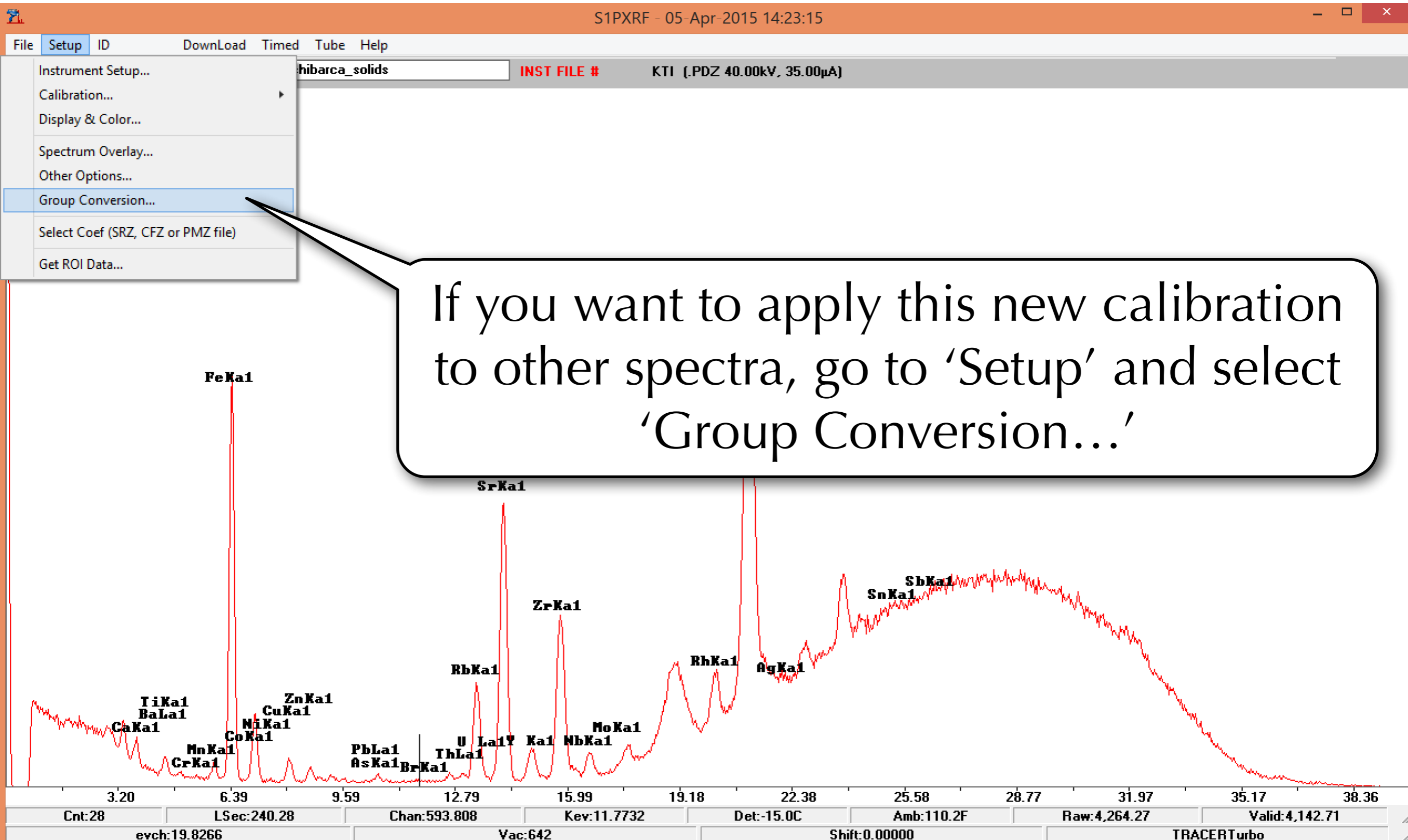
File Setup ID Download Timed Tube Help

Clear [Home] [Up] [Down] [Close] [Refresh] [A] Archibarca\_solids INST FILE # KTI (.PDZ 40.00kV, 35.00µA)

Go ahead and say 'Yes' - we are replacing the old misaligned spectrum with the new correctly aligned one

