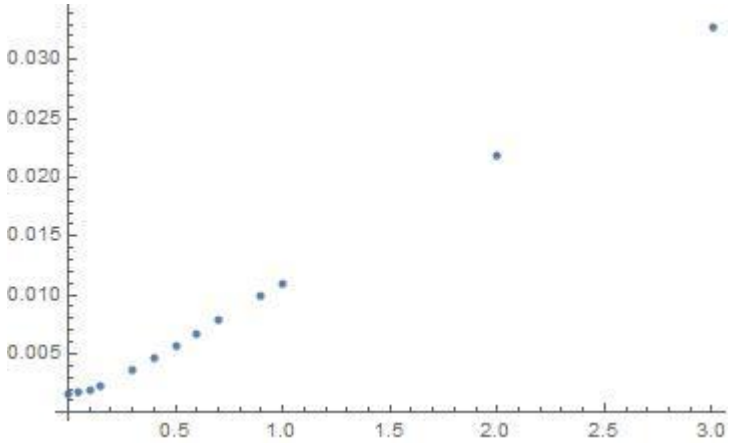
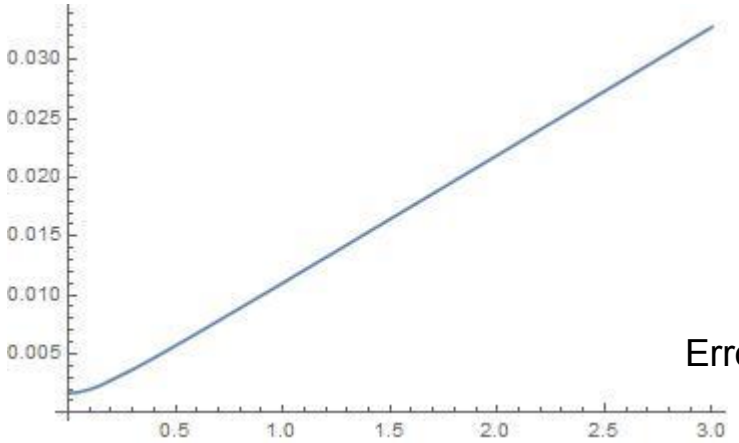
Aerogel Index of Refraction

