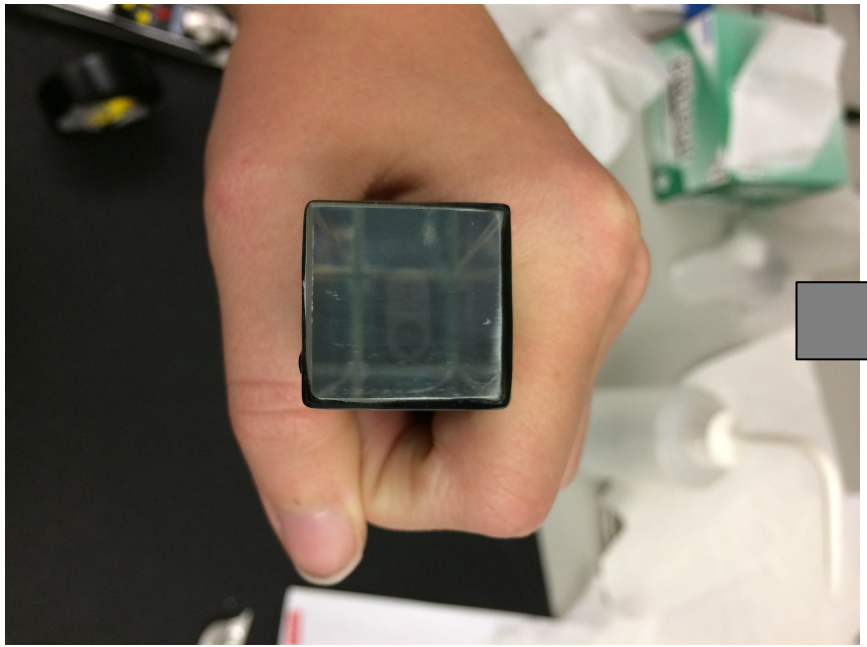
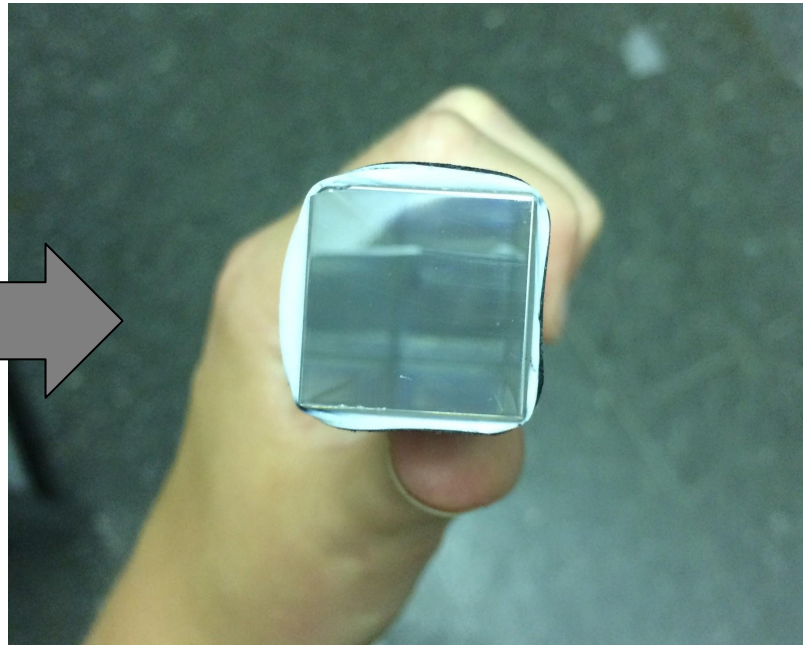
Week 2

Task 1: Re-examine J18 and J19

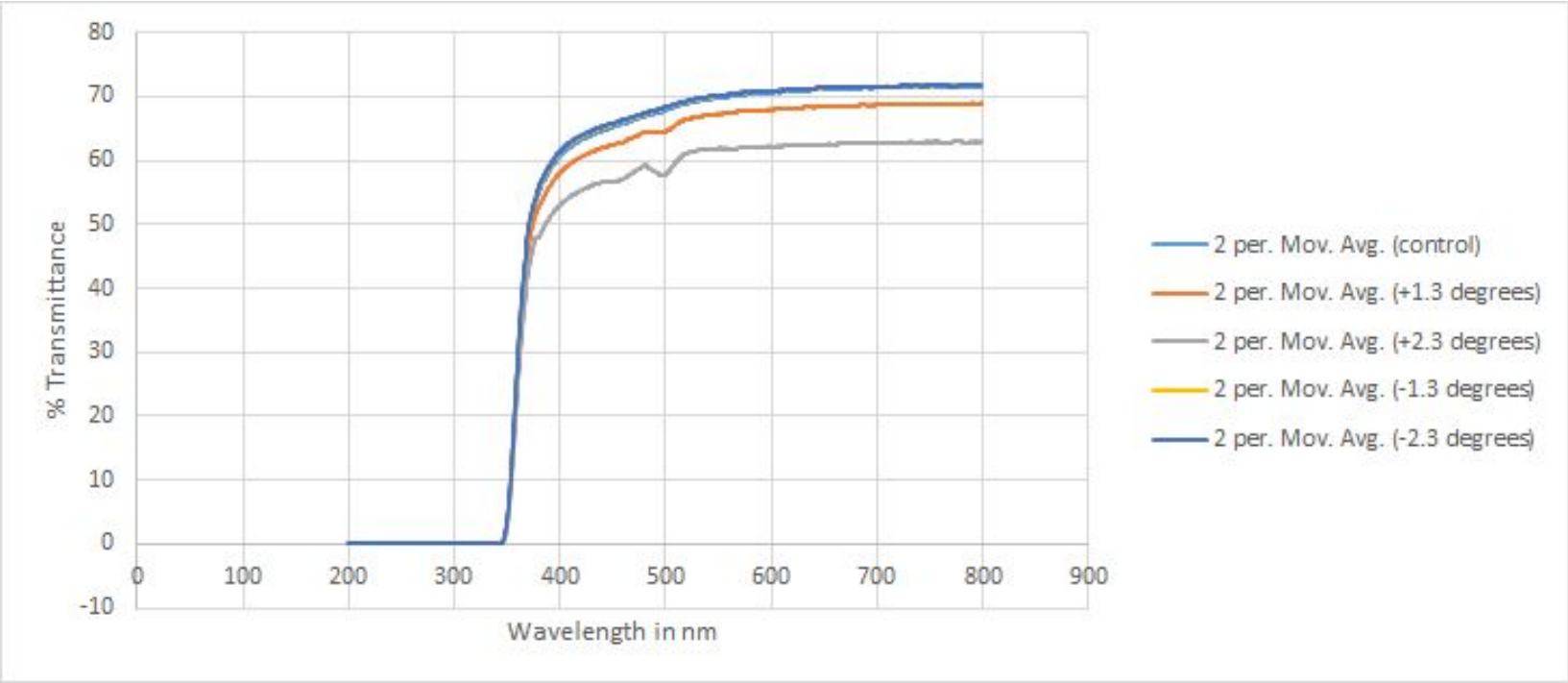
Crystal Number	Degree of Crystal Placement Off Center					
	0°	1.3°	2.3°	-1.3°	-2.3°	Error range
J16	65.968%	65.874%	64.811%	66.146%	66.262%	±0.71%
J18	63.209%	60.574%	55.329%	63.795%	63.903%	± 7.88%
J19	65.632%	65.180%	59.940%	64.347%	63.077%	±5.69%
J20	62.954%	62.848%	60.081%	61.290%	62.670%	±2.87
Avg Transmitt-ance	64.441%	63.619%	60.040%	63.895%	63.978%	