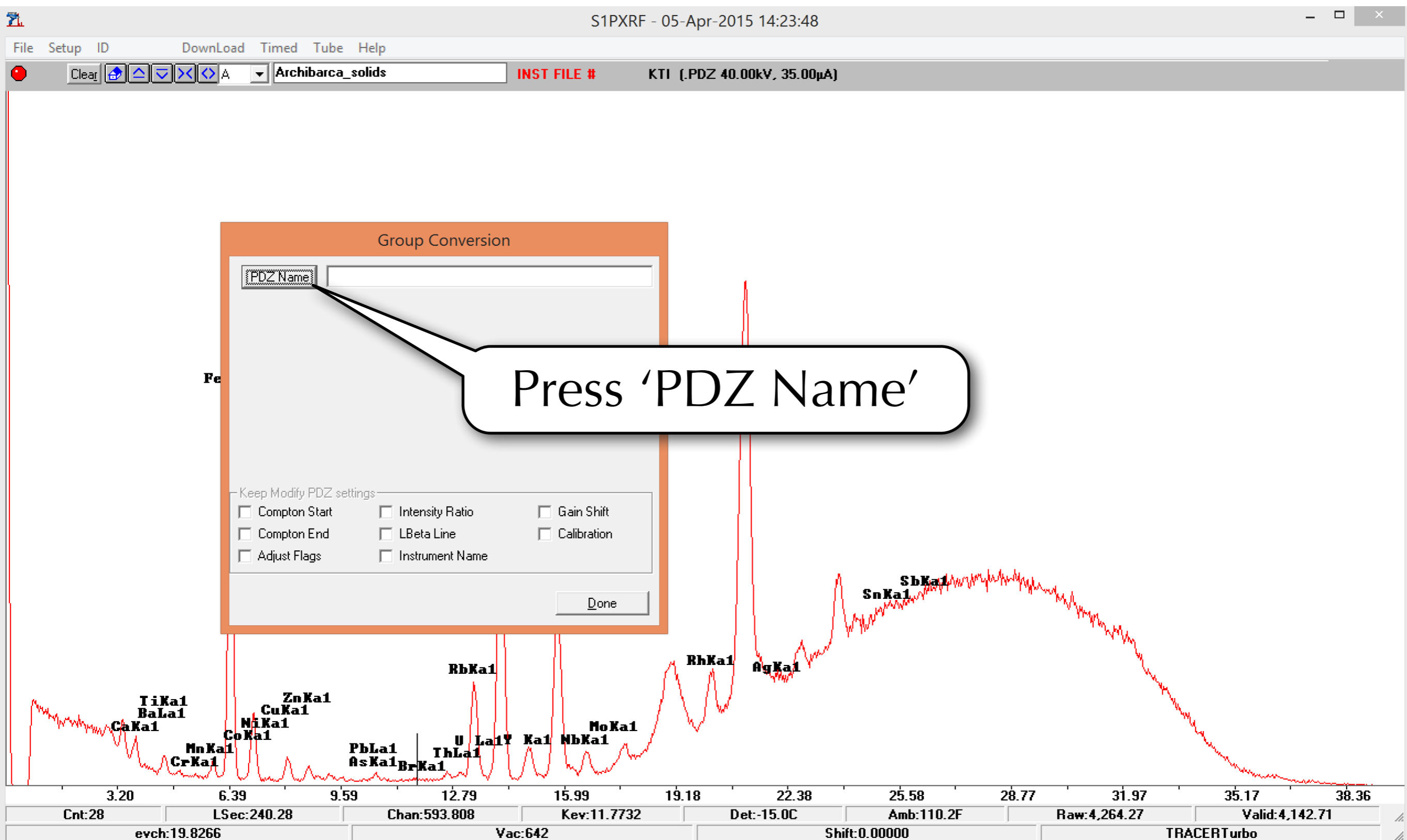


# Energy Calibration



If you want to apply this new calibration to other spectra, go to 'Setup' and select 'Group Conversion...'

# Energy Calibration



# Energy Calibration

Read File

Obsidian

Organize New folder

Name	Date modified	Type	Size
Archibarca_solids.pdz	4/5/2015 2:22 PM	PDZ File	9 KB
BasalticPlateau_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
BigSouthernButte_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
BlueMountain_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
BurnsGreen_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
Cannonball_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
CasaDiablo_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
CerrodelMedio_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
Chickahominy_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
CougerMountain_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
DavisCreek_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
EastMedicineCreek_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
EIParaiso_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
EIPeceno_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
GlassButte_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
GrasshopperFlat_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
GregoryCreek_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
GuadalupeVictoria_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
InmanCreek_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
KES276_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
KES362_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
McDanielCreek_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
MeydanTeppe_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
MonoCrater_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
MuleCreek_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB
ObsidianCreek_solids.pdz	4/5/2015 1:27 PM	PDZ File	9 KB

