Week 6 Report

By Vadim Murakhovskiy

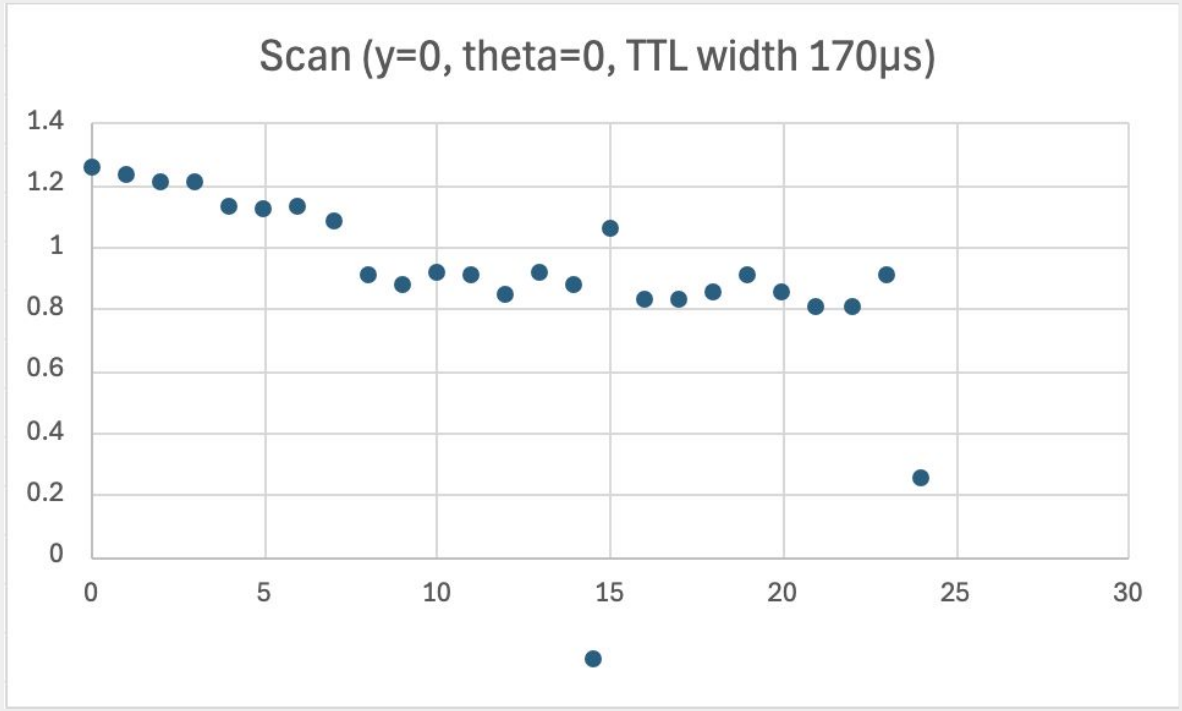
Graph of relative center

Data taken from the average of two tests

TTL set to 170 micro seconds

Avg peak about: 79.38

Transition point at x= 4, 8, 12, 15, 21 and 23



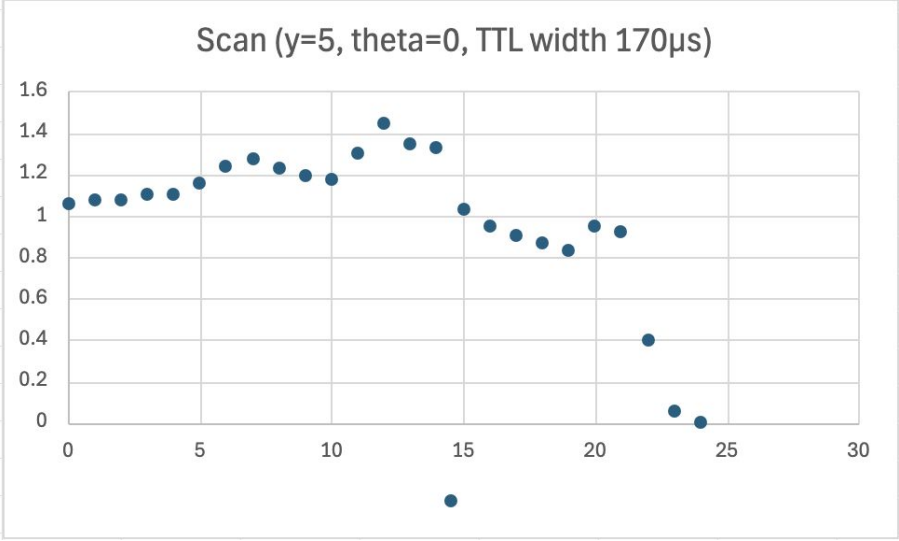
Changing Y/No LC graph

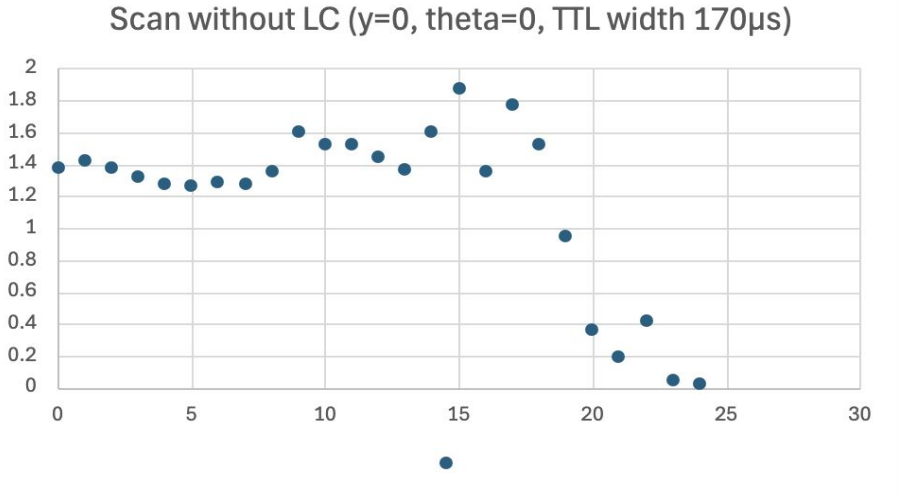
Each scan, data taken from the average of two tests