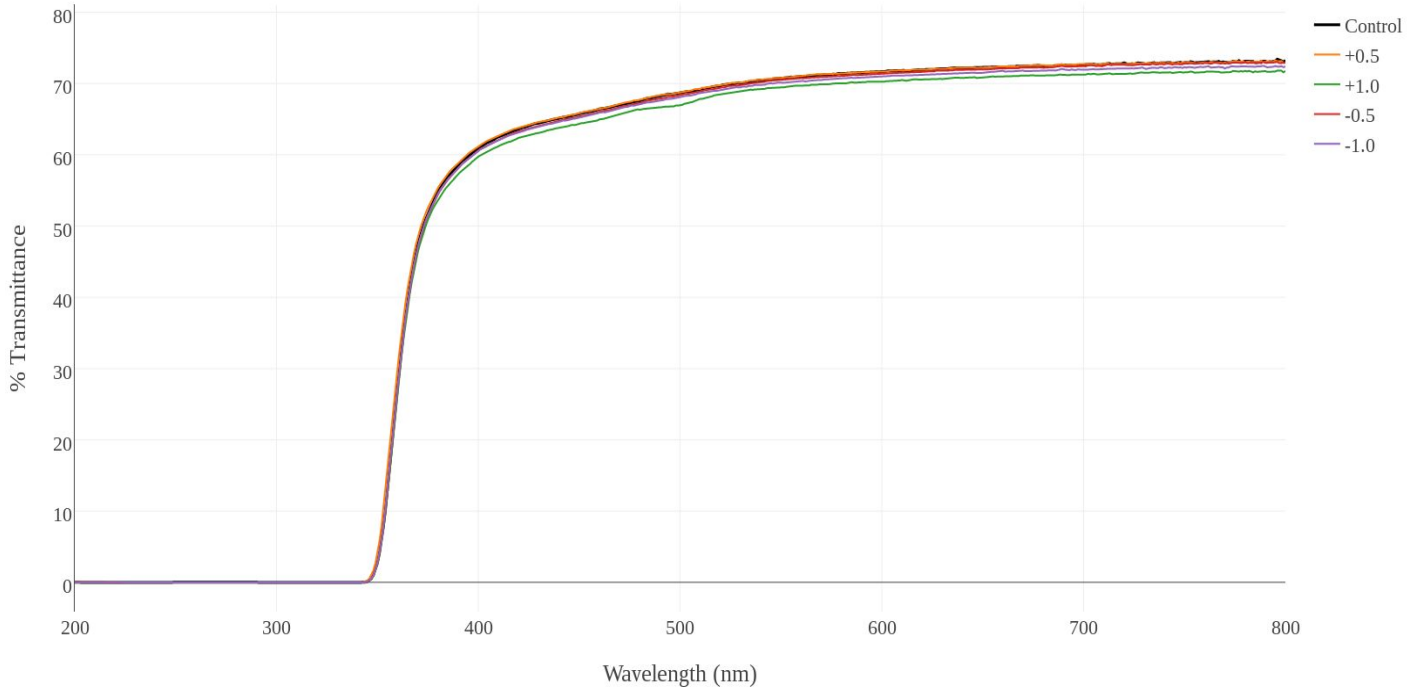
The Effect of Non-Optimal Crystal Angle in Spectrometer on Longitudinal Light Transmission: J18

- Before Tape Adjustment:



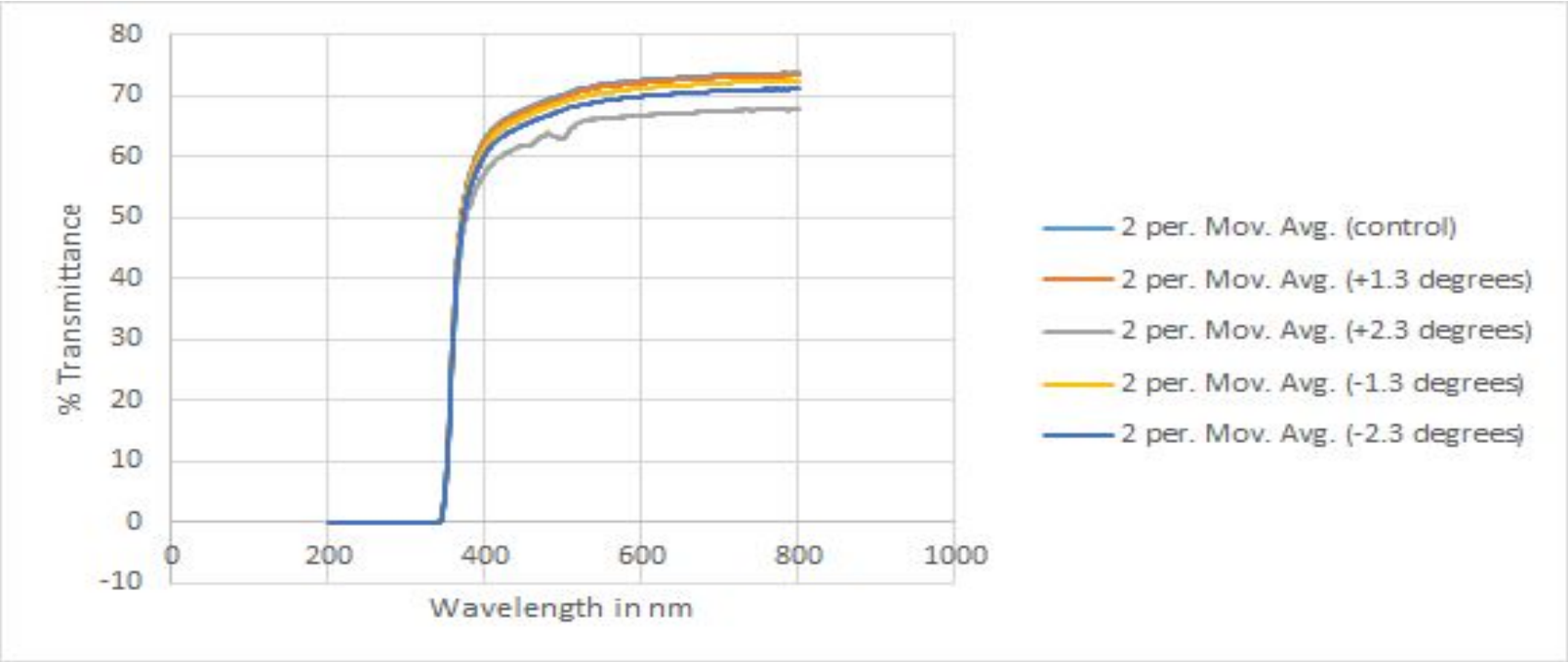
The Effect of Non-Optimal Crystal Angle in Spectrometer on Longitudinal Light Transmission: J18

- After Tape Adjustment:



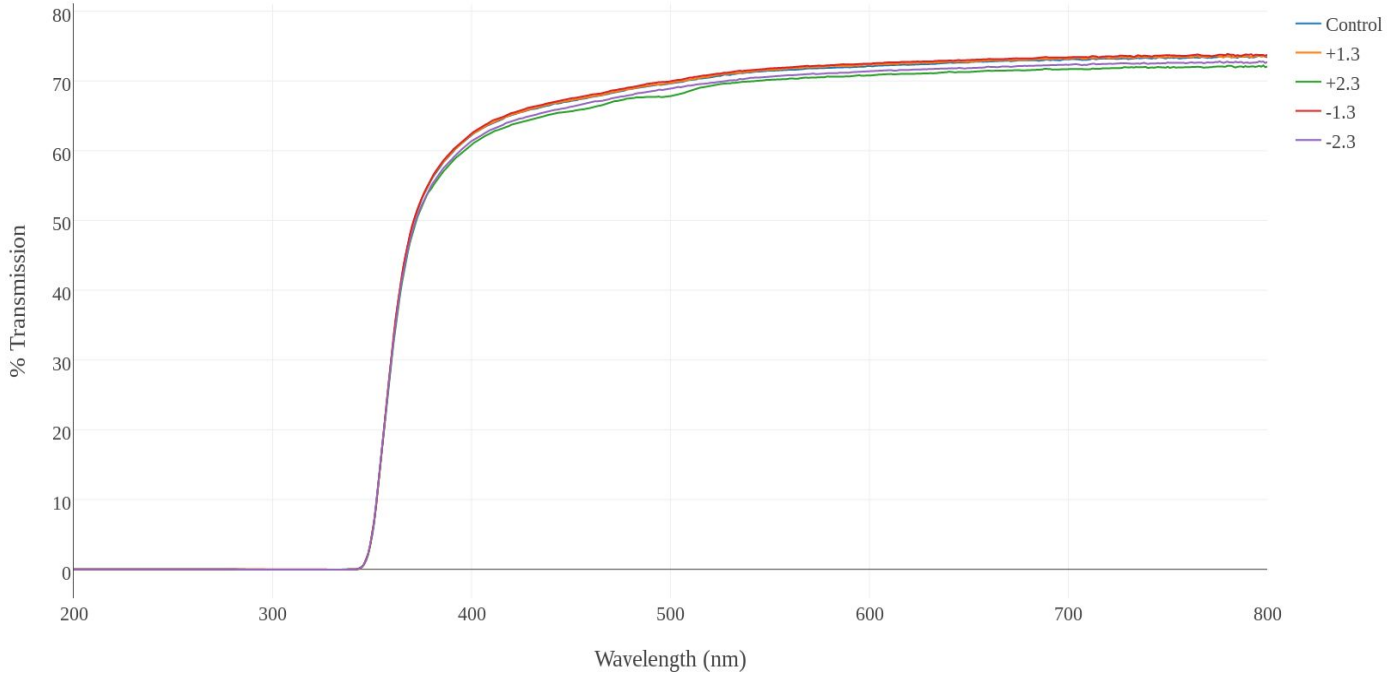
The Effect of Non-Optimal Crystal Angle in Spectrometer on Longitudinal Light Transmission: J19

