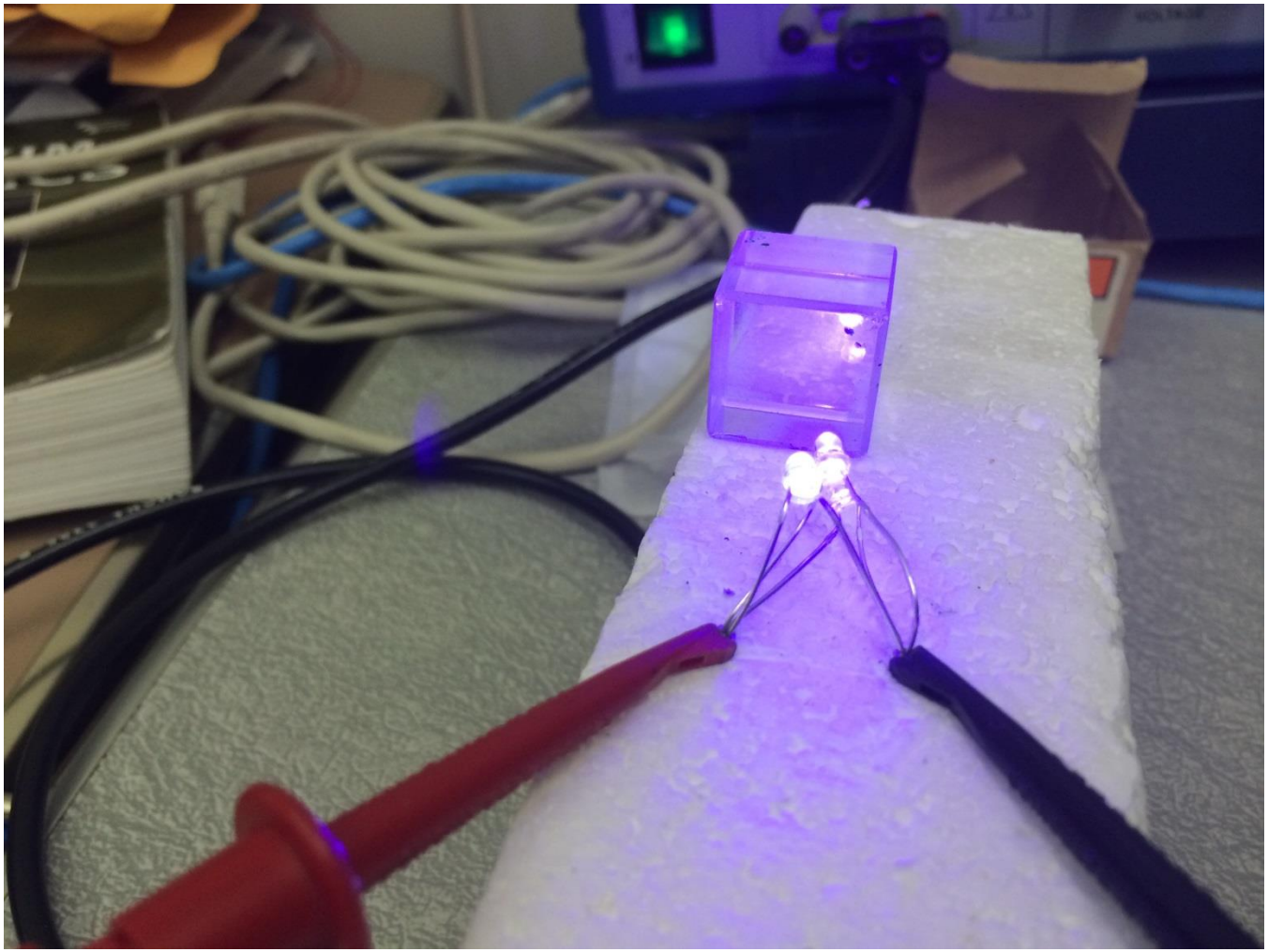
Update 5

Characterization of PWO

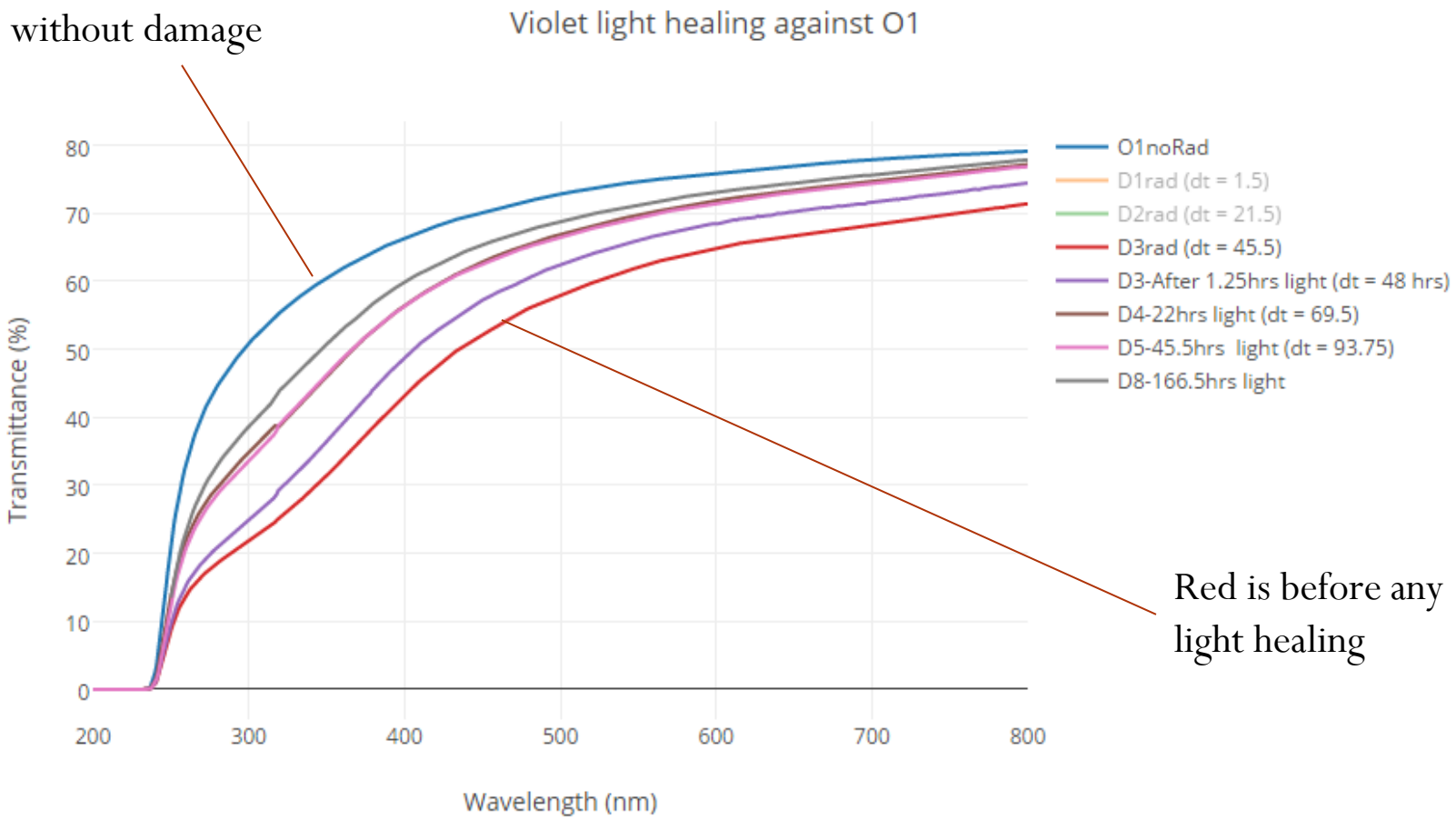
