

Weighing Jupiter – Period 2

Turn in one copy of this lab with each group member's printed name and signature. By signing, you certify that you have actively participated in the exercise and have put forth effort in equal share to your fellow group members.

Printed Name

Signature

Part 2

1. What physical property does the amplitude of the sine curve represent?
(The amplitude is how high it is from zero, or half the total height.)

2. What physical property does the wavelength of the sine curve represent?
(The wavelength is the amount of time it takes to get back to the same position on the graph.)

3. Describe your fitting process. What was difficult? For which moons was the curve easiest to sketch? Why?

Part 3

Note: In increasing order of semi-major axis, the moons are: Io (closest), Europa, Ganymede and Callisto (farthest)

Table 1: Data

Moon	a (pixels)	P (hours)
Io		
Europa		
Ganymede		
Callisto		

Table 2: Conversions

Moon	a (Kilometers)	a (A.U.)	P (years)
Io			
Europa			
Ganymede			
Callisto			

Table 3: Calculating Jupiter's Mass

Moon	Mass of Jupiter (solar masses)
Io	
Europa	
Ganymede	
Callisto	
Average	

1. Compare the answers you got for the mass of Jupiter from the different moons. Did you get similar or different answers?