TTL set to 170 micro seconds

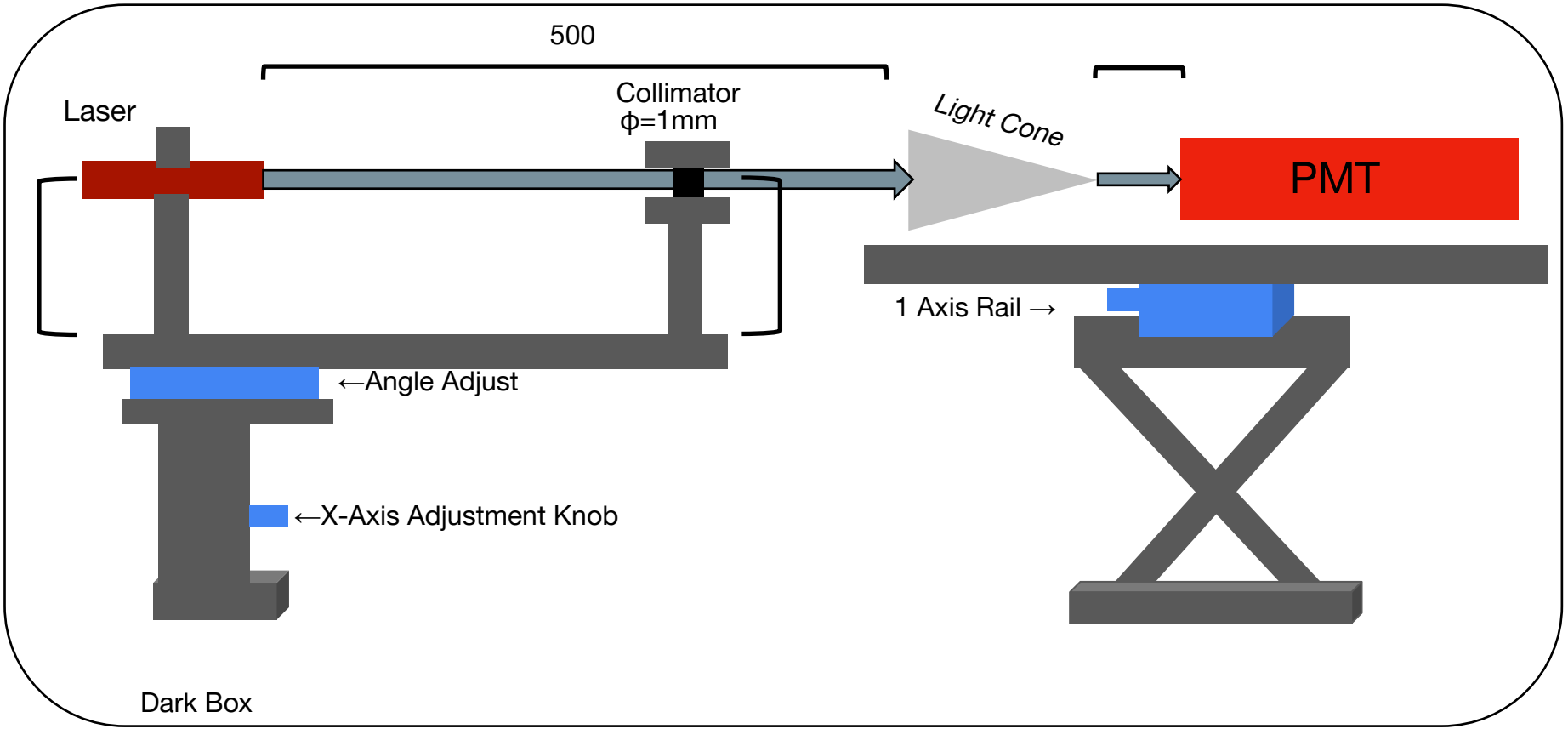
Avg peak for y=5: 75.94

Avg peak for without LC: 89.94

