

Long-term project

1 Long-term project: Tracking the positions of planets

Instructions

UPDATE 2006-03-07: also measure the distance between Mars and Saturn when you take each observation!

This exercise will be performed outside of lab. You will use the skills you have learned in lab so far to track the positions of Mars and Saturn over the rest of the semester.

At least once a week (*this means you need at least eight observations by the end*) you should measure the angular separations between each visible planet and at least three nearby stars. Also measure the angular separations between the planets.

The more stars you use, the better your positions will be. Make sure the stars are ones you can identify on the chart you will use for plotting. It also helps if the stars you choose “surround” the planet and are not too close to each other, but are not too far from the planet. Be aware of the weather and take advantage of clear nights when they occur.

To summarize:

At least once a week go outside, find Mars and Saturn, record date and time, record the angular separations between each planet and several nearby, identifiable stars. Also measure the angular separations between the planets. Later you should plot the positions of the planets on your chart to make sure you are getting useful data.

At the end of the semester you will use these observations to construct a final chart showing the movement of the planets and to measure the speed of their motion.