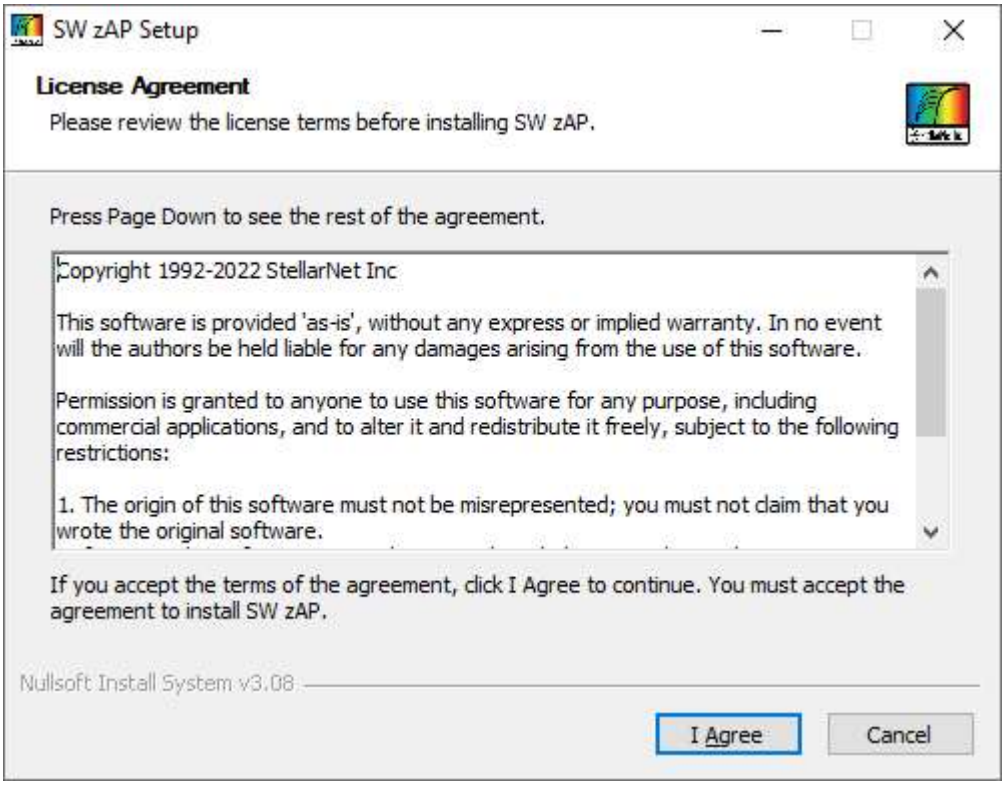
SpectraWiz Software

Table of Contents

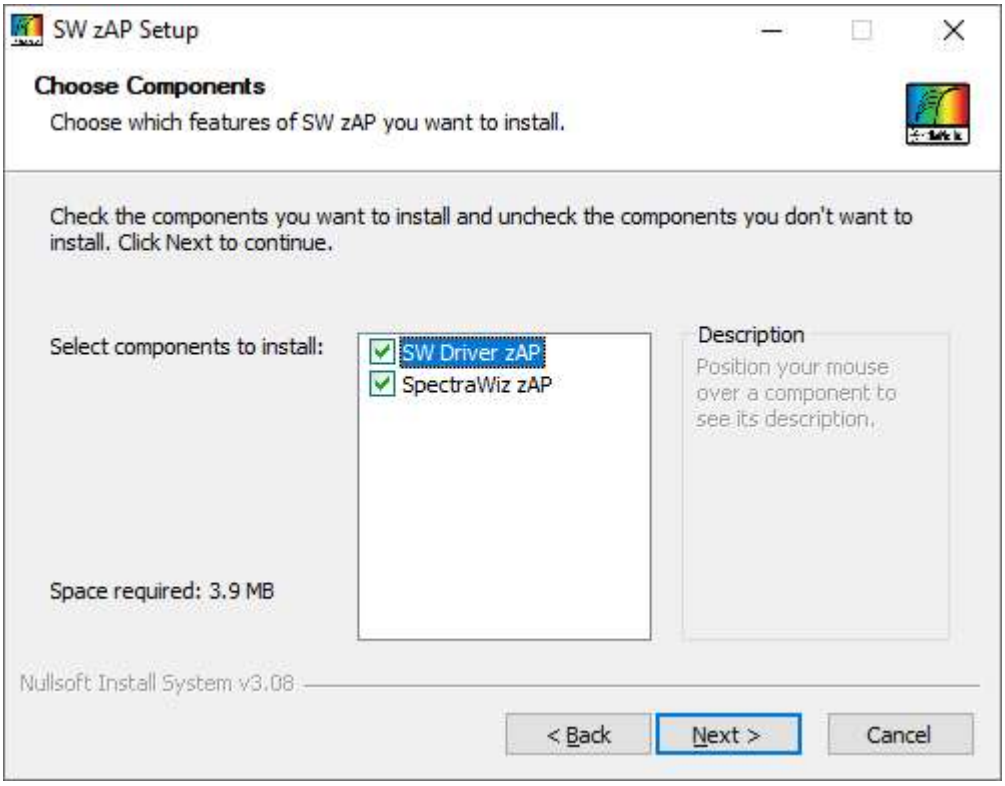
SpectraWiz Software Installation

Insert the provided USB drive and select "**SpectraWiz + Driver Install → SW_Setup.exe**".