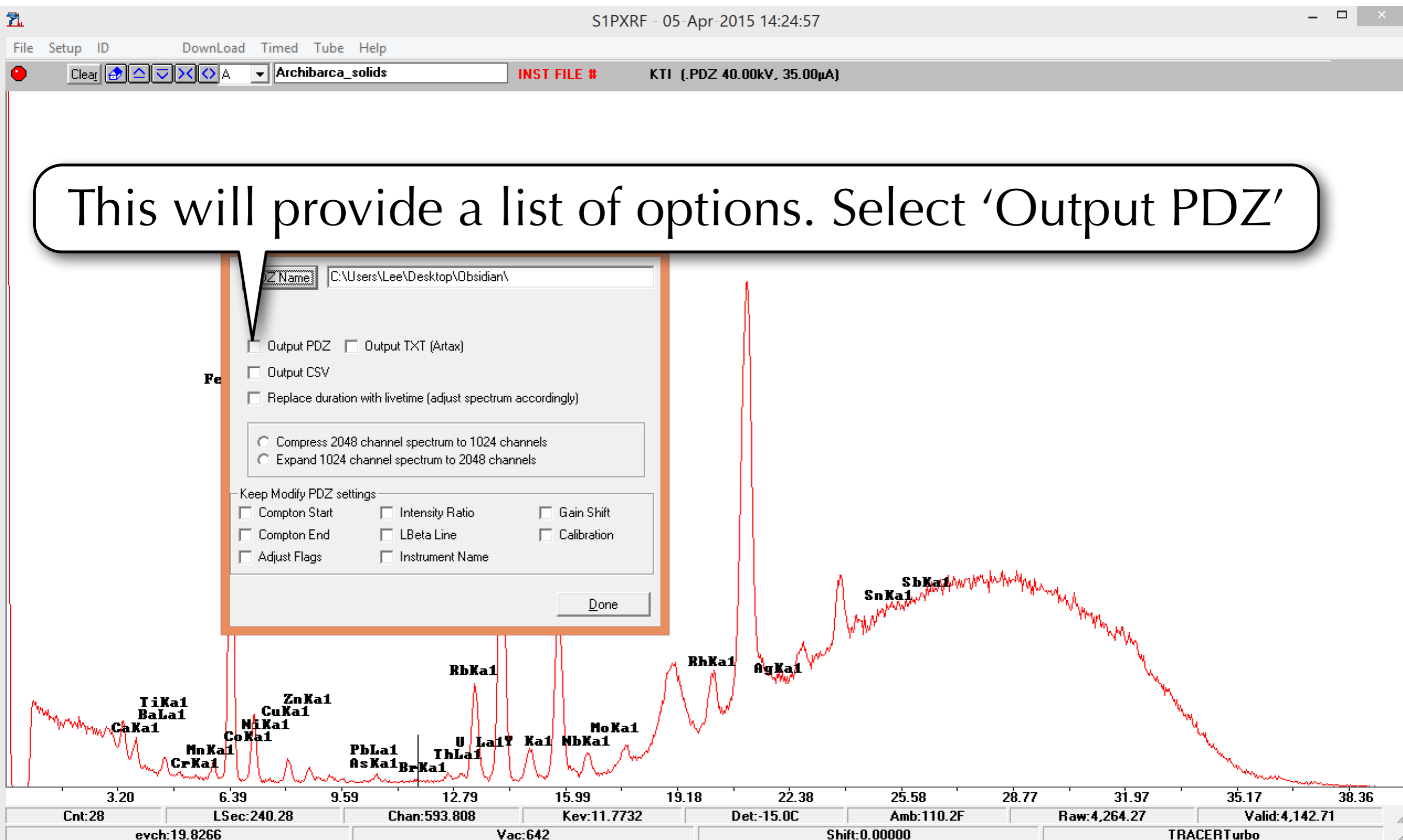
File name: Archibarca\_solids.pdz

PDZ data (\*.pdz)