- Before Tape Adjustment:

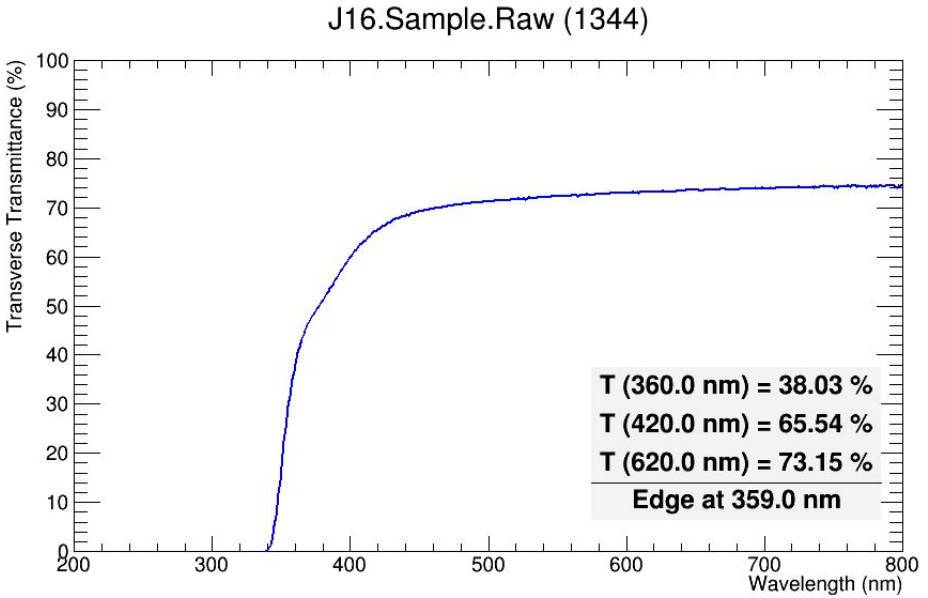


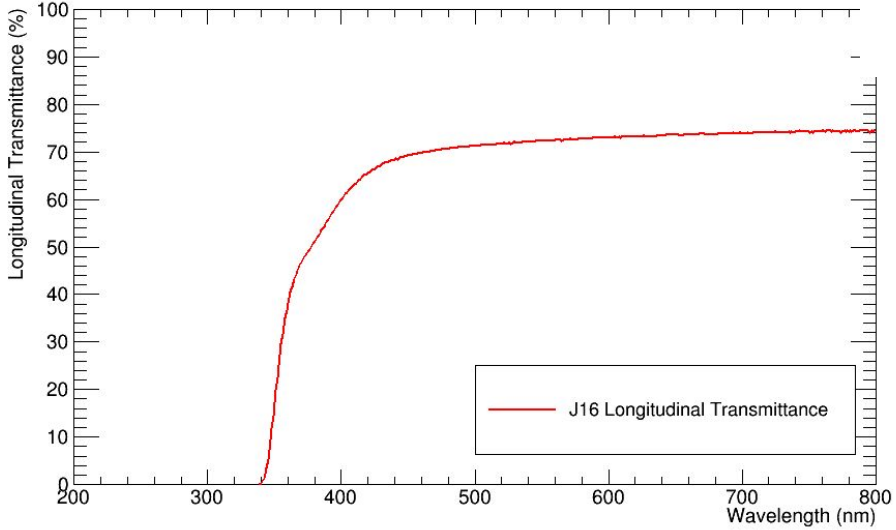
The Effect of Non-Optimal Crystal Angle in Spectrometer on Longitudinal Light Transmission: J19

- After Tape Adjustment:

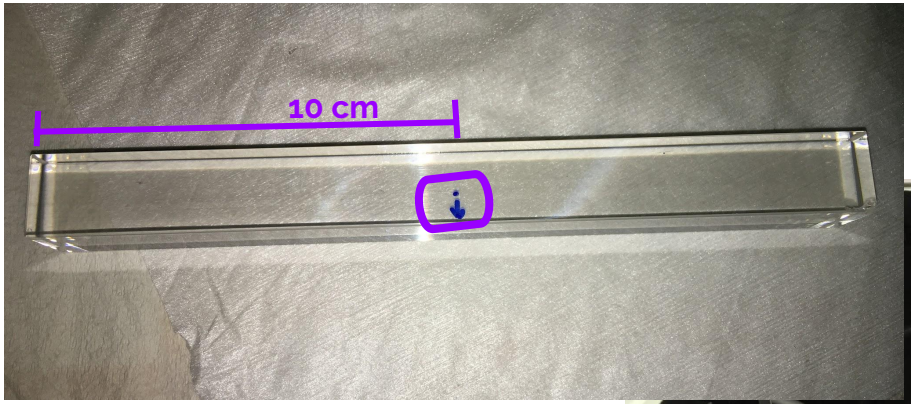


Task 2: Learn root

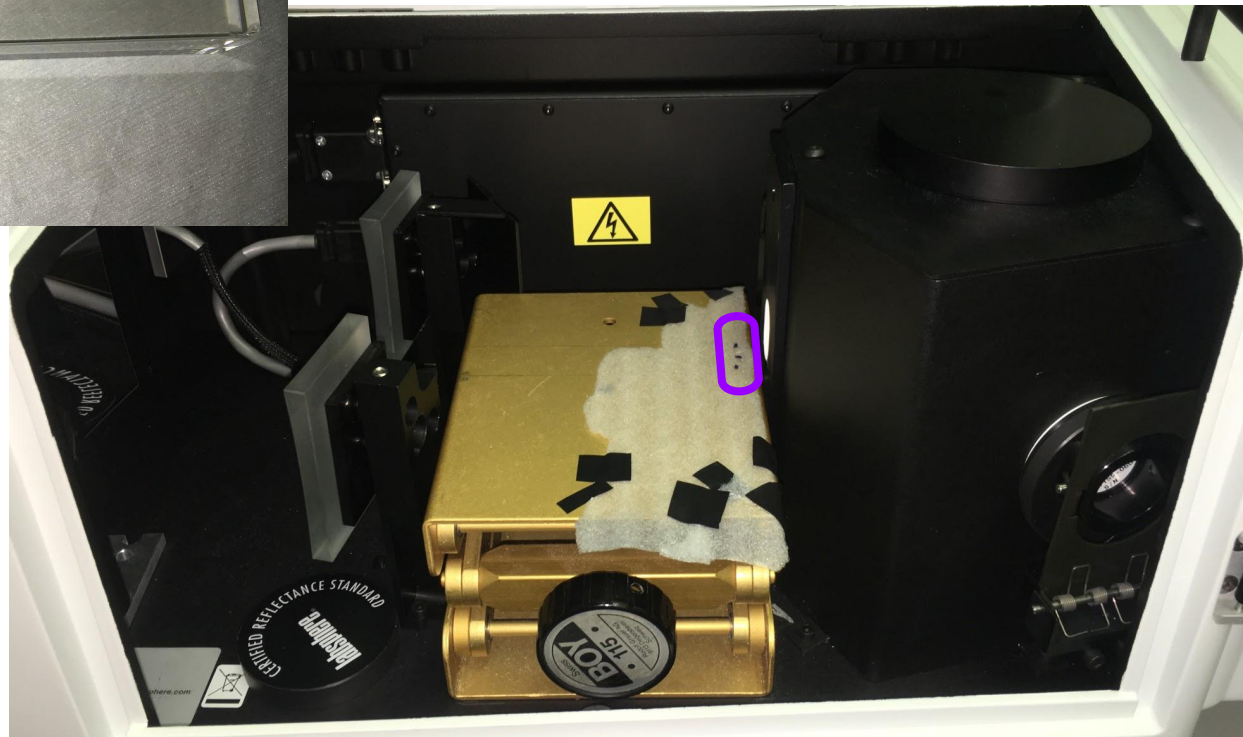




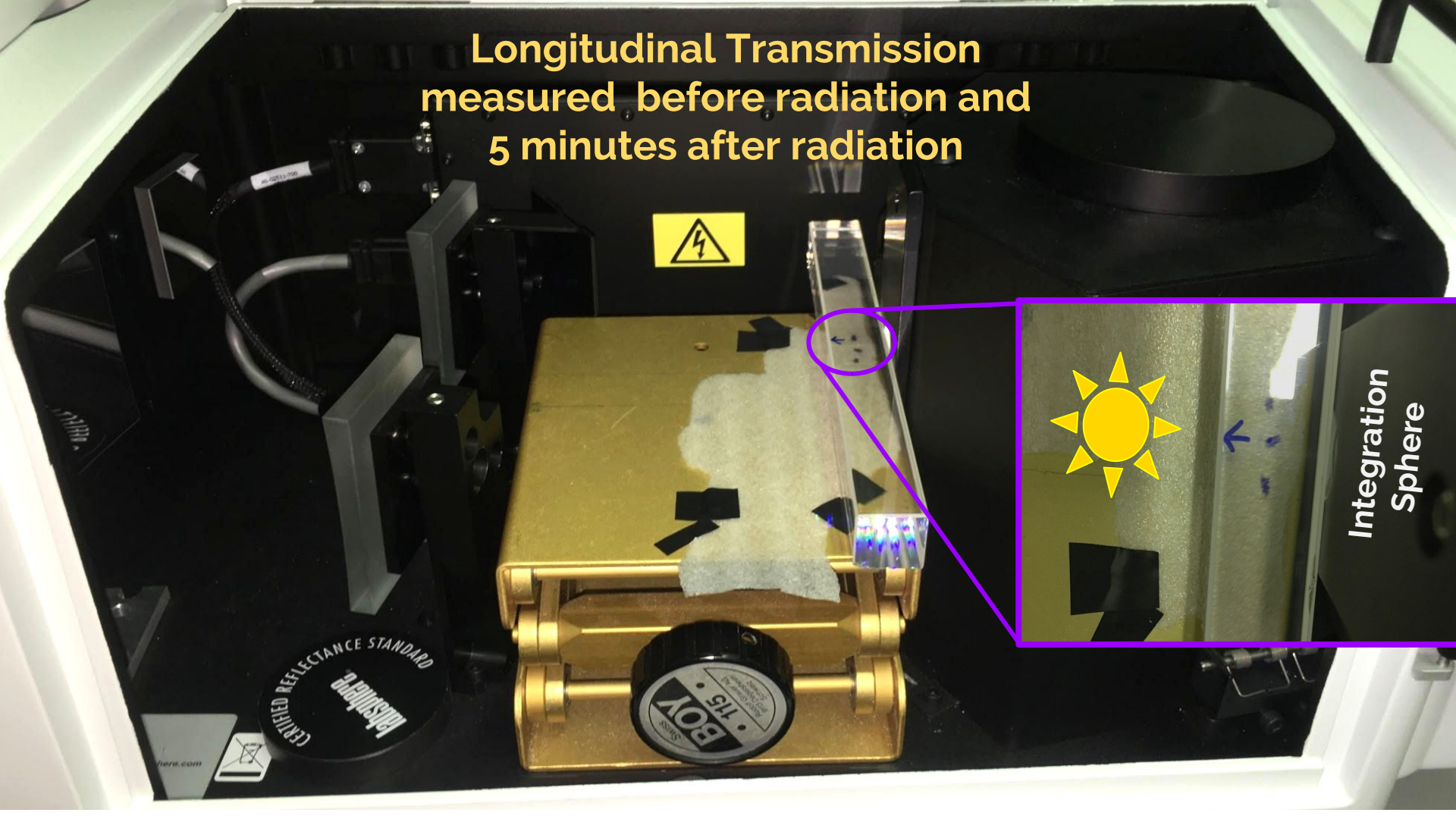
Task 3: Begin transverse measurements/irradiation