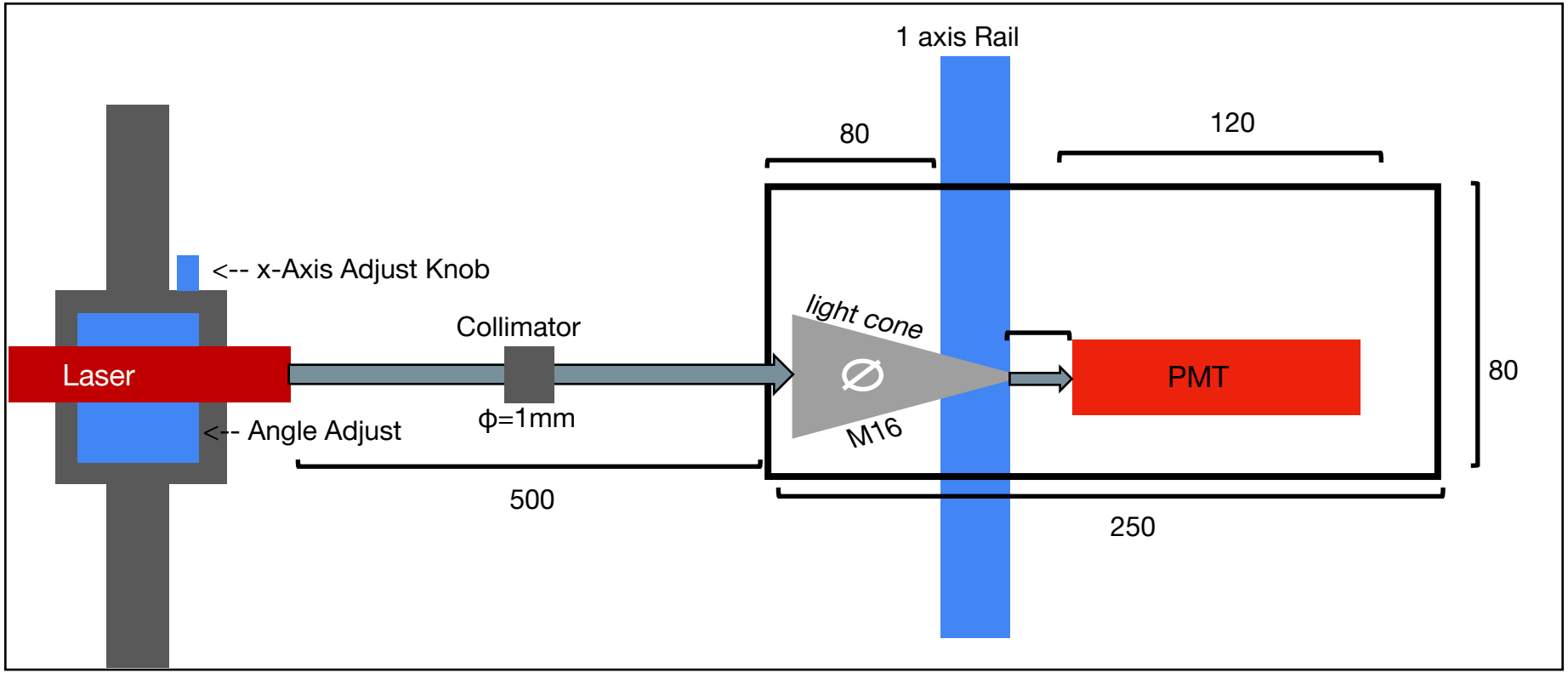




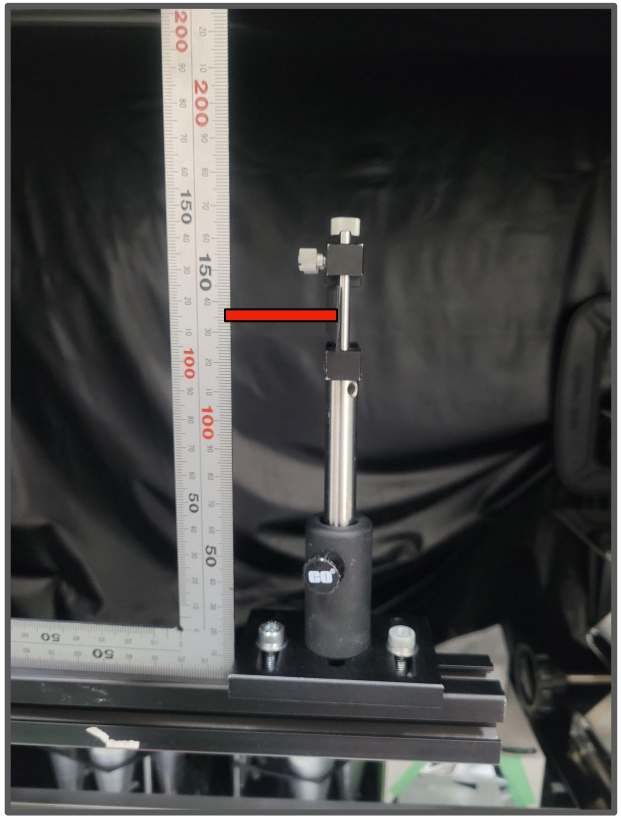
Side view


500
Laser
Collimator
ϕ=1mm
Light Cone
PMT
1 Axis Rail →
←Angle Adjust