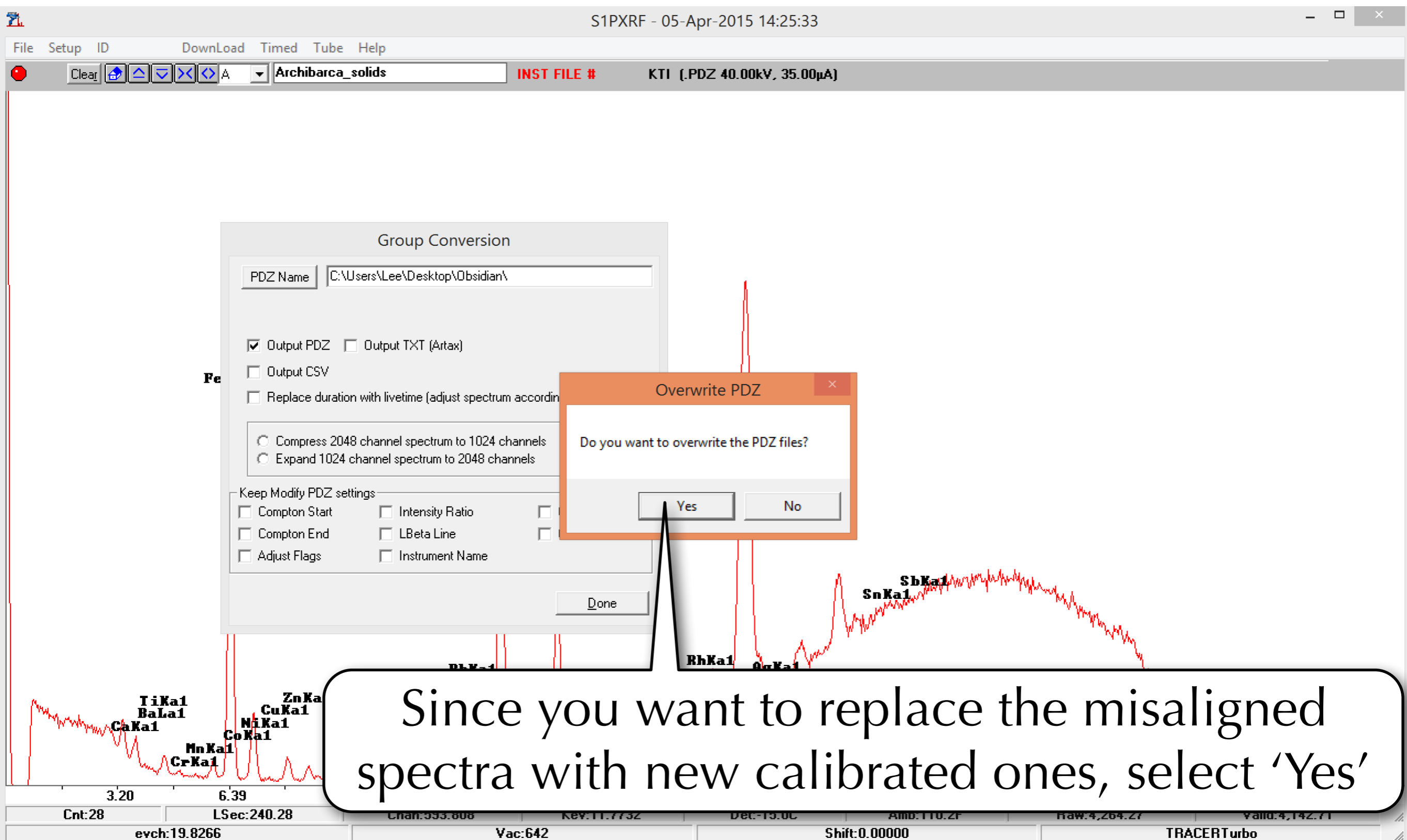
Open Cancel

2:24 PM 4/5/2015

# Energy Calibration

