

Lab 1 Tasks

Key Plot with caption due Friday, September 18th at 10pm

Read Ch. 1, Secs. 1.1-7 in your Lyons text (pp 1-21)

1. Use the time delay between light signals sent along short and long paths in air to find the speed of light in air. Estimate the variance of each of your measurements. Develop a technique to combine your uncertainty estimates and use it to get an estimate of the uncertainty on the speed you found. Be sure to explain why you think your technique does a good job of combining the errors. Does the defined value of c fall within your uncertainty range? For each experiment, remember to identify the largest sources of random uncertainty and any significant sources of systematic uncertainty.