←X-Axis Adjustment Knob
Dark Box

Top-Down View

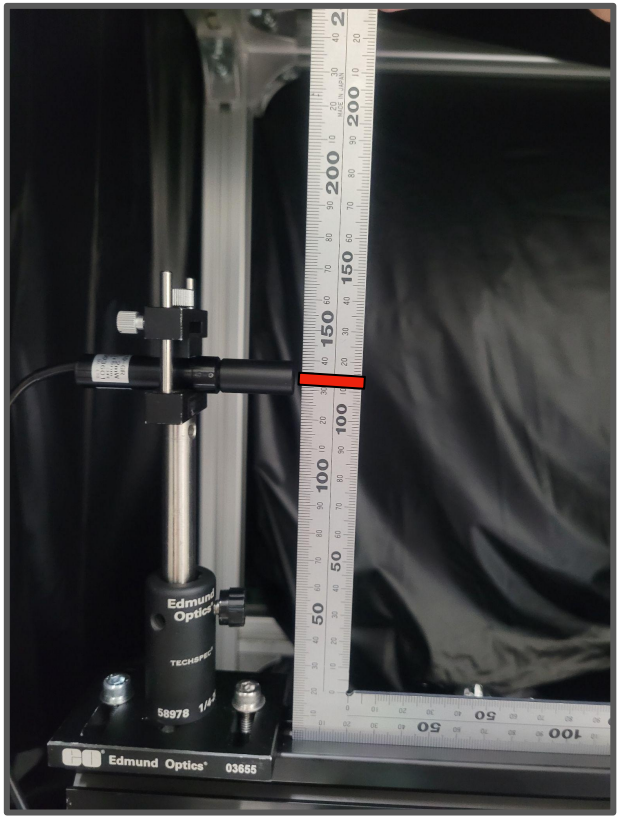


Dark Box



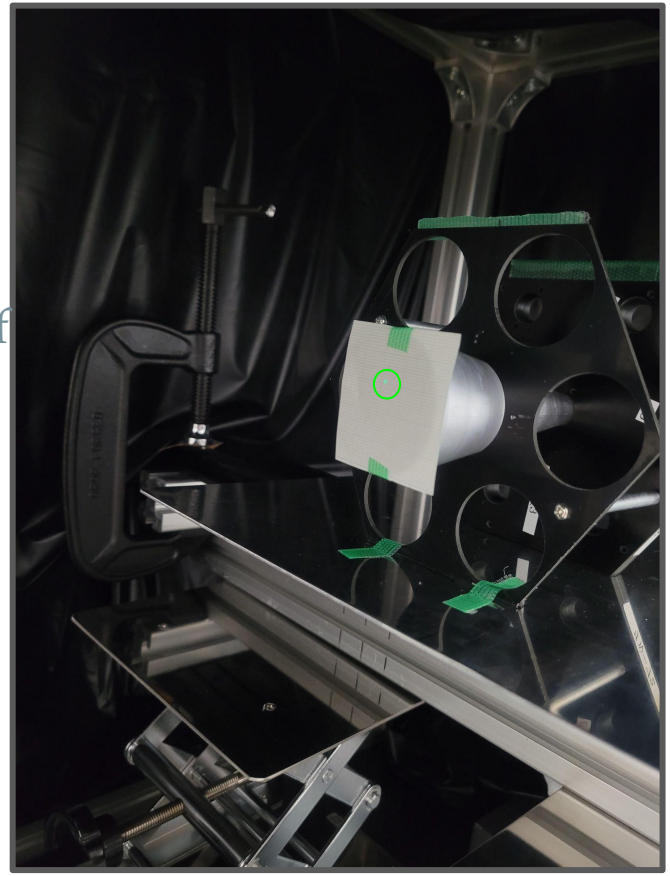