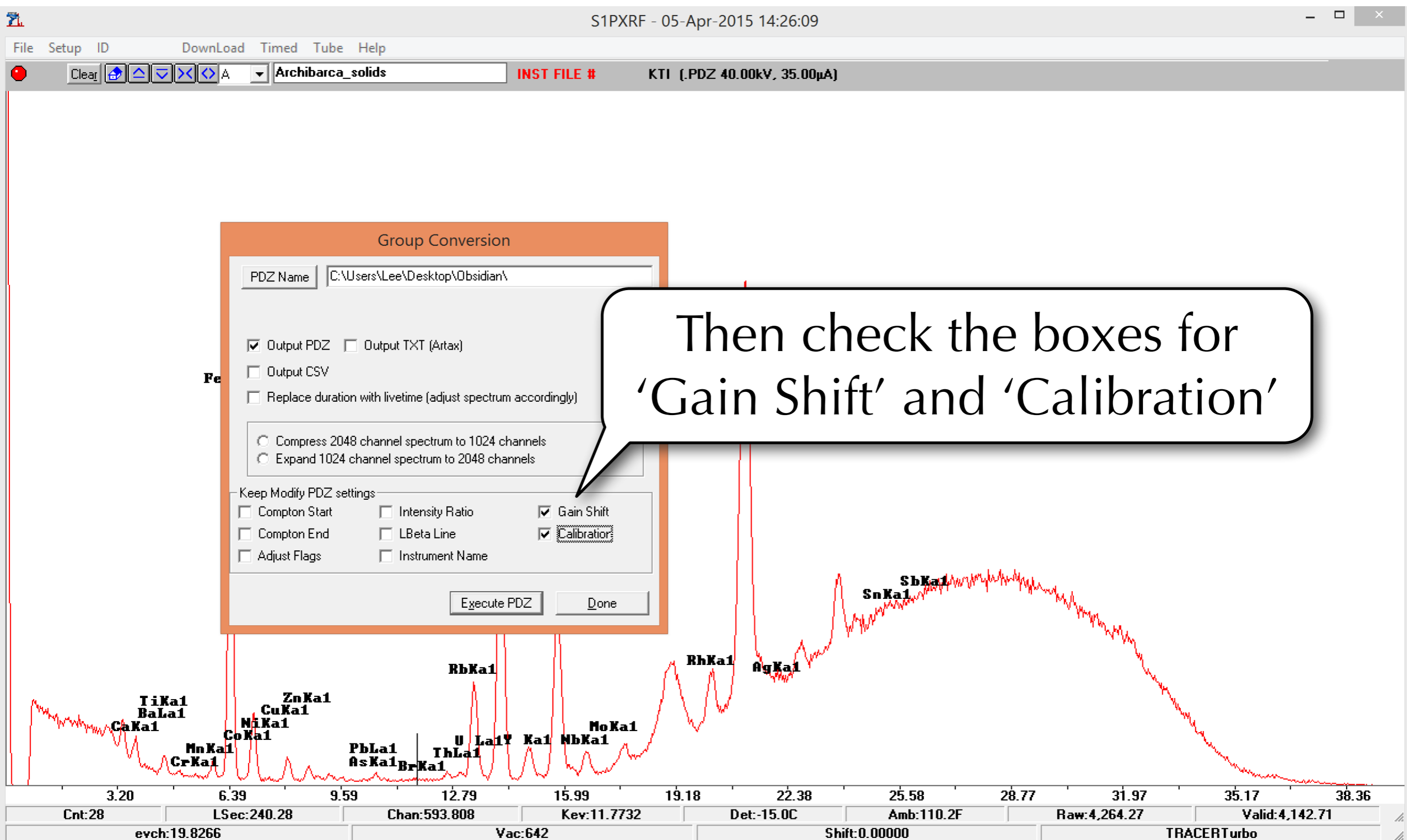


# Energy Calibration



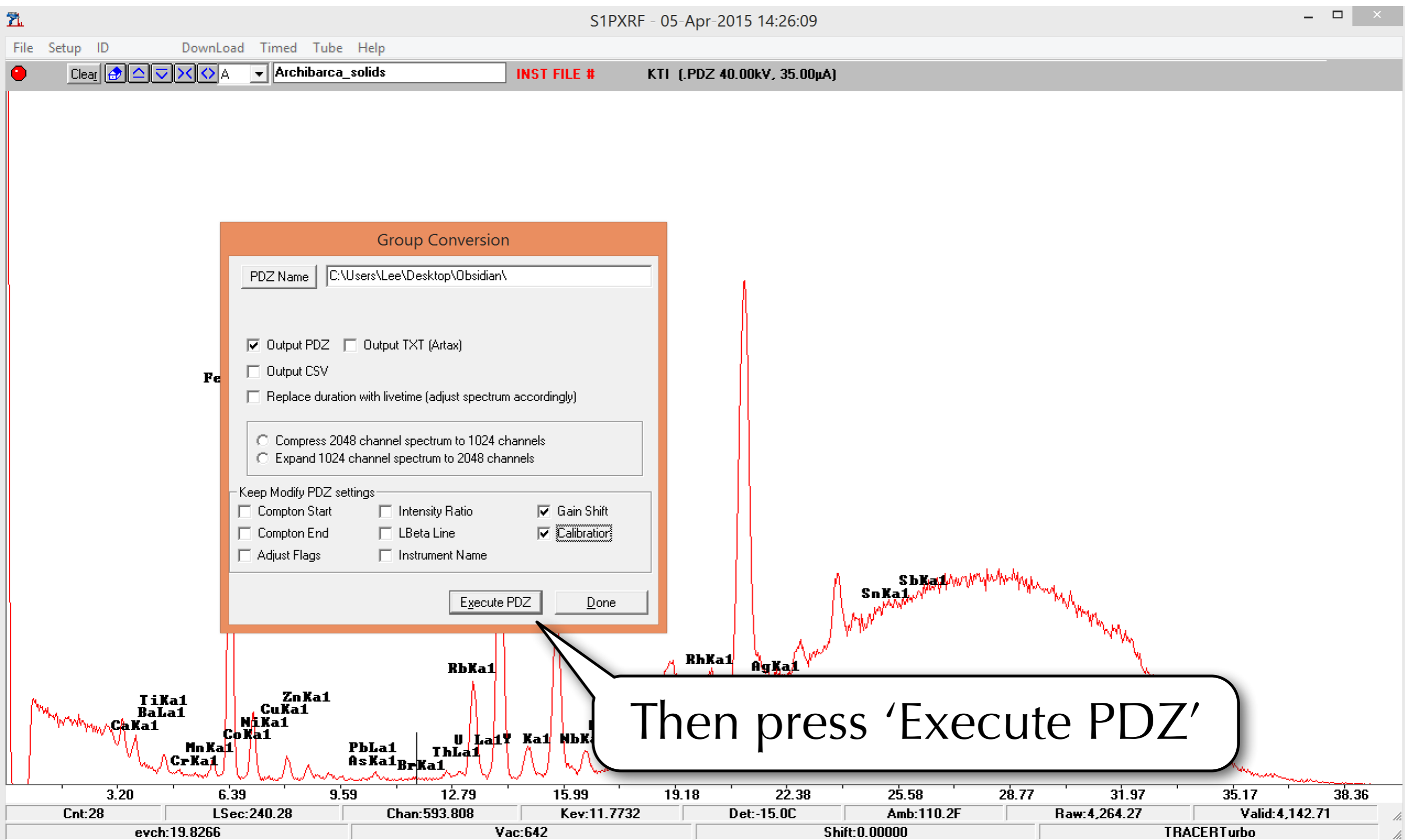
Since you want to replace the misaligned spectra with new calibrated ones, select 'Yes'