Healing the cube with violet light



3.4V used

Cube transmittance

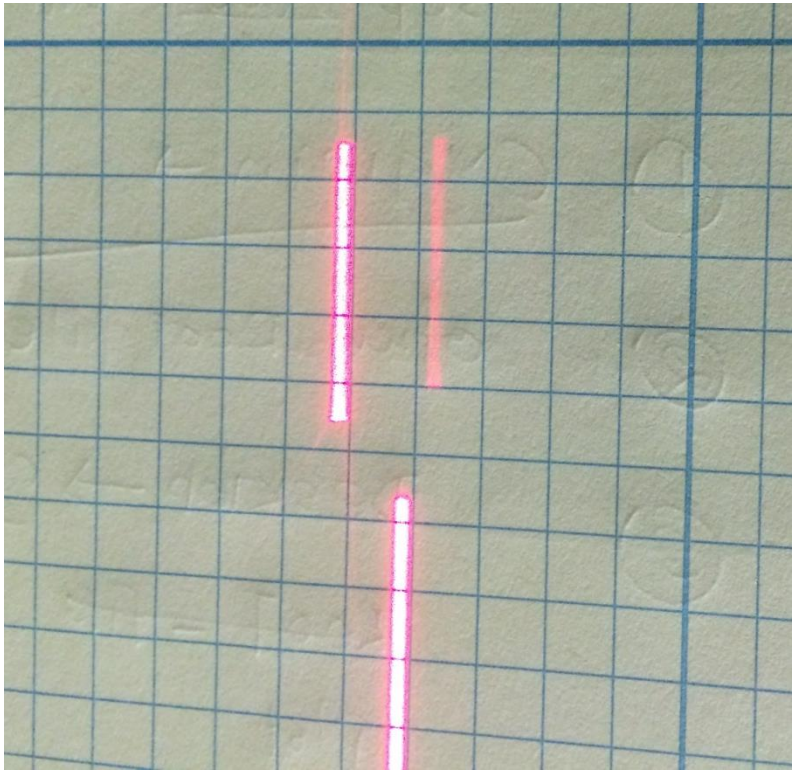