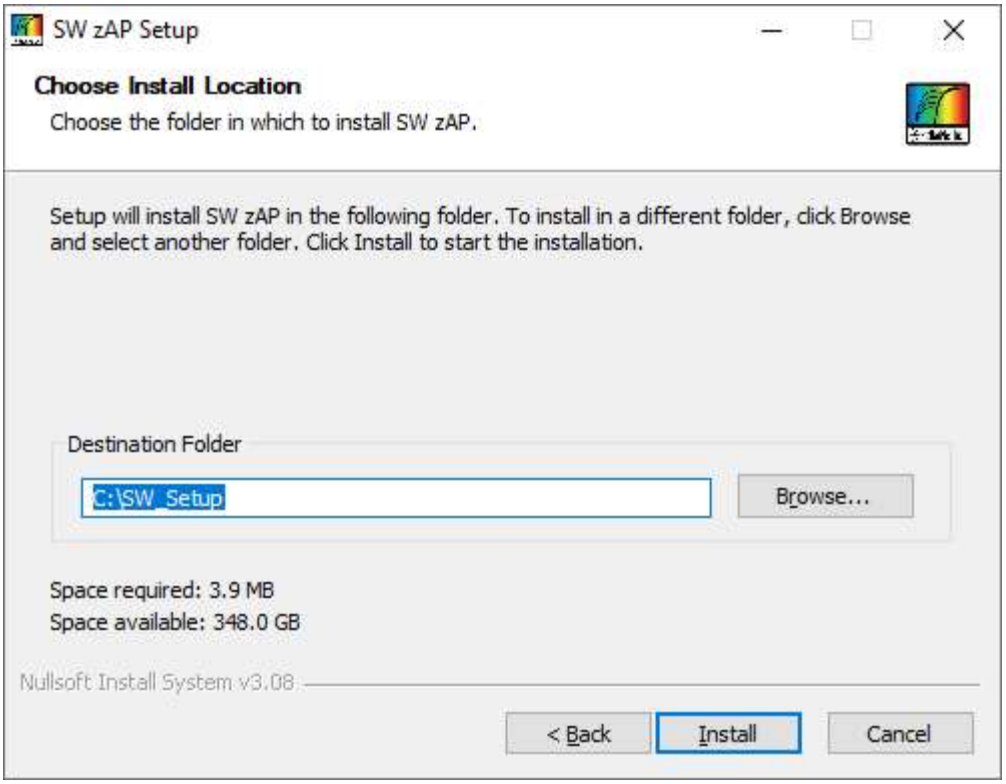
License Agreement:



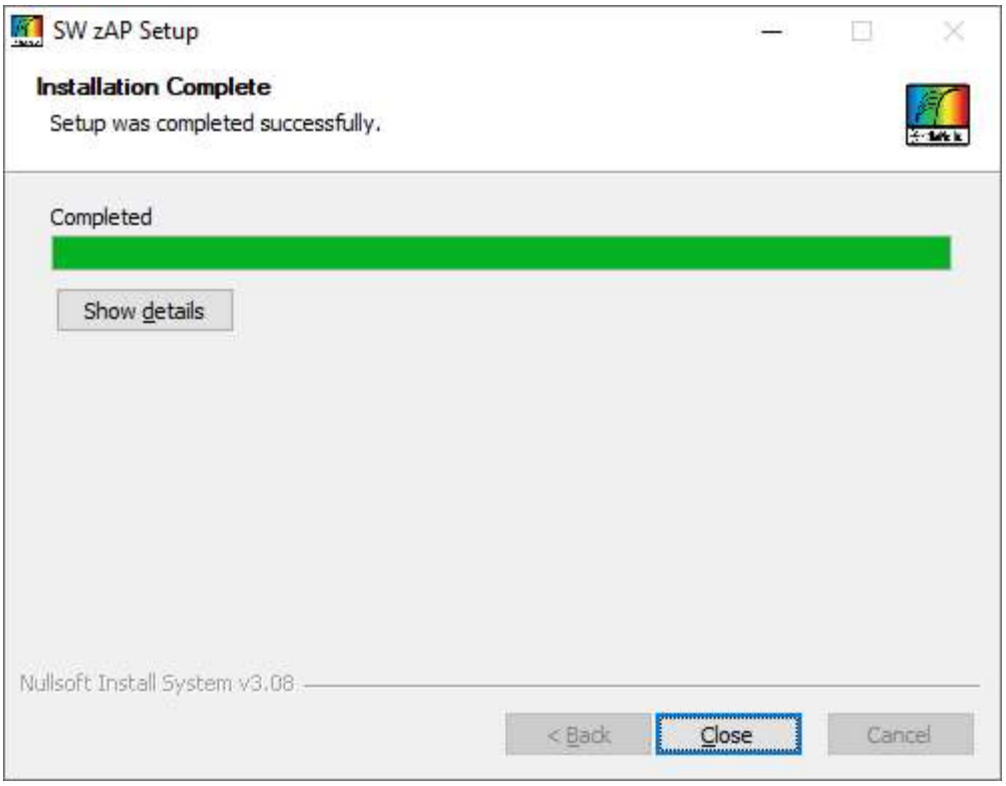
Choose Components:



Choose Install Location:



Installation Complete:



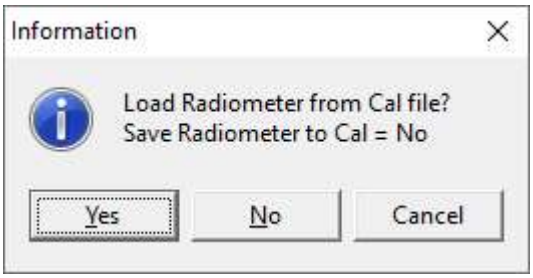
Loading Calibration Files

Following the SpectraWiz installation, a desktop icon will appear as shown below. Right click on the icon and select “Run as administrator”.

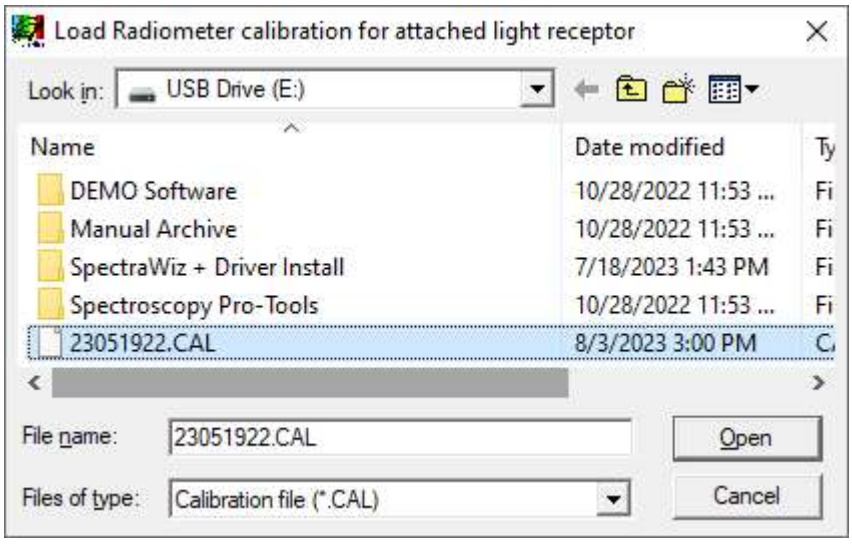
The same executable for SpectraWiz is also found on the hard drive at **C:\Program Files\StellarNet\SpectraWiz**. To open SpectraWiz at this location right click on the file named **SwdzAP.exe** and select “Run as administrator”.

Opening SpectraWiz for the first time will show the following pop-up window. Select “OK”.

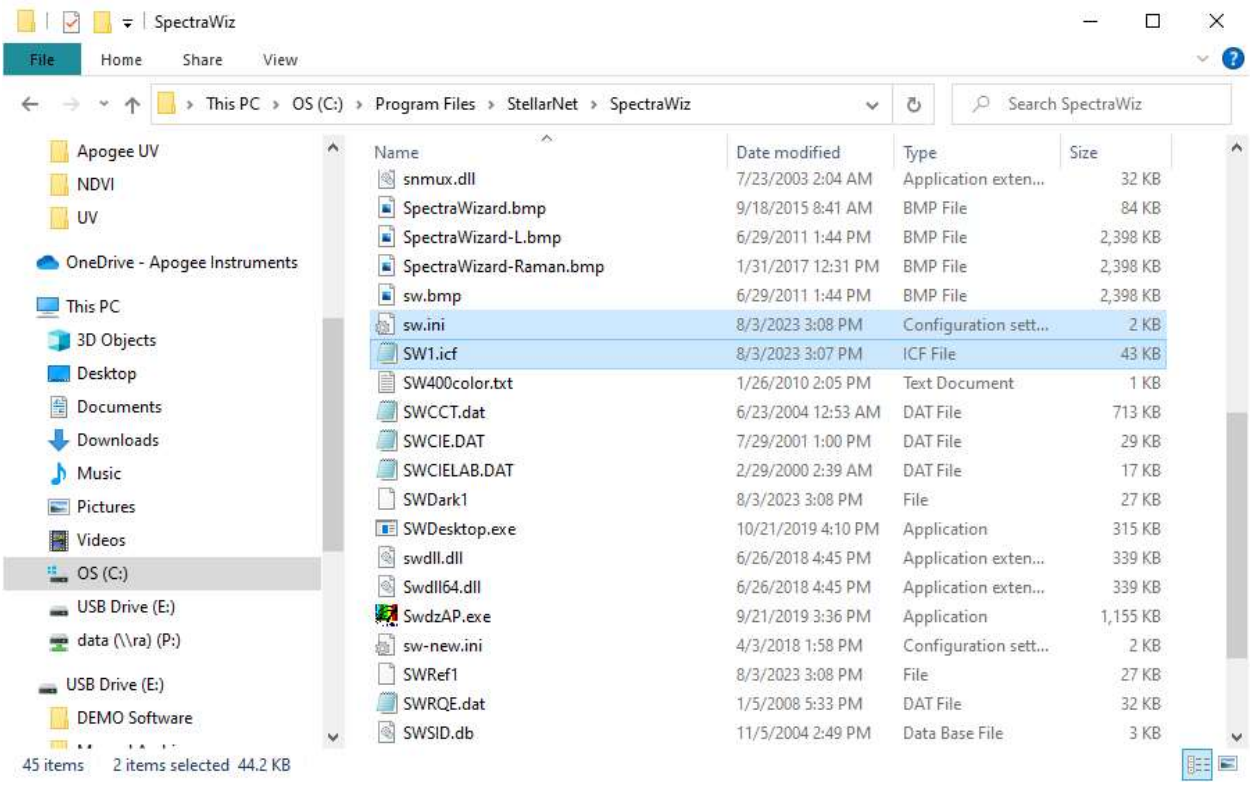
To load a calibration file (.CAL), select “**Applications → Radiometer Calibrations**”. The following pop-up window will appear. Select “Yes”.



