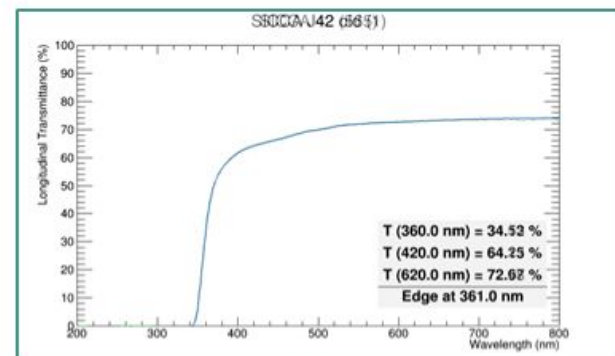
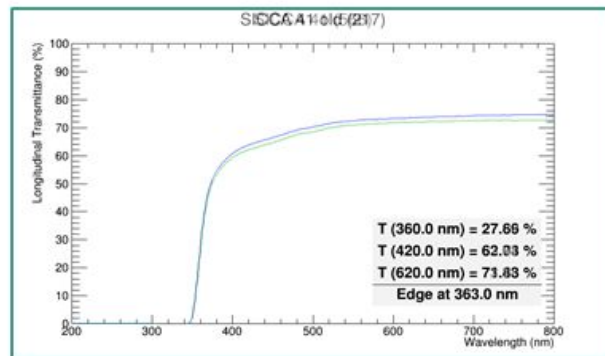
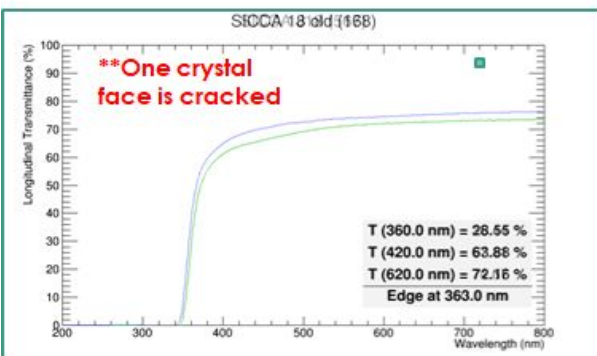
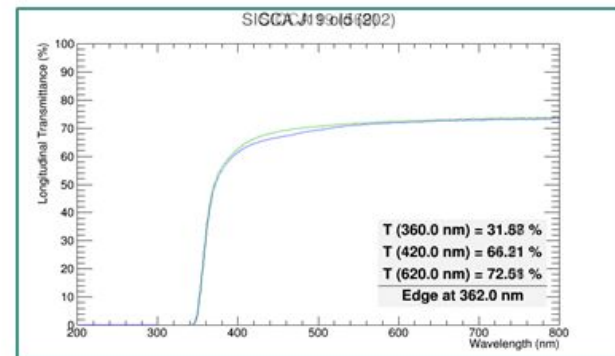
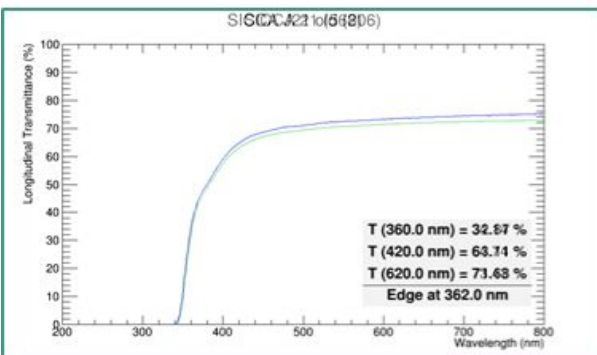


Crystal Updates

Dannie and Casey

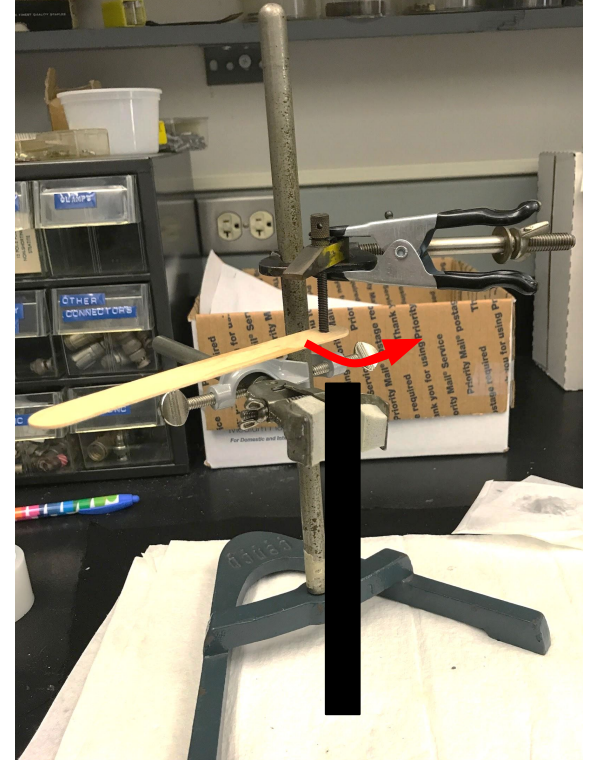
	360			420			620		
	16-Jul	Jul-17	% difference	16-Jul	Jul-17	% difference	16-Jul	Jul-17	% difference
SICCA J18	28.55	36.44	0.22	63.88	67.81	0.06	72.16	74.67	0.03
SICCA 41	27.66	27.89	0.01	62.03	63.74	0.03	71.83	73.48	0.02
SICCA 42	34.53	34.12	-0.01	62.03	64.13	0.03	71.83	72.98	0.02
SICCA 21	32.87	34.14	0.04	63.11	64.74	0.03	71.68	73.43	0.02
SICCA 19	31.88	31.57	-0.01	66.21	64.51	-0.03	72.51	72.08	-0.01
avg:			0.01			0.01			0.01