# Energy Calibration

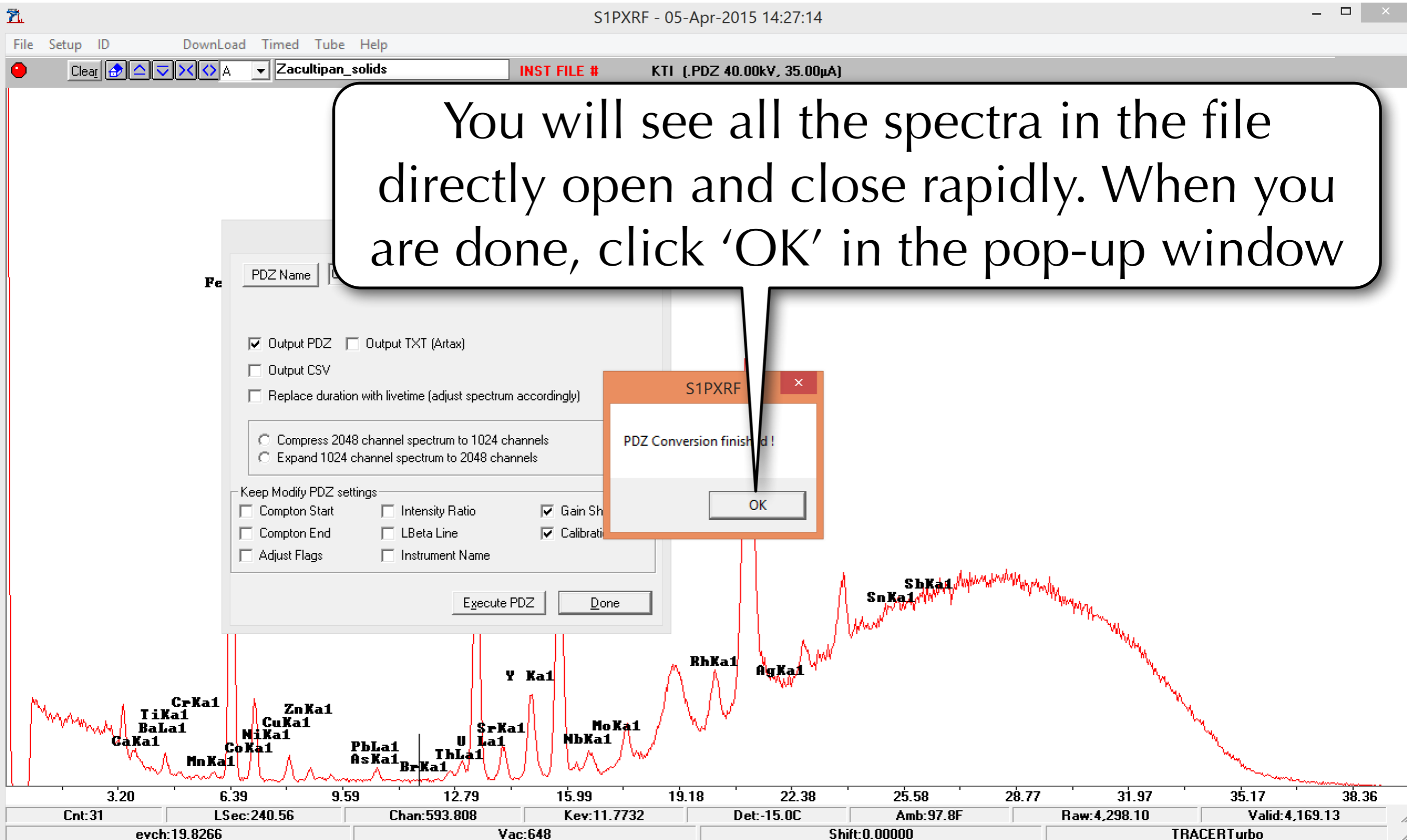




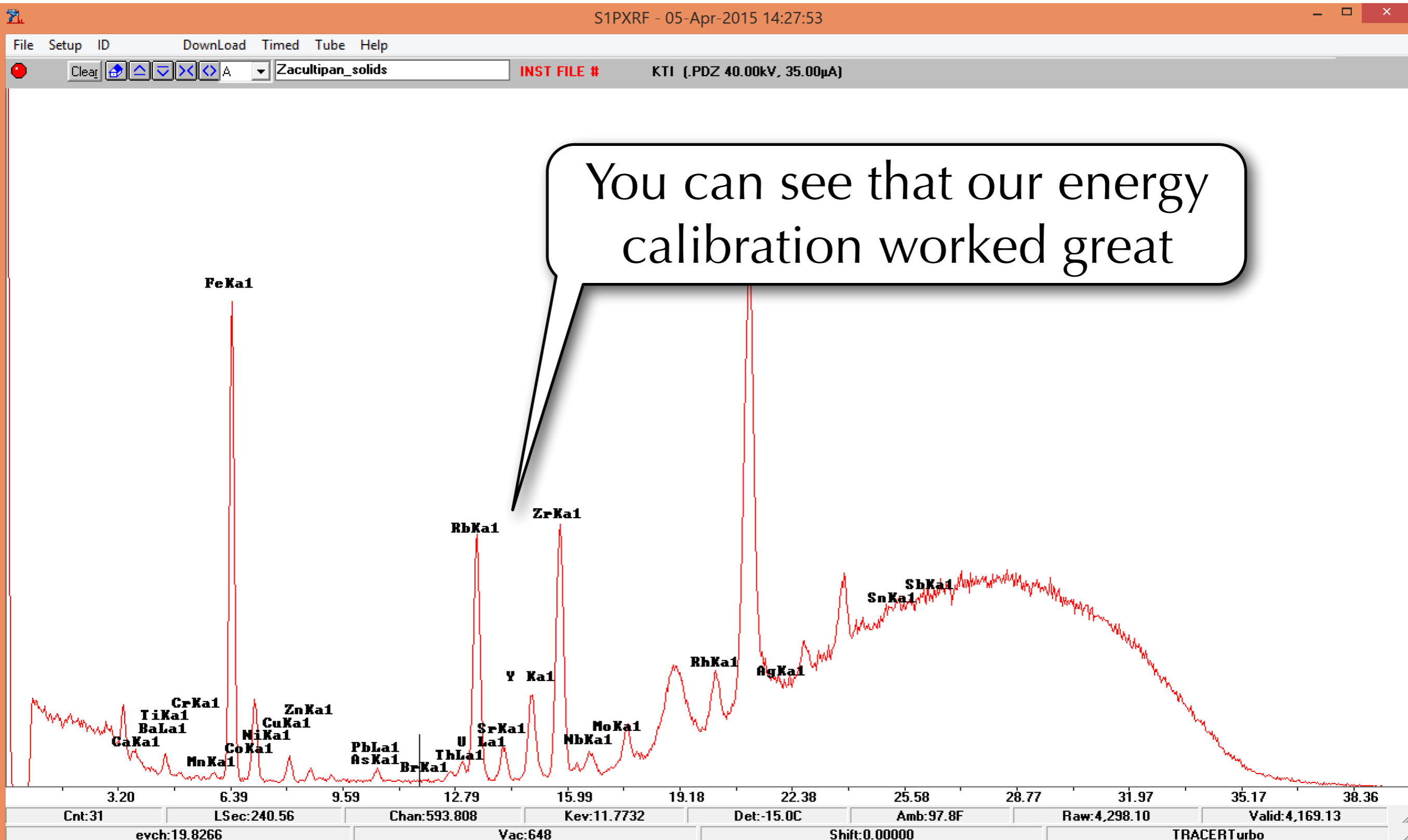
# Energy Calibration



# Energy Calibration



# Energy Calibration



# Energy Calibration

The screenshot shows a Windows 8.1 desktop with a green background. A file explorer window titled 'S1PXR' is open, displaying the contents of the folder 'C:\Program Files (x86)\S1PXR'. The window shows a list of files with columns for Name, Date modified, Type, and Size. A callout box with a black border and white background is overlaid on the window, containing the text: '...but we are not done yet! Don't forget we still have a system file on our Desktop'. A line from the callout box points to a desktop icon labeled 'KTIS1LE.INI'.

...but we are not done yet! Don't forget we still have a system file on our Desktop

Name	Date modified	Type	Size
DPPTempCor.dll	9/24/2003 3:32 AM	Application extension	213 KB
KTIEnergyTableRevision.csv	11/19/2008 9:04 PM	Microsoft Excel Co...	24 KB
KTIExp4.ini	10/2/2007 8:00 PM	Configuration settin...	3 KB
KTIParam.ini	10/2/2007 7:59 PM	Configuration settin...	2 KB
ST6UNST.LOG	12/15/2014 2:23 AM	Text Document	5 KB
ViewComPorts.exe	5/5/2009 10:39 PM	Application	5 KB
X-MET3kTParser.dll	5/2/2007 7:41 PM	Application extension	32 KB

Windows 8.1 Pro  
Build 9600  
2:32 PM  
4/5/2015

# Energy Calibration

The screenshot shows a Windows 8.1 desktop environment. A File Explorer window is open, displaying the contents of the 'S1PXRf' folder located at 'C:\Program Files (x86)\S1PXRf'. The folder contains several files, including application extensions, CSV files, and configuration files. A red dialog box titled 'Destination Folder Access Denied' is overlaid on the file list, with the message: 'You'll need to provide