Select the .CAL file located on the provided USB drive (note: the name of the .CAL file should match the serial number located on the spectrometer). Select “Open”.



To confirm that calibration files have been loaded successfully there will be an sw.ini and an SW1.icf file located in the StellarNet folder found on the hard drive at **C:\Program Files\StellarNet\SpectraWiz.**

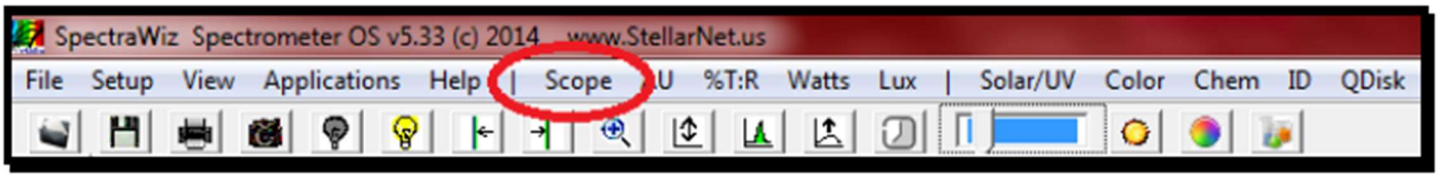


SpectraWiz Tutorial

1. Following the SpectraWiz installation, a desktop icon will appear as shown below. Right click on the icon and select “Run as administrator”.

2. The same executable for SpectraWiz is also found on the hard drive at **C:\Program Files\StellarNet\SpectraWiz**. To open SpectraWiz at this location right click on the file named SwdzAP.exe and select “Run as administrator”.

3. Click on the SCOPE Mode icon.



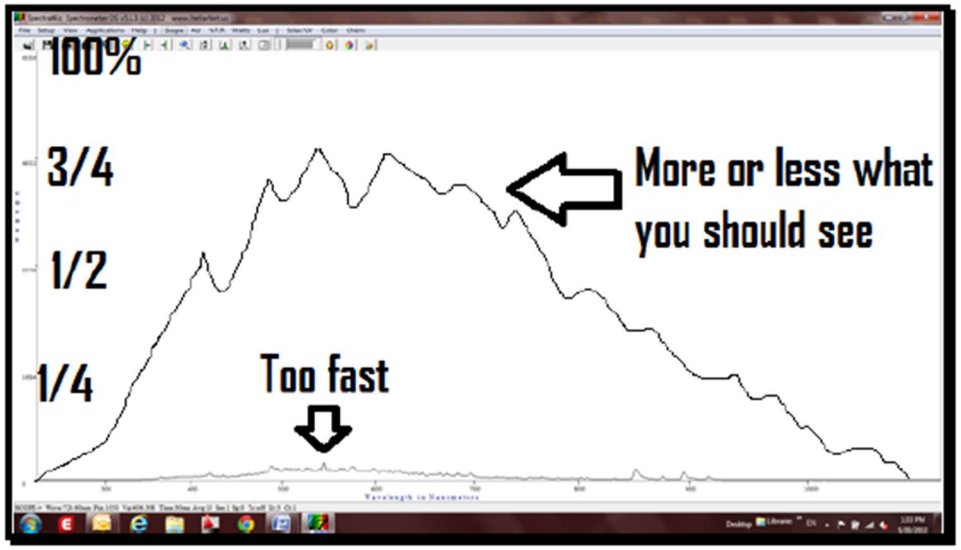
4. Release the dark reference by right clicking on the dark lightbulb icon. 

5. Make sure that **Average Dark Spectrum** is unchecked.

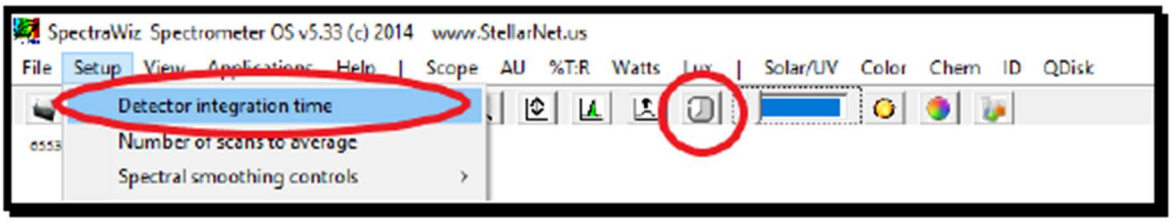
    5a. **Setup > Spectral smoothing controls > Average dark baseline**

6. Optimize your curve

    6a. The first goal is to increase integration time so that the amplitude of the curve reaches ¾ to 90% of the maximum (65536 counts).