Blue is orientation without damage



Red is before any light healing

Refractive index messiness

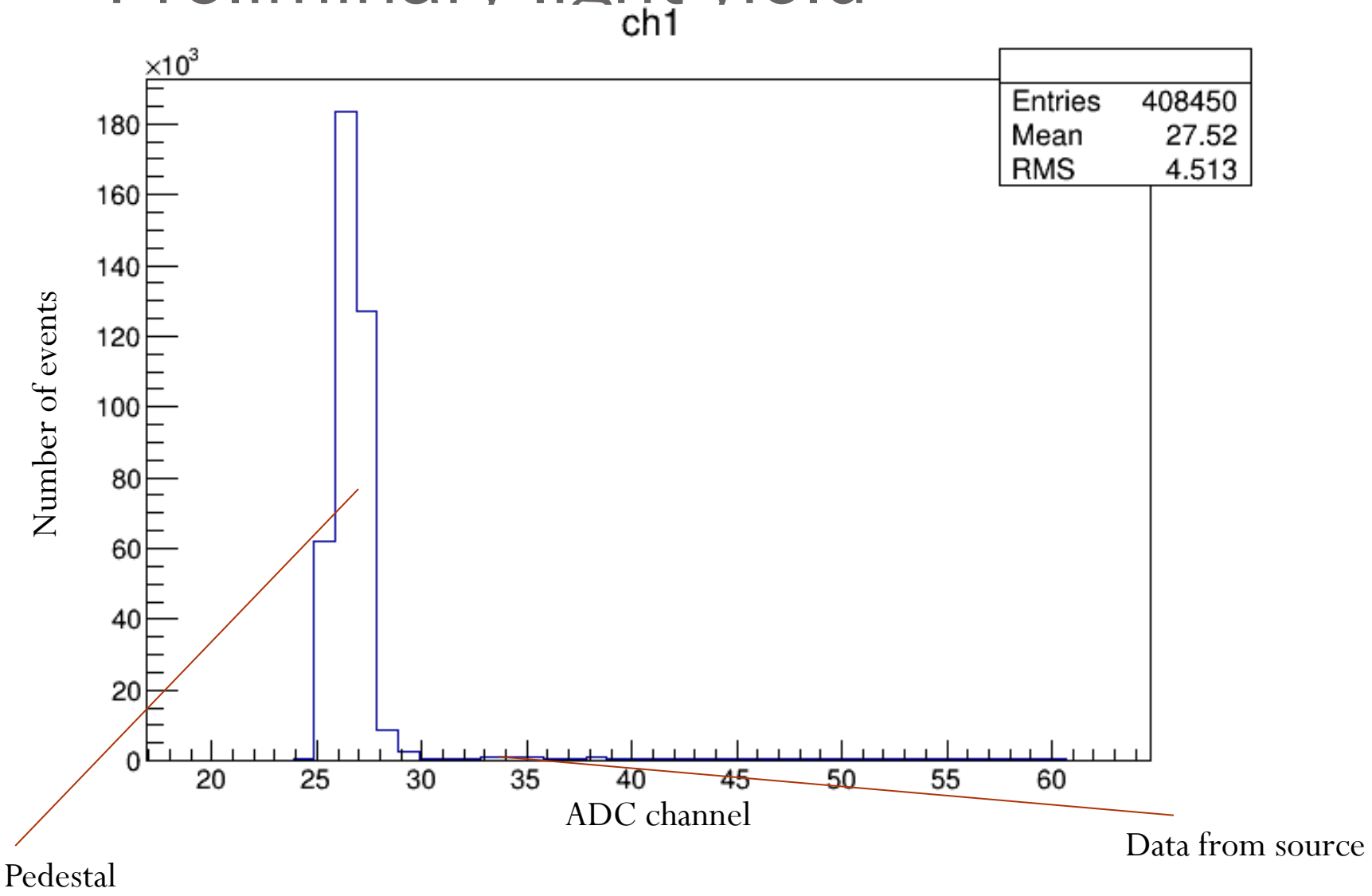
Another way to measure: align delta-x to graph lines and then measure angle



