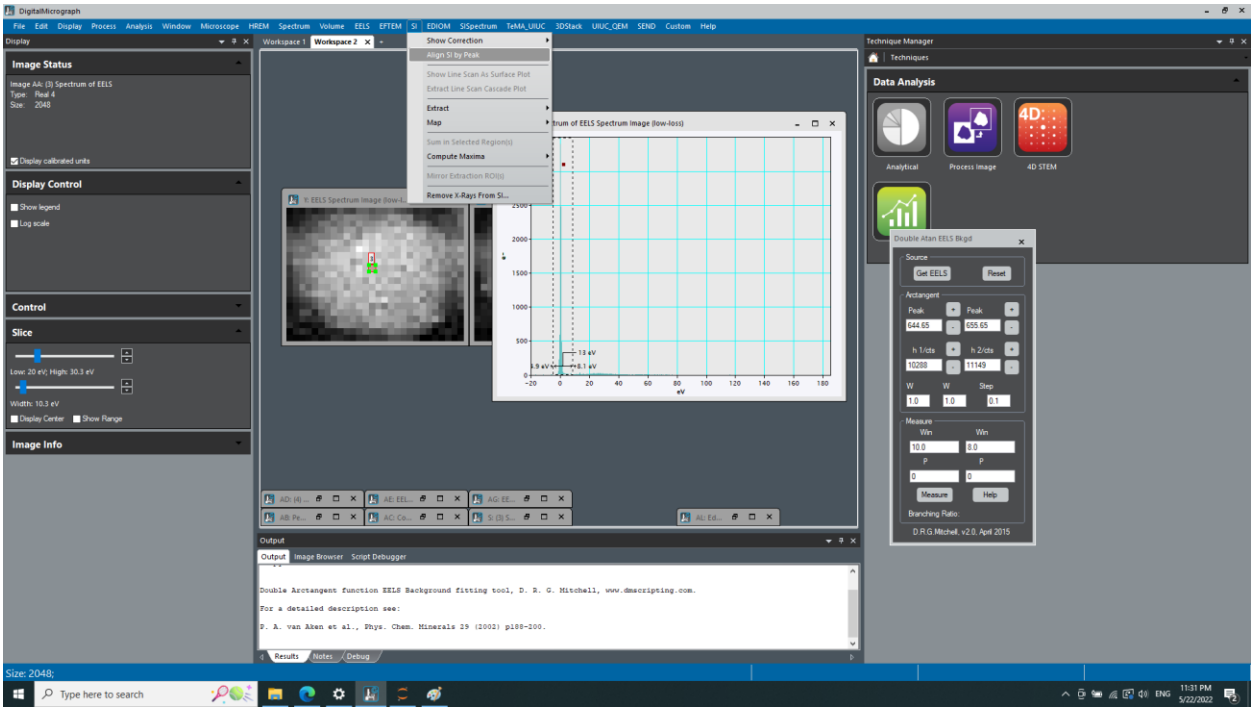
Analysis of Mn L2,3 peak positions

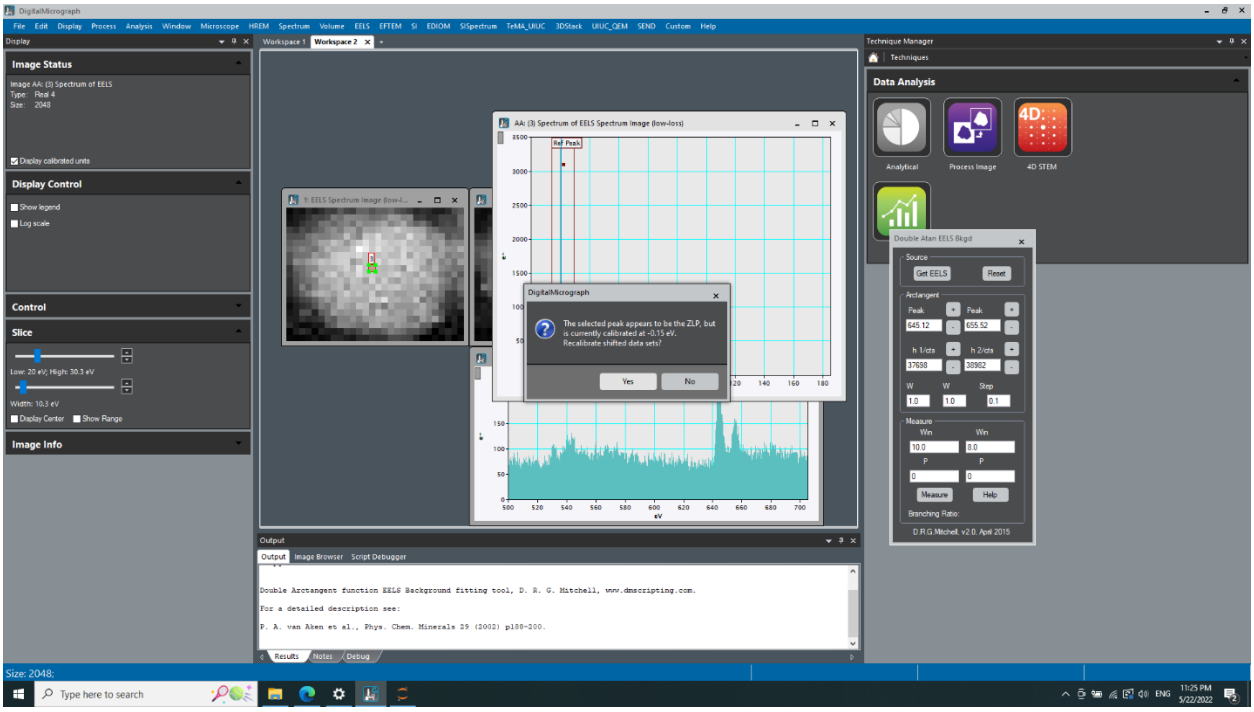
2022-06-05 (Method from Xun Zhan, Prof. Zuo's group, UIUC)