Alignment Process 1

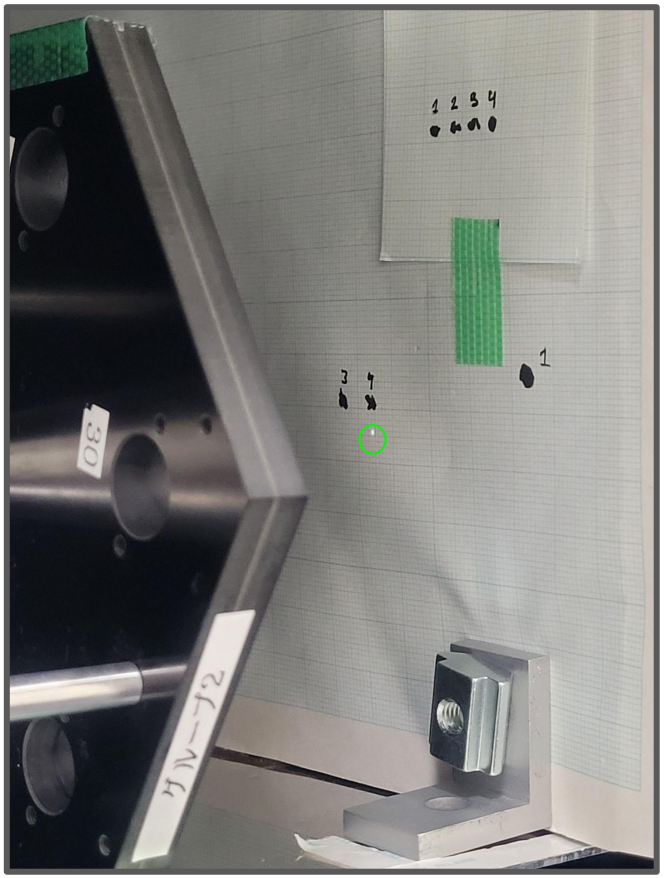
Check measurements of the laser and collimator to be x amount of mm above the beam