Meeting 7/31

Error in x and L

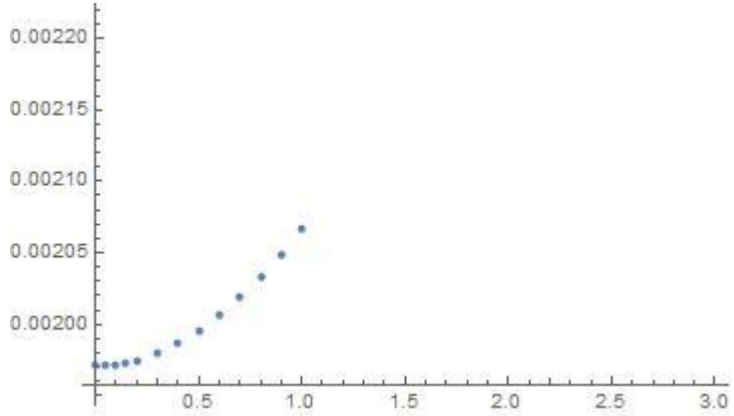
Error in n

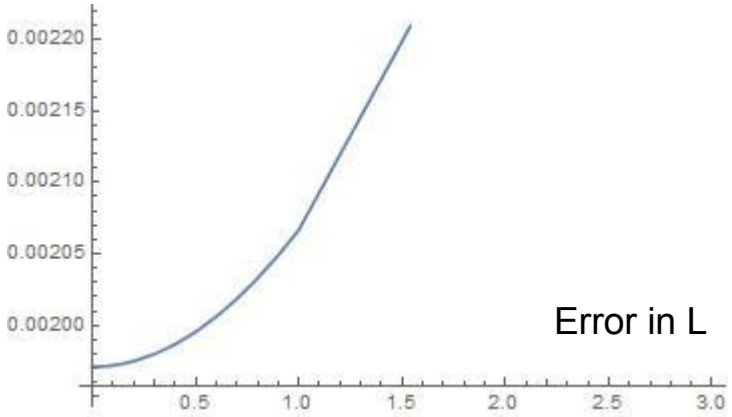




Error in x

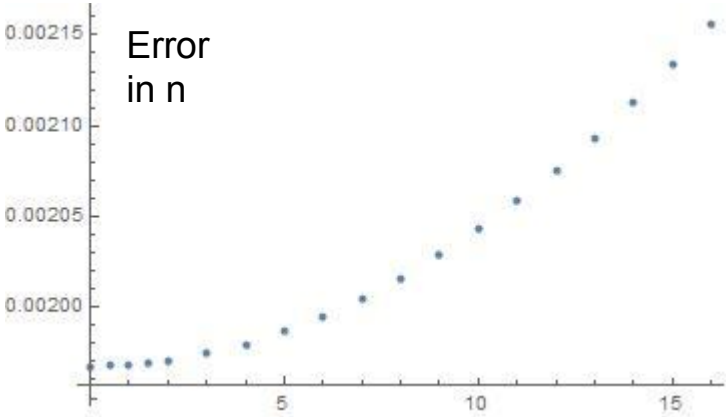
Error in n

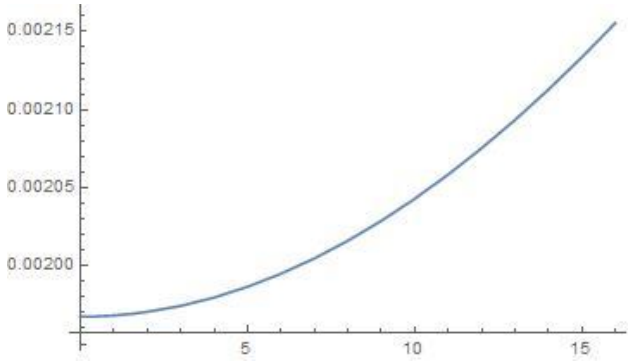




Error in L

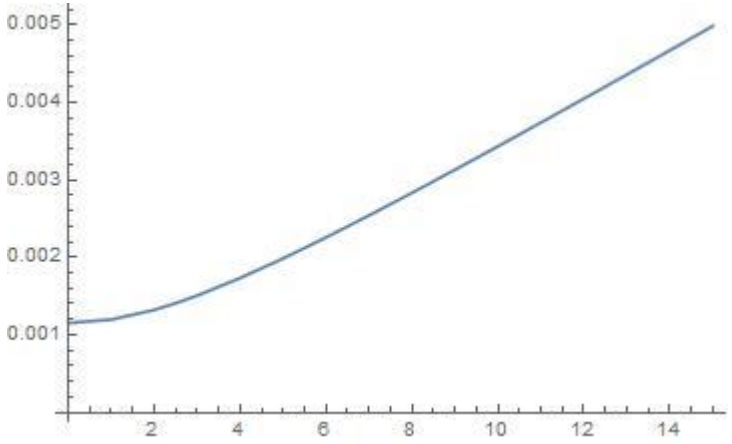
Error in Alpha and Beta

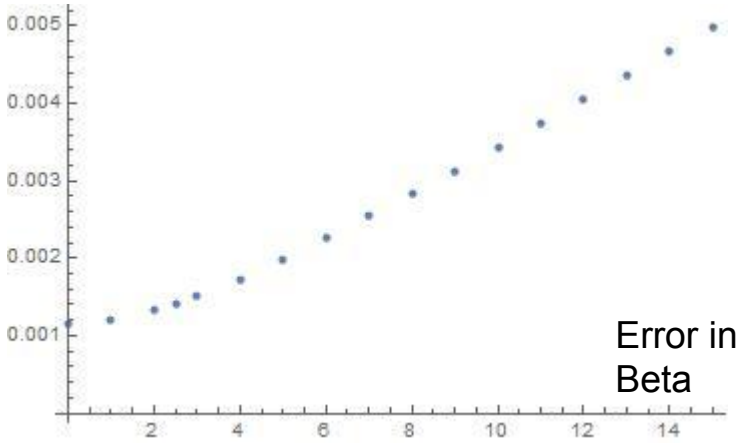




Error in
Alpha

Error
in n



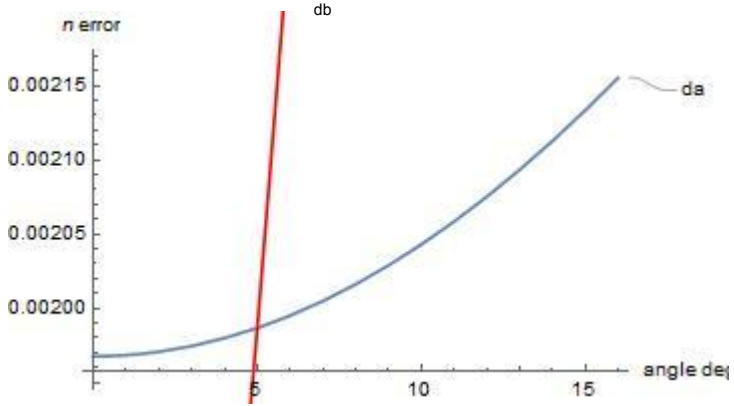


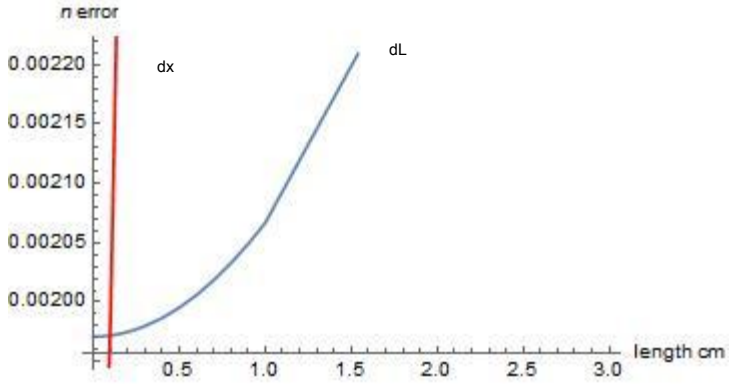
Error in