Use DigitalMicrograph to determine the Mn L3,2 peak positions in EELS mapping

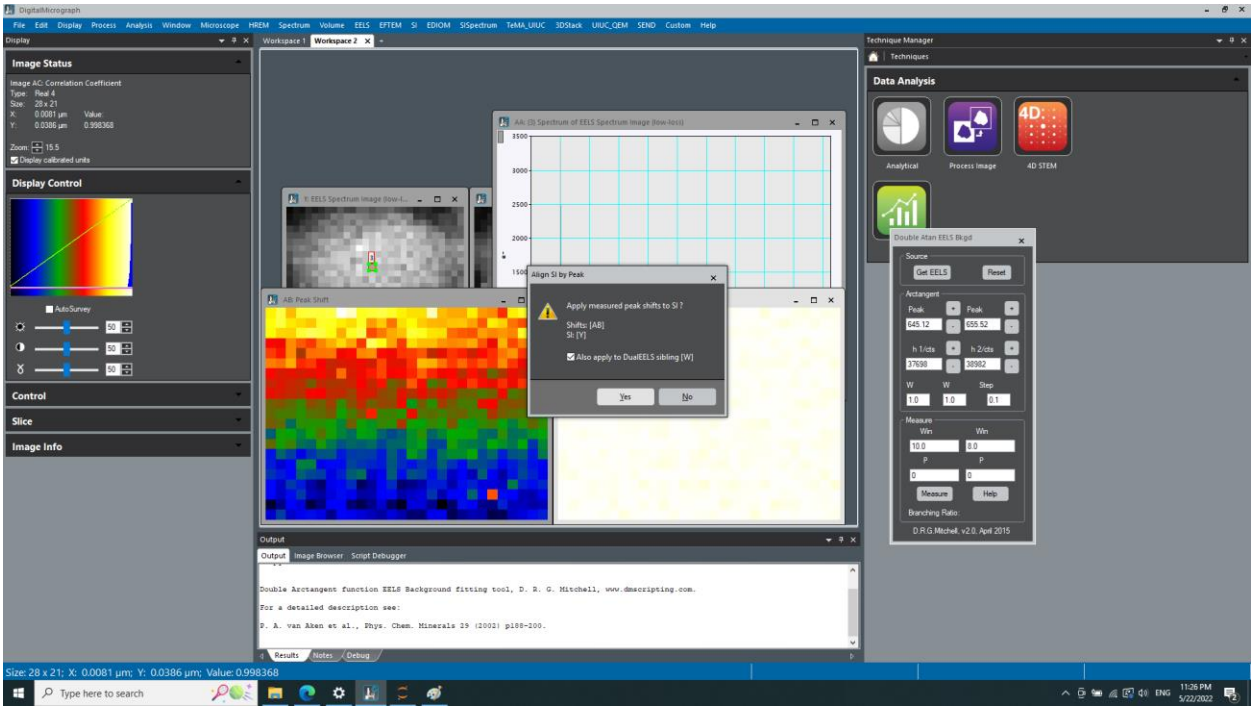
1. Load low loss and high loss data. Select a region covering the low-loss peak. Choose "SI", "Align SI by peak"