Alignment Process 2

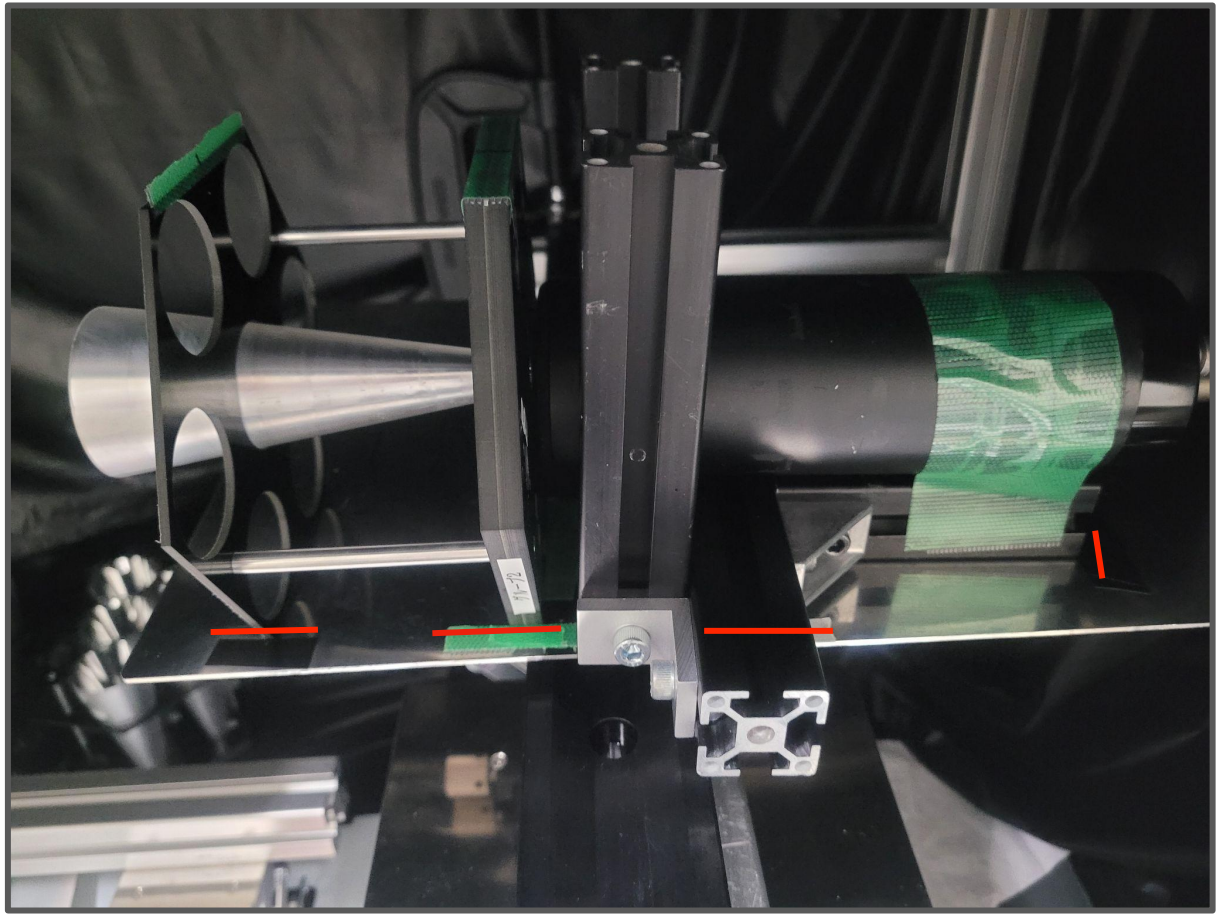
Use paper screen in place of PMT to center the laser trajectory into the cone





