

PHYSICS 230 LAB #2

Discussion topics

Use this along the lab manual. Please keep in mind that the lab prep session is not a spoon-feeding session. You should read the manual and this **prior** to the lab prep session so that when you attend the session, you have some ideas regarding the lab. You should be the initiator, not other students or instructors.

For every setting, what can you do to minimize the friction (don't forget to write it on the report)?

Make sure to learn how to use an electronic scale in the lab room.

Notice the way support rods are stored. Why do you think the threaded sides are up?

Setup #1

Does the string at the rods have to be at the same height? Make sure to prove it mathematically (in the calculation section in the report) and to physically check it (don't have to write it on the report).

What are measured as data here? What would be the best way to present them in the data section?

Draw a force diagram and break the vectors into x and y components. Then, derive an equation for m_2 .

Setup #2

Does the string at the rods have to be at the same height?

Why does the string between the masses have to be horizontal?

What are measured as data here? What would be the best way to present them in the data section?

Draw a force diagram and break the vectors into x and y components. Then, derive an equation for m_2 .

Setup #3

Connect two force sensors to a load cell amplifier, which is connected to a Pasco Xplorer GLX before it is turned on. Once they are all connected turn on Xplorer (right bottom switch) while the force sensors are on the lab table to make zero readings. Also, notice the directions of forces and their corresponding signs on the indicator.

What are measured as data here? What would be the best way to present them in the data section?

Draw a force diagram and break the vectors into x and y components. Then, derive equations for F_1 and F_2 .