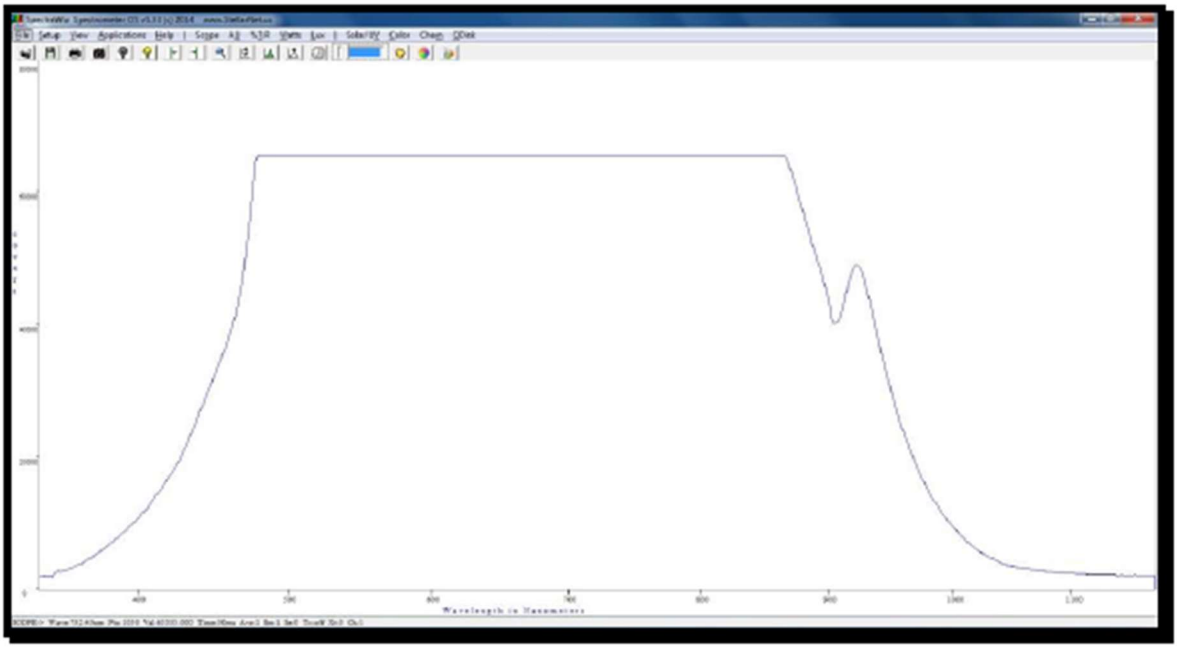


i. To adjust integration time, you can use the clock icon or click **Setup > Detector integration time.**



ii. Longer integration times collect more photons. Shorter integration times collect less photons.

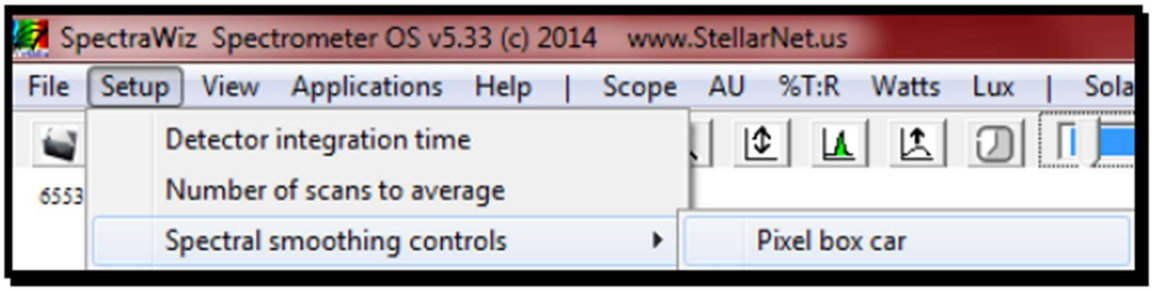
iii. Be careful not to saturate the detector with photons! If you saturate, try a shorter integration time. We recommend keeping radiometric measurements between 30ms and 3000ms.



The above picture is of a saturated curve.

6b. Adjust Pixel boxcar smoothing controls.

i. Pixel boxcar can be set from 0-4.



ii. Once the value for this setting has been chosen, there is no need to re-visit unless a new setting is desired.

6c. Adjust number of scans to average.

i. Scan averaging is useful in stabilizing a measurement. Note that averaging scans will increase wait time. Multiply the number of averaged scans by the integration time to determine wait time.

7. Now that the curve is optimized, cover your light collecting accessory (sphere, cosine receptor, etc.) so that there is zero light detected by the spectrometer. If you are using a sphere with an internally mounted light source, turn off the lamp or remove the SMA fiber from the spectrometer and block the spectrometer's SMA port.