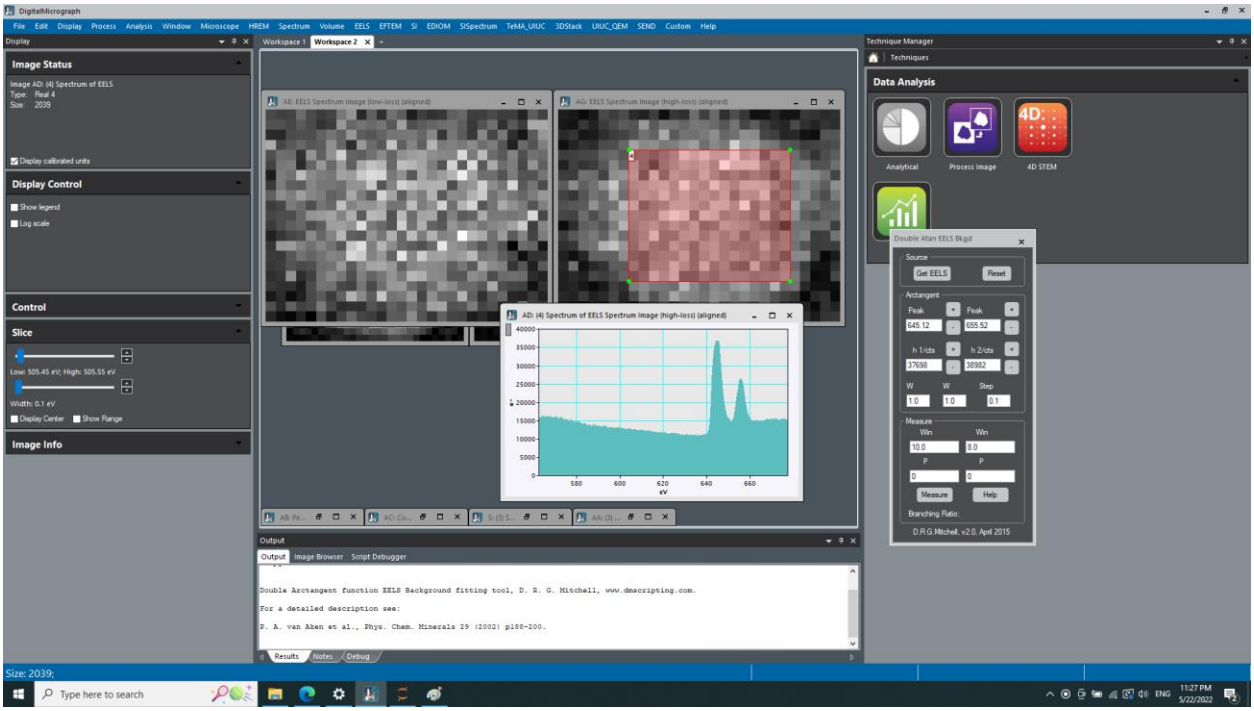
2. Select "Yes"



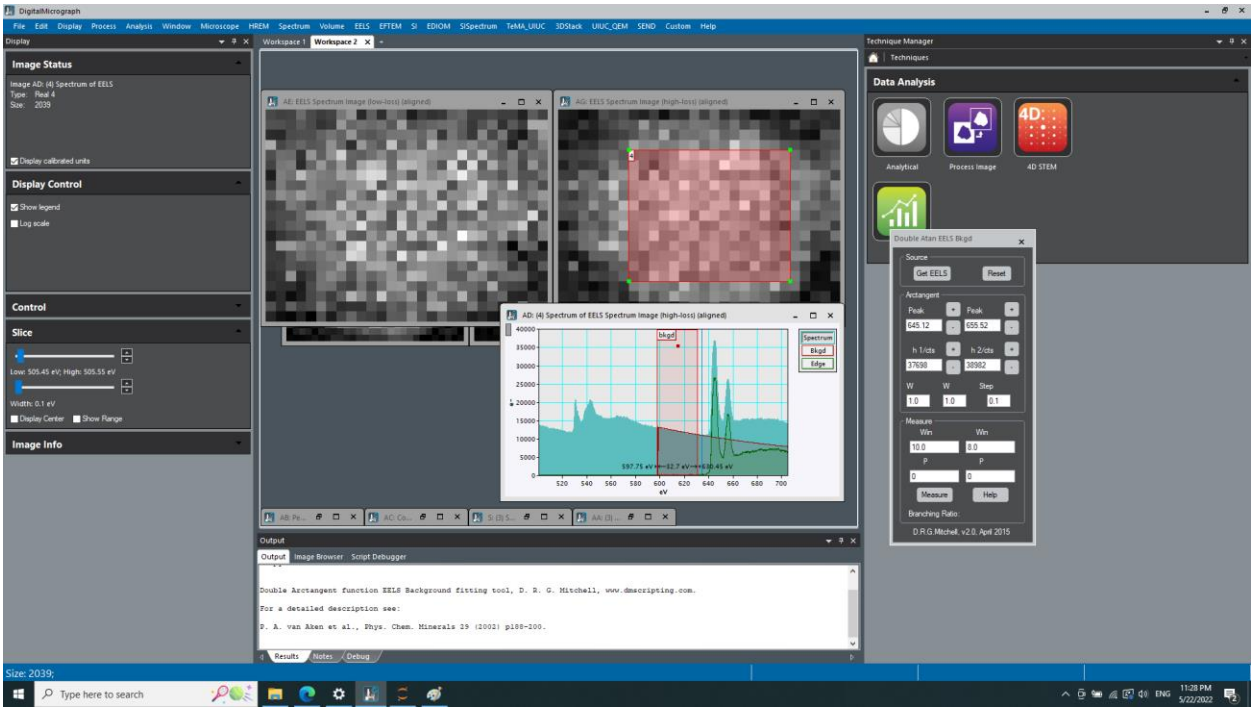
3. Select “Yes”