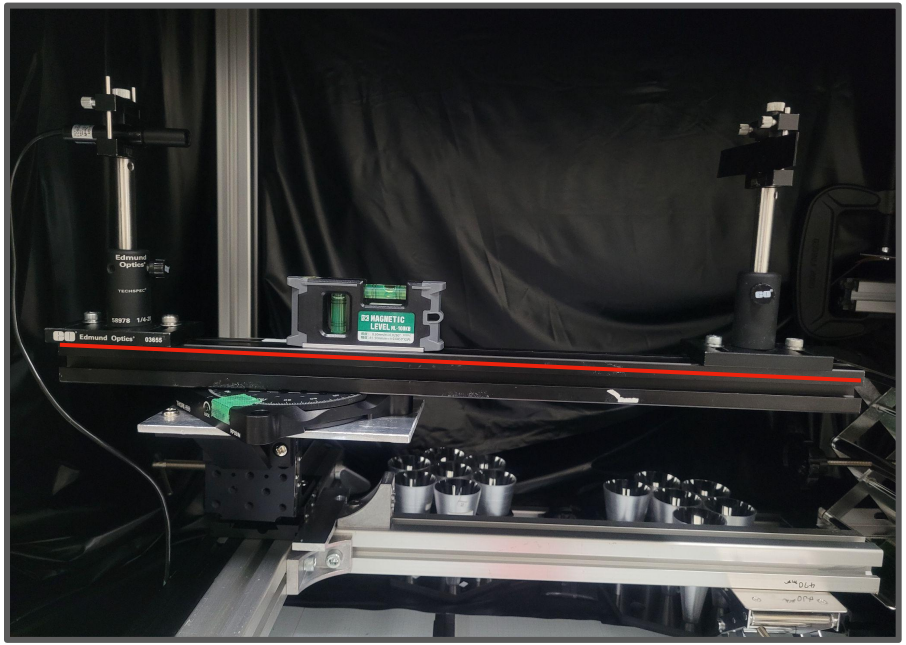
Alignment Process 3

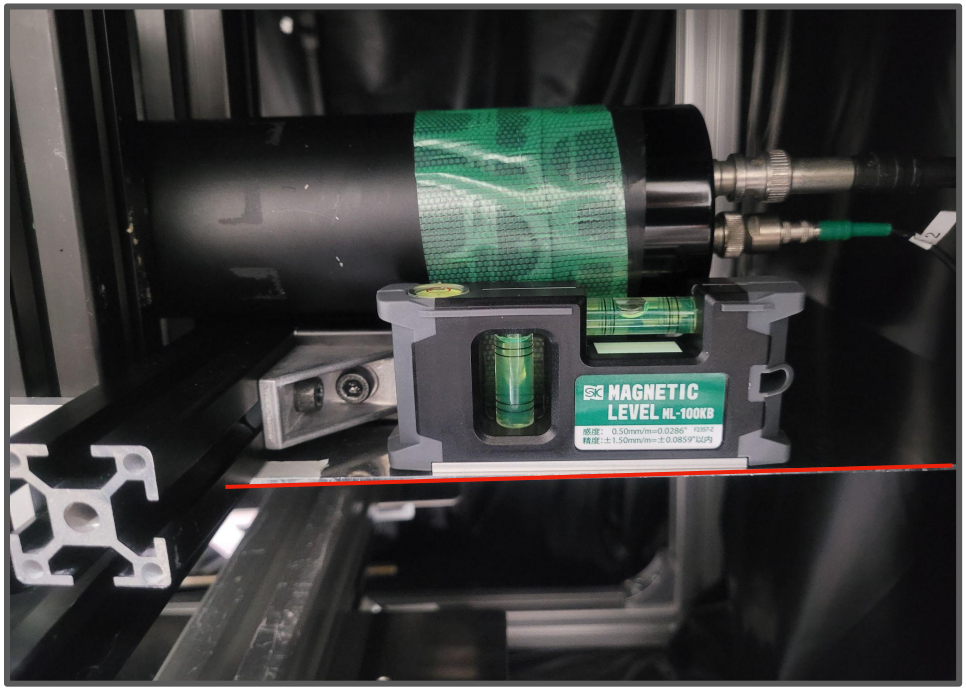
Marked positions of screen, pmt, cone placements on platform