8. Left click on the Dark reference icon to take a dark reference. 

8a. A left click will take a dark reference of whatever is viewed on screen.

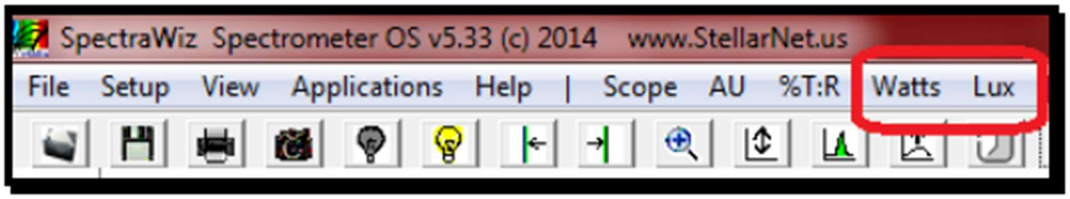
8b. A right click will release the dark reference.

9. Uncover the light collecting accessory (or turn on your lamp/ insert the fiber if lamp is internally mounted in a sphere).

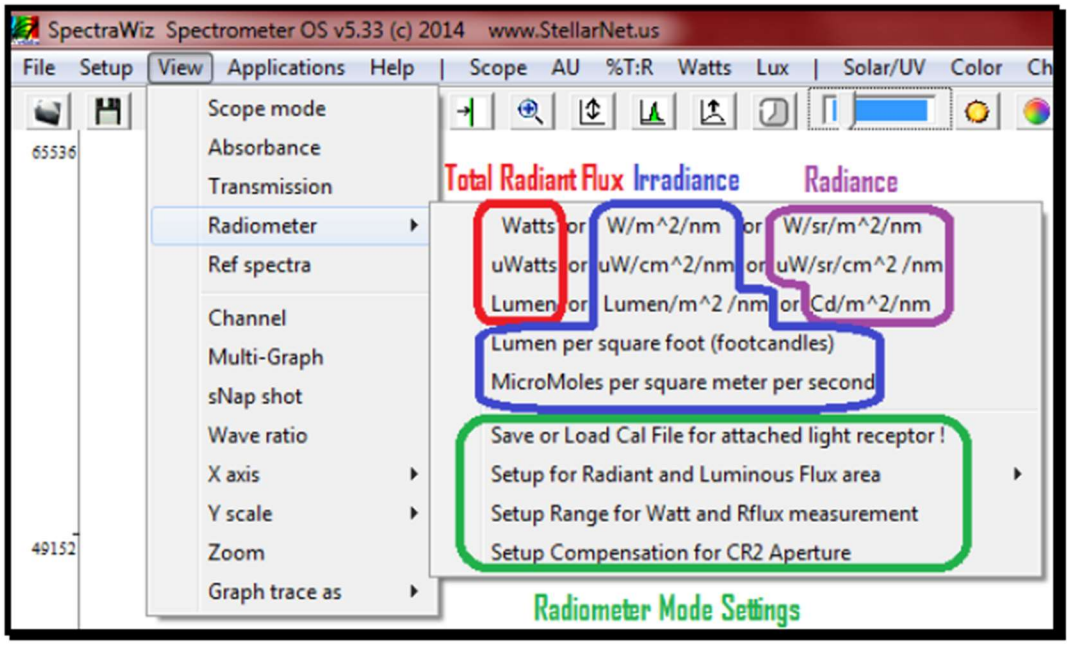
10. View the spectrum on-screen. If it looks correct, we can switch to Radiometer Mode.

11. There are two approaches to switching to Radiometer Mode.

11a. Click on the Watts or Lux buttons at the top of SpectraWiz's icon bar.