Messiness

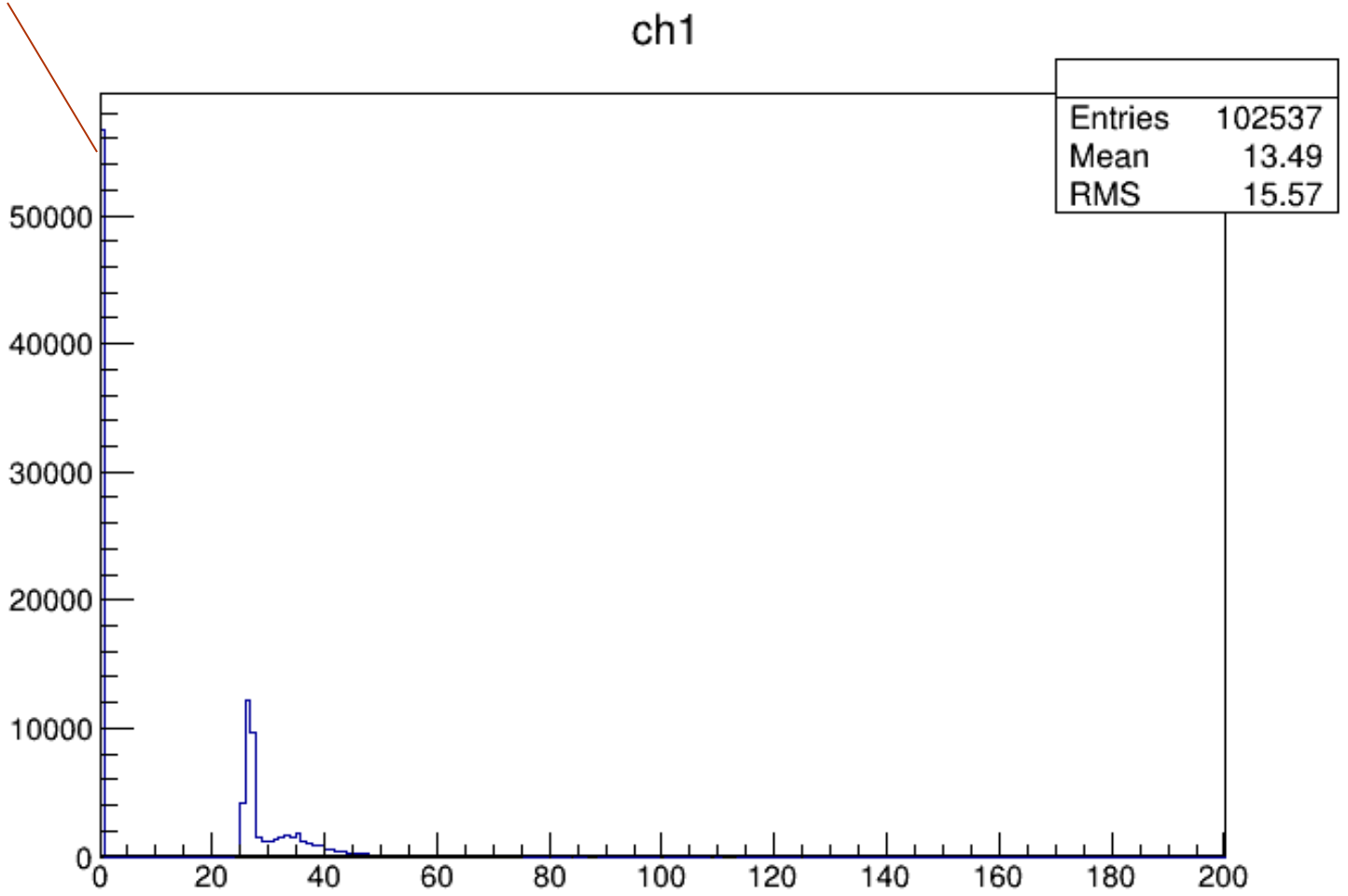
- When measured with 1 “box” as delta x, the RI was 2.15
- When measure with delta x as 2 it was 2.35
- I did not see a correlation between a larger delta x and the RI before
- Also, the error, systematically, is higher than I thought. It is closer to .4mm which entails a huge error of ±.25
- Statistically the error is still closer to ±.1

Preliminary light yield



Light yield

Root considered over half the data as "bad lines"



Timer for Freezer/heater

To control freezer shutting off on own

ON

Off

Transmittance of crystal 064

Have the data for orientations 1 and 2, did not get a chance to analyze it

P2in

185	434	69.01837
186	432	68.9173
187	430	68.83318
188	428	68.73487
189	426	68.64589
190	424	68.54279
191	422	68.47938
192	420	68.38451
193	418	68.29395
194	416	68.20381
195	414	68.1036
196	412	67.99899
197	410	67.93211
198	408	67.81987
199	406	67.70493
200	404	67.62011
201	402	67.50968
202	400	67.39264
203	398	67.30265

P4in

180	444	69.38201
181	442	69.38476
182	440	69.37528
183	438	69.34095
184	436	69.28371
185	434	69.21996
186	432	69.12314
187	430	69.03555
188	428	68.94518
189	426	68.85306
190	424	68.74357
191	422	68.65355
192	420	68.56503
193	418	68.4732
194	416	68.39091
195	414	68.27583
196	412	68.16183
197	410	68.08635
198	408	67.98814
199	406	67.87711
200	404	67.78917

What's next

- Take data on RI, transmittance, and light yield
- Update the wiki
- Write research paper