Beta

Error Analysis

- The Original Equation is very sensitive to error in Beta and x, not as sensitive to error in Alpha and L
- An error of less more than 2 deg. In Beta means an error of abt. 0.002 in n
- The x measurements are already precise, just need to double check to make sure everything is aligned properly
- Used Starting measurements of:

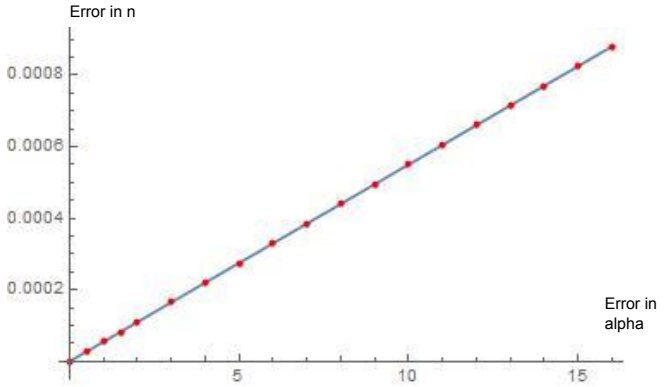
Ai = 45 deg	dAi = 5 deg
Bi = 90 deg	dBi = 5 deg
Li = 45.6 cm	dxi = .1 cm
xi = 2.6 cm	dLi = .4 cm