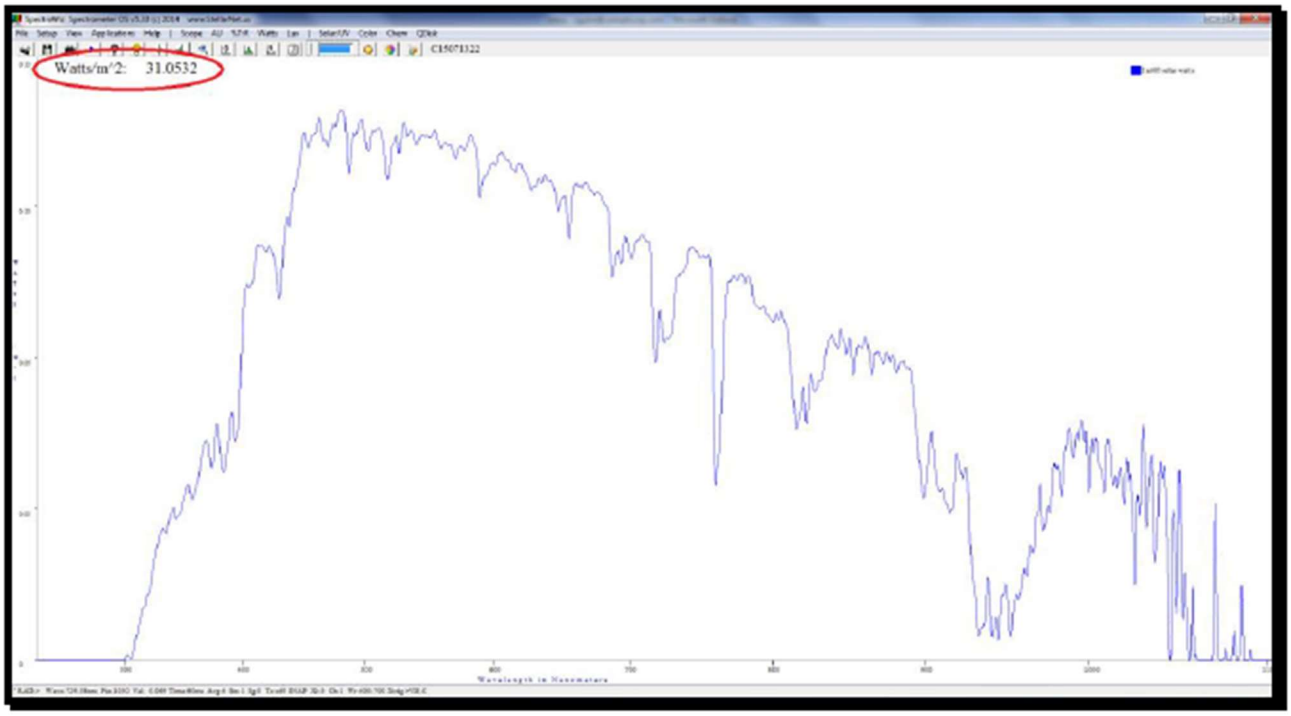


11b. Click **View > Radiometer** and choose the desired mode



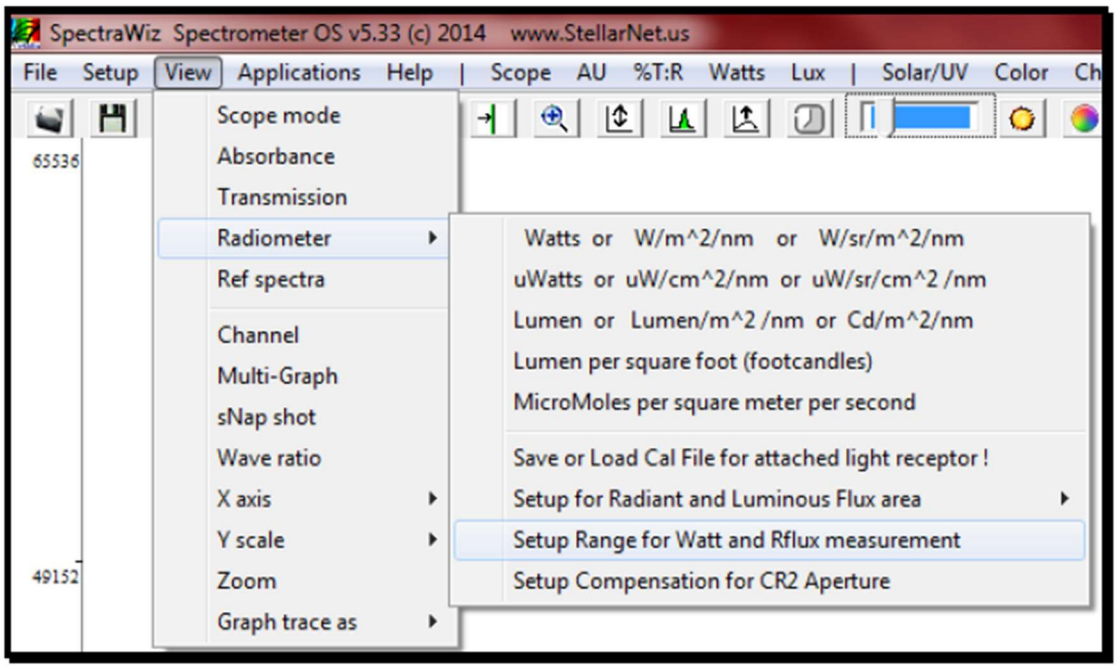
11c. The calibration type dictates if the measurement is Total Radiant Flux, Irradiance or Radiance.

12. Now we are in a radiometric mode.



12a. Notice that the top left corner has a value in units corresponding to your calibration type.

12b. This value in the corner is calculated from the area under the curve over a specific range. To change the range choose **View > Radiometer > Setup Range** for Watt and Rflux measurement.

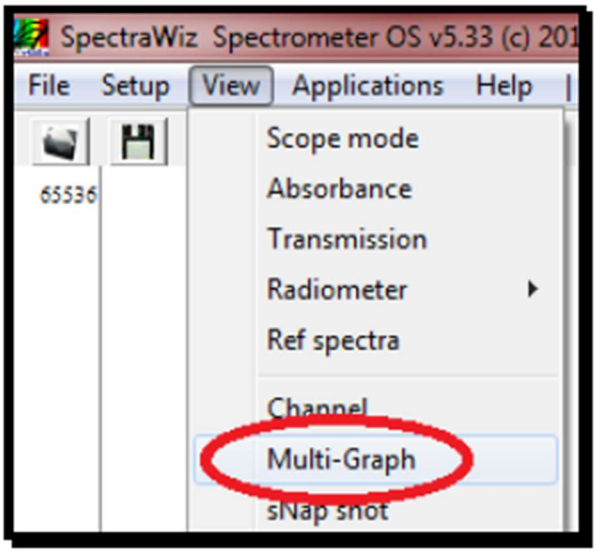


i. Choose your start wavelength first, click OK, and then your end wavelength and click OK.