administrator permission to move to this folder'. The dialog shows the folder name 'S1PXRf' and its creation date '10/6/2014 4:34 PM'. There are three buttons: 'Continue', 'Skip', and 'Cancel'. A callout box with a black border and white background points to the 'Continue' button. The callout box contains the following text:

Drag it back to the 'S1PXRf' folder in 'Program x(86)'. You may need to grant administrator permissions

# Energy Calibration

The screenshot shows a Windows 8.1 desktop with a file explorer window open to the folder `C:\Program Files (x86)\S1PXRf`. The file list contains the following items:

Name	Date modified	Type	Size
DPPTempCor.dll	9/24/2003 3:32 AM	Application extension	213 KB
KTIEnergyTableRevision.csv	11/19/2008 9:04 PM	Microsoft Excel Co...	24 KB
KTIExp4.ini	10/2/2007 8:00 PM	Configuration settin...	3 KB
KTIParam.ini	10/2/2007 7:59 PM	Configuration settin...	2 KB
<b>KTIS1LE.INI</b>		Configuration settin...	1 KB
KTIS1Parser.dll	3/6/2009 2:26 AM	Application extension	52 KB
S1PXRf.exe	8/24/2010 12:01 AM	Application	737 KB
S1PXRf.Mca	4/5/2015 2:19 PM	MCA File	2 KB
Samples.ini	10/2/2003 1:19 AM	Configuration settin...	2 KB
SpecAdj.dll	4/3/2009 12:39 AM	Application extension	56 KB
SpecOps5.dll	5/27/2010 7:06 PM	Application extension	108 KB

A callout box points to the file `KTIS1LE.INI` with the following text:

Once it is returned to the folder, you are done - calibration will be automatic as it was before

The desktop background is a green and white abstract pattern. The taskbar at the bottom shows the Start button, Internet Explorer, Chrome, and several application icons including the Spectra EDX Launcher and AC. The system tray in the bottom right corner shows the date and time as 2:34 PM on 4/5/2015.