LONGITUDINAL TRANSMITTANCE REPRODUCIBILITY



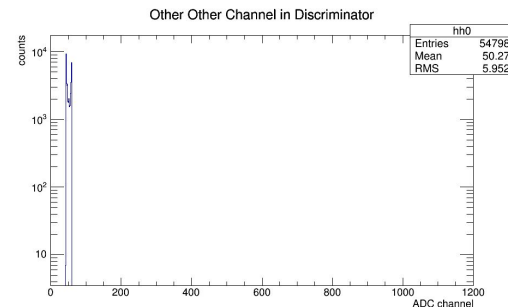
Light Yield Reproducibility

- Uncertainty between 0.2-0.5 doesn't account for discrepancies
- Temperature regulation
 - Crystals placed >4 hours prior to testing
- Gel Regulation
 - Face of PMT cleaned between trials
 - Future: use syringe to apply constant amount



Double Peak Issue

- 1st Test
 - We disconnected the signal cable from the PMT to the ADC and ran $\sim 50,000$ events
 - There was still a double peak
- 2nd Test
 - Add on to the 1st test by removing the scintillator/trigger/gate cable
 - Connect a signal from the pulse generator and run 50,000 events
 - Double peak observed
- 3rd Test
 - We sent the signal into different channels of the discriminator
 - Observed a double peak in all channels
- 4th Test
 - We eliminated the discriminator from the chain and sent the signal into the ADC without discriminating it first
 - Double peak was observed

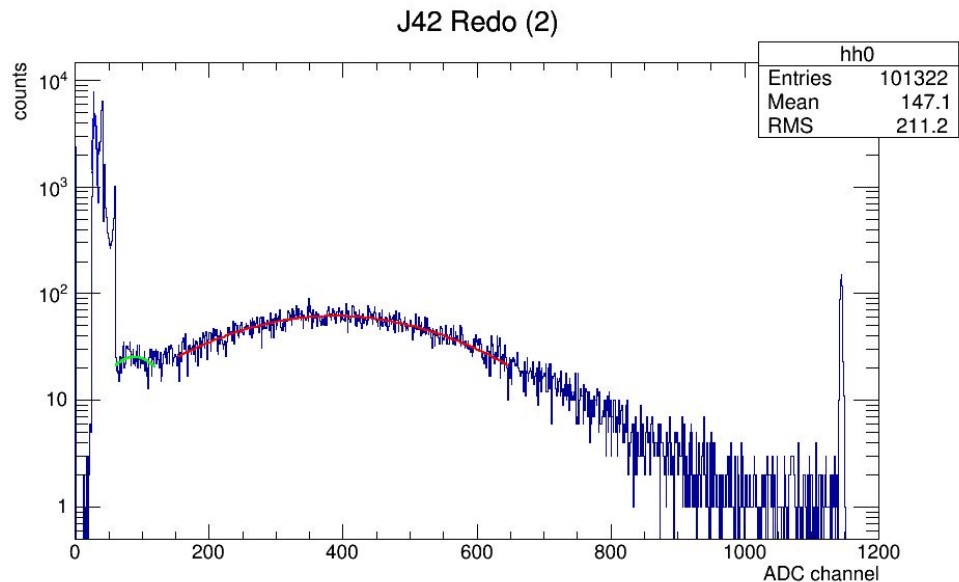


Double Peak Issue

- Conclusion
 - When the discriminator was eliminated from the series the results still showed a double peak, therefore the discriminator is not the issue
- Next Step
 - Bypass the discriminator and the logic gate and continue testing and see if the results show a double peak

Many Peak Issue

- Pedestal location is almost identical to other double peaked runs and normal runs
 - Cause: voltage or gate was changed during the trial



Faxitron Issue

- E1 appearing after warmup prevented manual entry of values
 - After warmup entering program “2” allows for manual entry of voltage, current, and time
- Will begin irradiation studies soon!
 - Study reproducibility
 - Radiation hardness of other crystals