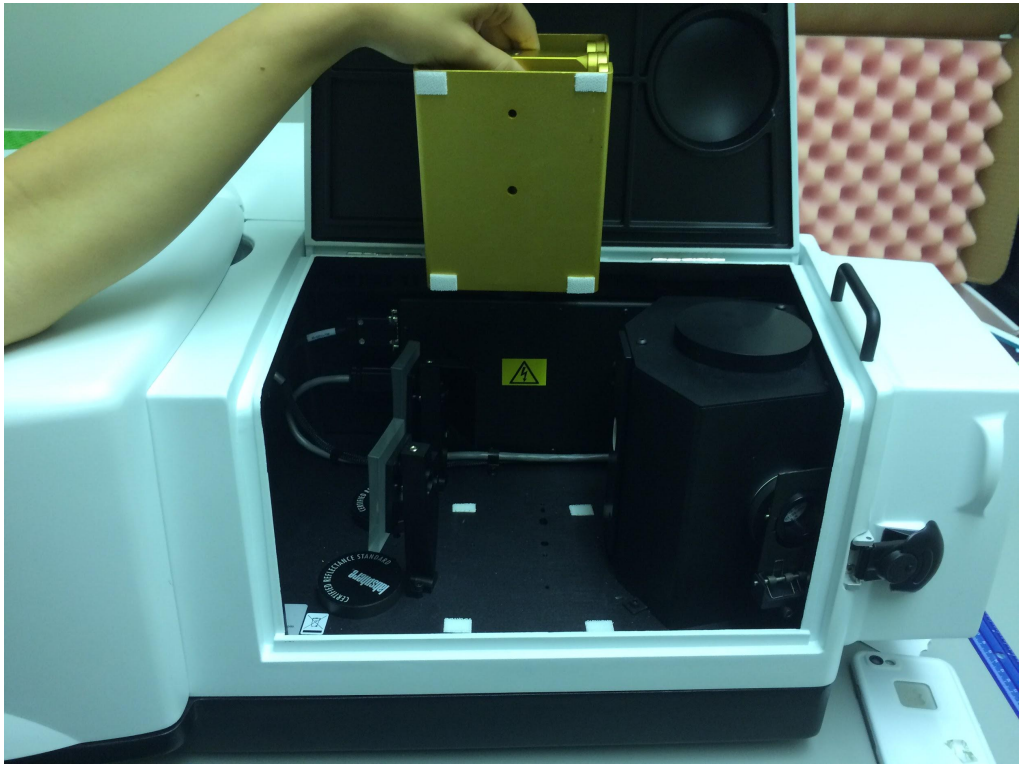
Set up



Longitudinal Transmission measured before radiation and 5 minutes after radiation



Recently Added: Velcro



Irradiation

-J23: 70mins of irradiation (### crystal was 60mins)

-Shelf 8 plus 11.45cm tall platform

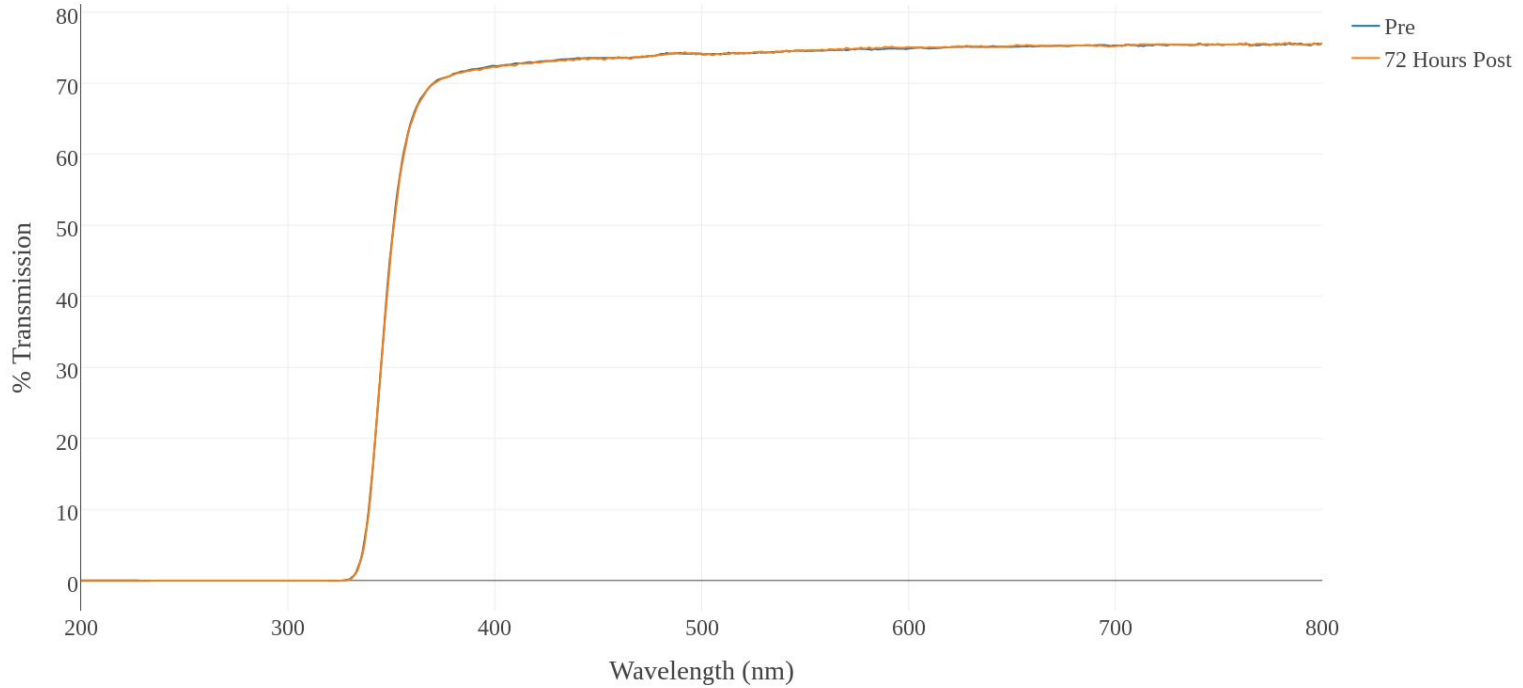
-When removing the crystal after irradiation, had lights off in room and closed door