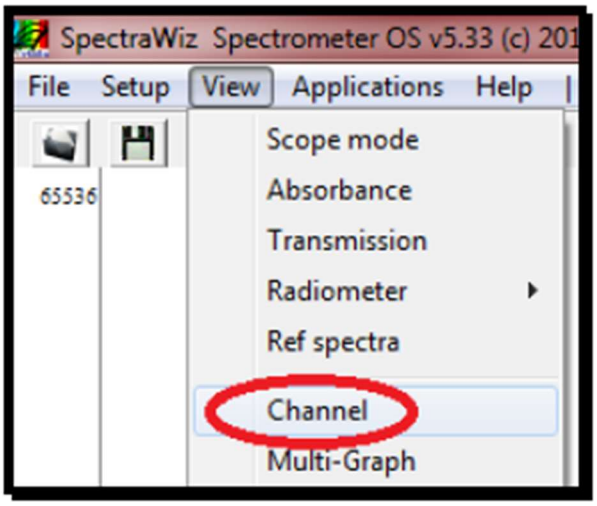
ii. Note* photometric modes (Lumens, Lux, etc) have predefined ranges because they are based on the response of the human eye.

For Dual Calibrated Systems

1. Uncheck the **View > Multi-Graph** option so that only one channel is displayed.



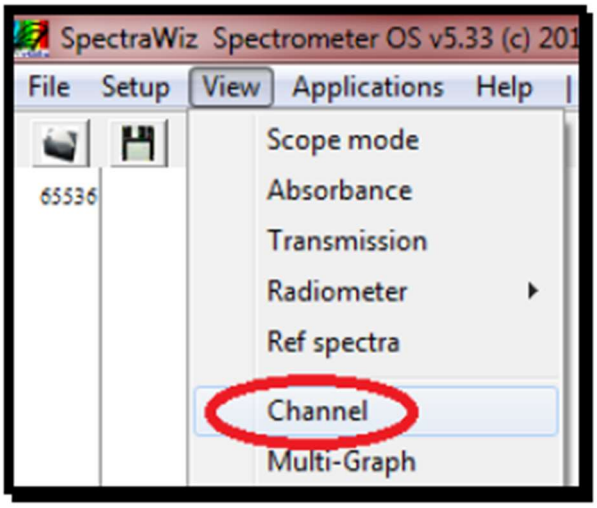
2. View Channel 1.



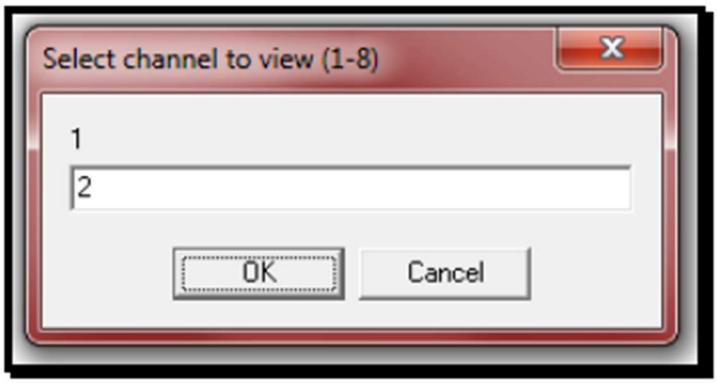
b. Type 1 and click OK.

3. Load the calibration file for channel 1 using methods outlined previously.

4. View Channel 2.

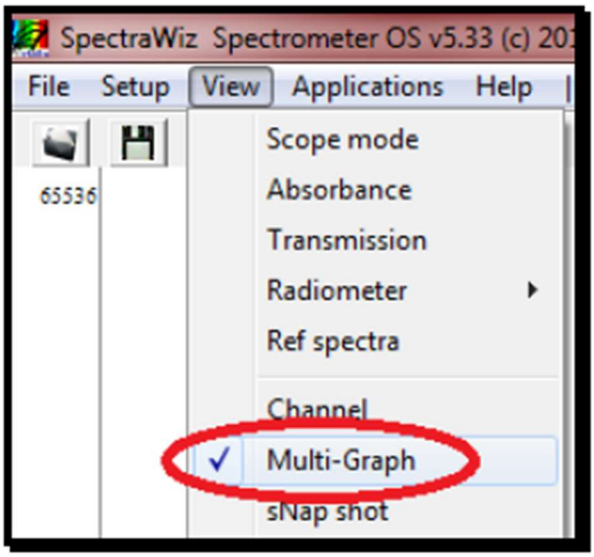


4a. Type 2 and click OK.



5. Load the calibration file for channel 2 using methods outlined previously.

6. Check Multi-Graph to view both channels.



7. Note that both spectrometers have independent integration times.