

Revolution of Jupiter's Moons

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

1. Measure Jupiter's diameter in pixels. Be sure the scale is set to linear and that the min-max button is selected.

Jupiter’s diameter in pixels: _____

Table 1: Apparent Distances from Jupiter (in pixels)

File Name	Moon 1	Moon 2	Moon 3	Moon 4

Enter the moon data for each of your images. It does not matter what order the moons are measured in. Remember: it is negative if the moon is to the left of Jupiter and positive if the moon is to the right of Jupiter.

2. 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.)

3. 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.)

Note: In order of distance from Jupiter, the moons are: Io (closest), Europa, Ganymede and Callisto (farthest)

Table 2: Data

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

Table 3: Conversions

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

Table 4: Calculating Jupiter's Mass

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