-Wrapped the crystal in the dark, placed in its styrofoam container

-Then was put inside a cardboard box lined with a black rubber cloth, covered, brought down to spectrometer room 5 minutes later where lights were off as well

J23 Before/Directly after Irradiation

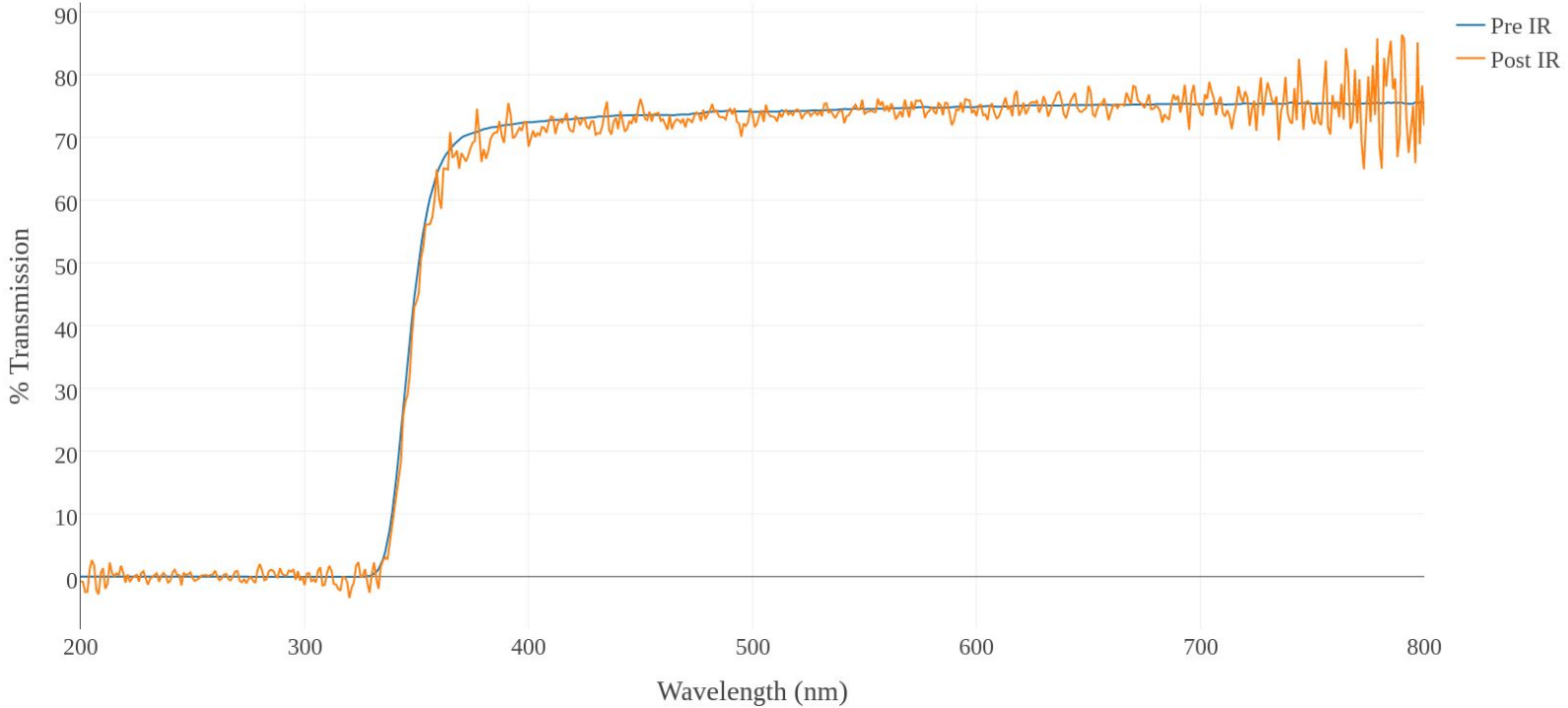
“###” Crystal Recovery 72 Hours Post-Radiation