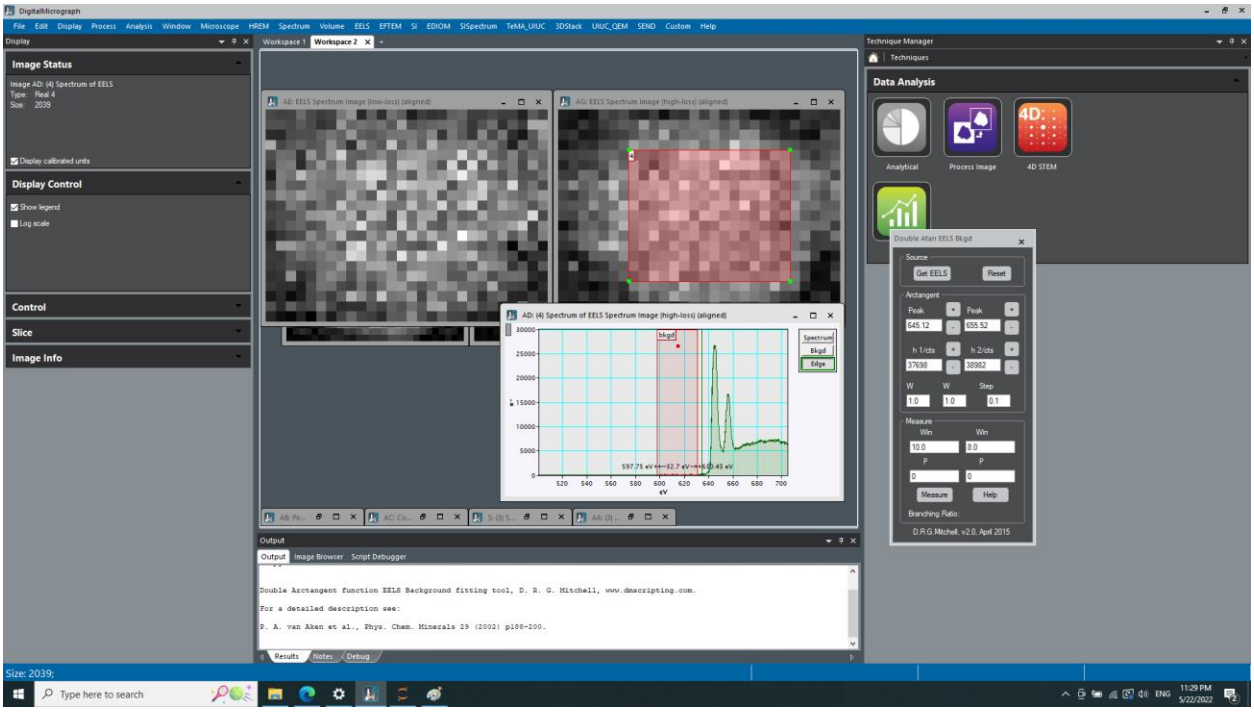


4. In the high-loss spectrum image, select a region covering the majority of the particle, so that we get a summed EELS spectrum from the particle.



5. In the summed EELS spectrum, select the region from 600 to 630 eV, select “Spectrum/Assign ROI as/Background”, double click “Edge”. The background will be deleted.





6. Open Double Atan EELS Bkgd (download from Dave Mitchell's DMS website (Scripts Listed by Name (dmscripting.com)), installed in DigitalMicrograph), click "Get EELS". Type in the Win value (window value for fitting) as "10" and "8" for Mn L3 and L2 peaks, respectively. Make sure these values are consistent between experiments. The peak position for L3,2 will be calculated, as shown in the screenshot below.