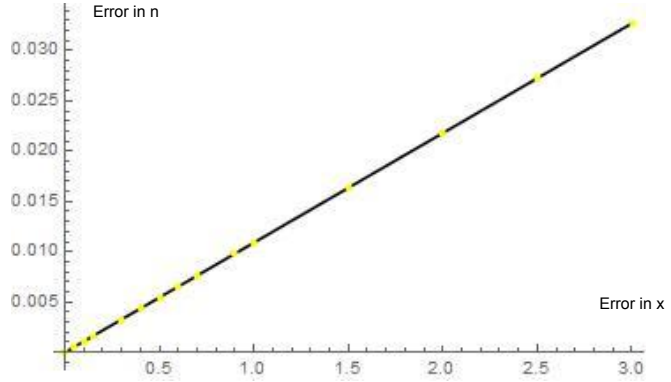


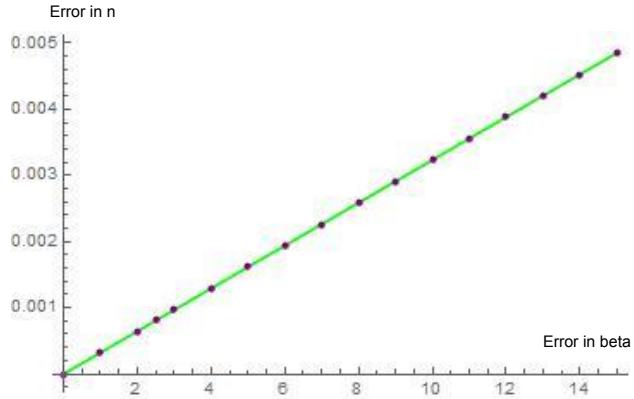


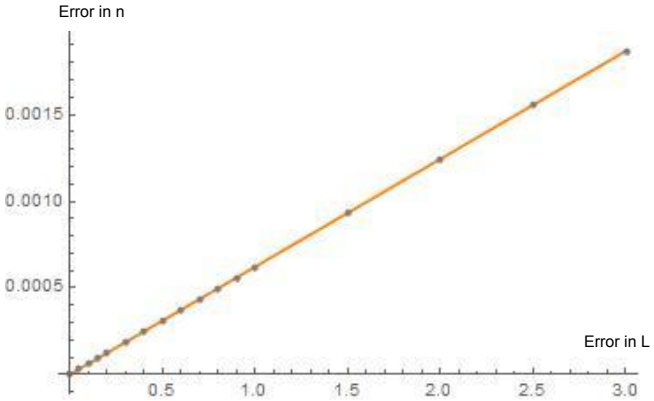
https://docs.google.com/spreadsheets/d/1HJZ5eK6huzZO94GtAjLsAfnvpXzxYXvuAw74P8qCl84/edit#gid=0

New error graphs (with other error set to 0)

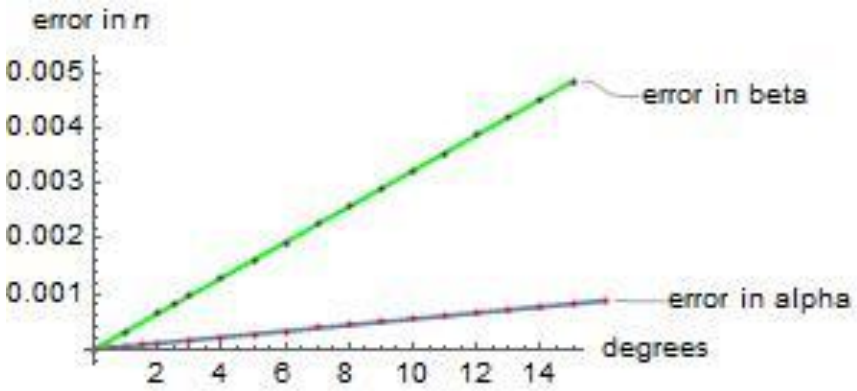


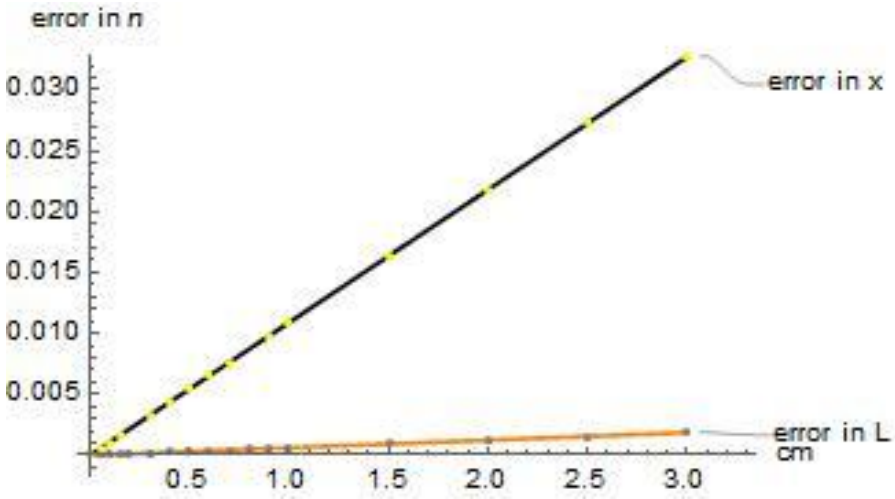






New error graphs (with other error set to 0)





Projects

- Plastic Prism image analysis
- Fix horizontal Index of Refraction Measurements - use image analysis to verify α and β
- Vertical Index of Refraction Measurements
- Presentation?
- Root?
- Transmittance Measurements?