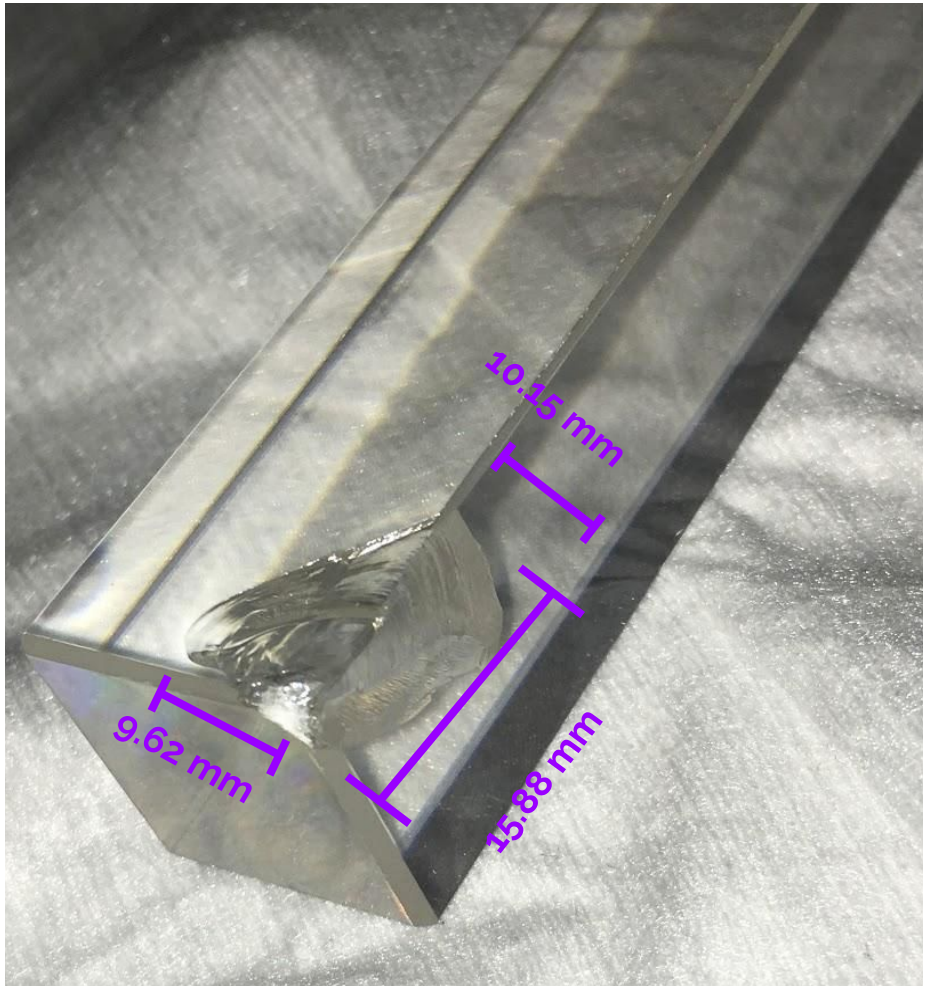


- Transmission fully recovered
- Stored (unwrapped) in office

Bloopers

- Spectrometer difficulties
- Solution= place fan next to Spectrometer

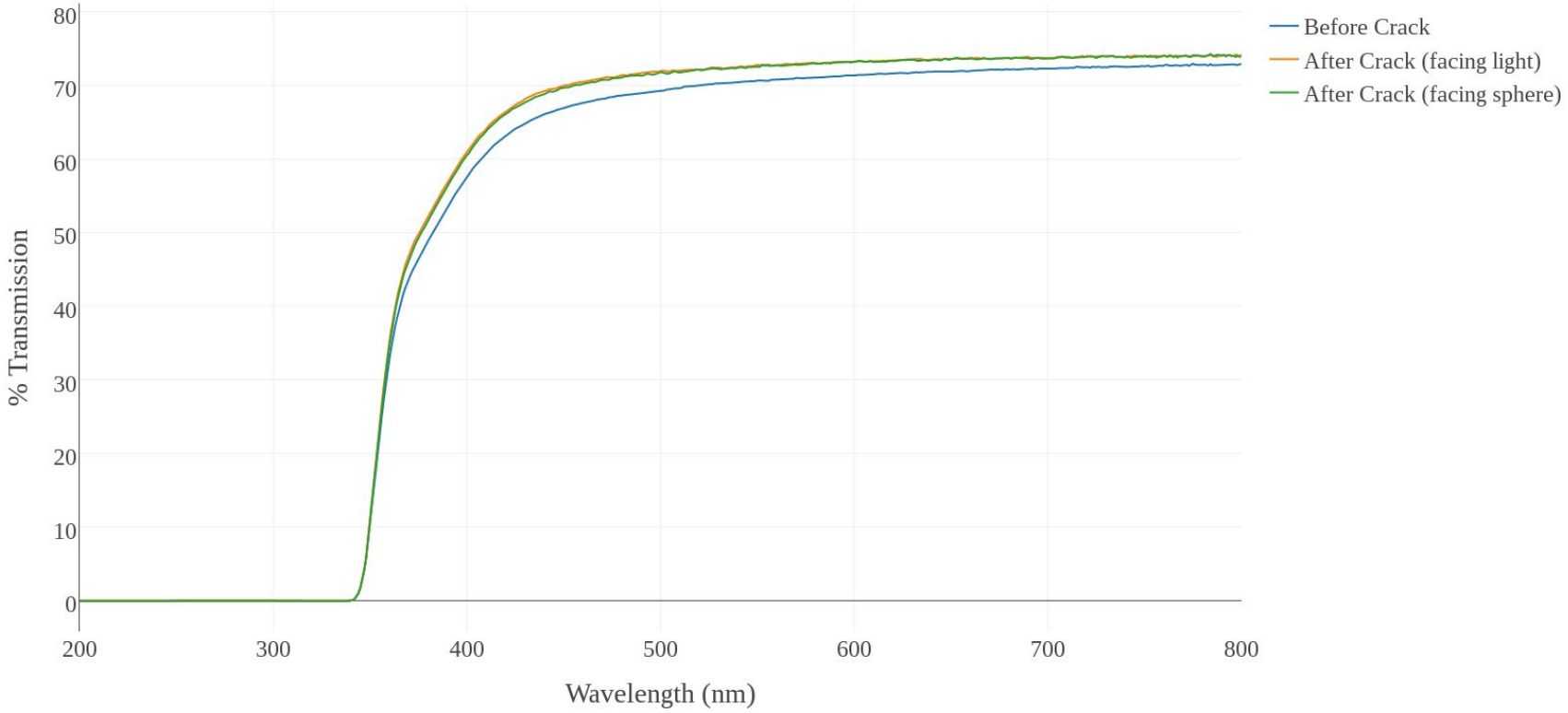




J21 Incident

- Lid of spectrometer fell on crystal

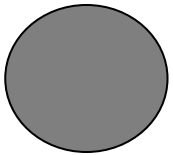
J21 BC & AC Longitudinal Transmission



Potential Error with Integration Sphere

0.0008% Probability of light exiting hole

Area ≅ .542 cm^2



SA of Sphere= 706 cm^2