Alignment Process 4

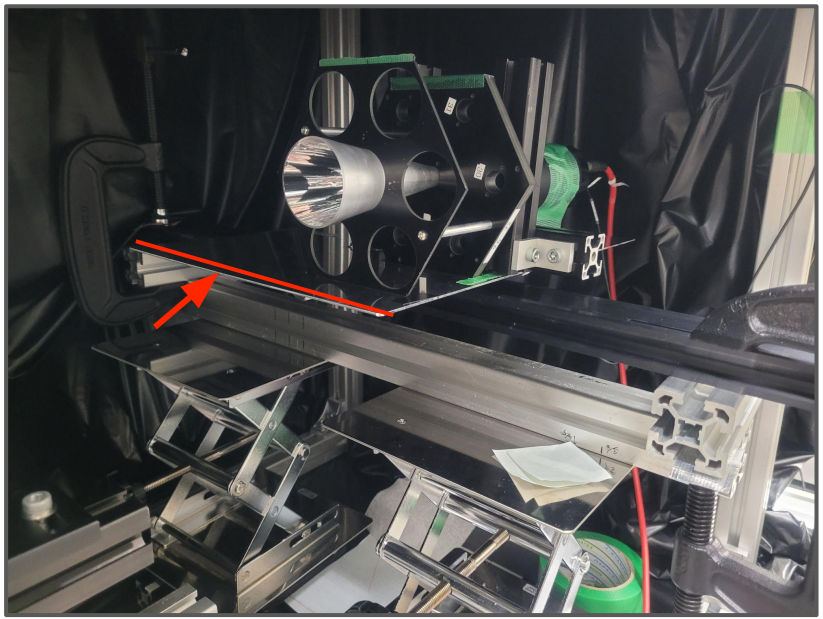
Get alignment of main platform and beam that is holding the laser and collimator

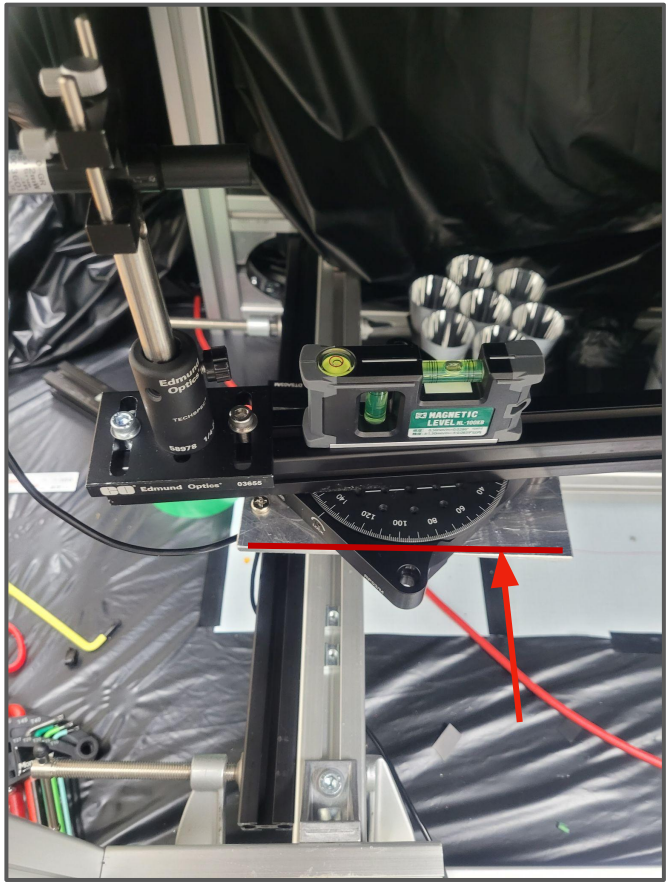




Possible errors

Platform where the pmt is placed can slightly tilt, as well as the platform holding the angle adjustment





Summary

- ➔ Data collection for tests for: x-axis, y- axis shift, theta shift, and basic pmt lasers
- ➔ Normalizing and analysis of plots
- ➔ Created procedure to align light concentrator test
- ➔ diagrams for project
- ➔ Exploring possible error points during data collection