

EDS setup

1. Focus the SEM to a working distance between **12-12.5 mm**.
2. Set up scope for “**Analysis**” operating mode in the “**Column**” setup menu.
3. Start with **Condenser Lens 1 at 5**, in the “**Column**” set up menu.
4. Find area of interest in **Low Mag mode**. Use arrows, mouse or the track ball to move the stage. Then go to **High Mag mode** in the SEM (**EDS cannot be done in Low Mag mode**.)
5. Turn on the “**Analysis**” menu, to select mode of analysis, **spot, bulk, line**.
6. Check the percent dead time on the **EDAX** window; it should be between 20% and 40%, preferably 32%. If counts are >1000cps and dead time is high, lower the **amp time** in the **EDAX “edam menu”**. If counts are low and dead time is low, change **Condenser Lens 1** to a smaller number on the SEM. (You must **refocus** if you change the **Condenser Lens 1** setting).
7. Clear the current spectra with the **Paint Roller Icon** in the upper left, delete elements labels in the element list and check the preset time.
8. Acquire an EDS spectrum using the **Stop Watch Icon** in the upper left.
9. Once the spectrum has been acquired. Do a line fit with the **HPD** icon in the **Peak Identify Menu**. If the light blue line follows across the top of the spectrum and all the peaks are identified then go to the **Quantify Menu**. If all peaks are not identified then put the cursor on the unidentified peak and a list of the possible elements will appear in the **Pos Elm window**. Choose an element from that list or add an element in the **Element box**. If the dark blue line does not follow the background of the spectrum go to the **Background Menu** and go to the **Manual Mode**, and add or delete points. If in the **Manual Mode** go to **Auto Mode**. Then go to the **Quantify Menu**.
10. Quantify the spectrum. If doing a series of samples you may want to use the **Multiple Function** and store several sets of data before printing.
11. Save the raw data or the spectrum, if you want to save the spectrum as an image, click “save as” and change the file extension to a bmp. To save the quantification data you click “**Save**” in the **Quantify Menu** and it will be saved as a .CSV file and can be opened in Excel.

12. Do not back EDS detector out past 7, it is marked.