

High magnification viewing of the Galilean moons



Are you ready for a solar system observing activity? Try viewing the tiny disks of the Galilean moons of Jupiter!

- Attempt on a night with good seeing. You need to resolve 1.1 arc seconds.
- Best when Jupiter is in Taurus or Gemini, and reaches its nightly culmination. This places it high above the horizon for minimal atmospheric distortion.
- Best when Jupiter is near opposition. This gives the greatest disk diameter of the moons.
- Use at least 300 magnification. This gives a magnified diameter for Ganymede of 300 times its true angular diameter.
- Polar alignment is very helpful, and tracking is a plus.

If you have resolved the disk of Neptune, you likely will be able to discern the disks of the Galilean moons at high magnification (>300x).

Note:

Is Ganymede noticeably wider than Io and Europa? Are there any apparent color differences among the four moons? Are there albedo differences among the moons?

			Angular	
		Diameter	Diameter	
Moon	Magnitude	(miles)	(arc sec)	Albedo
lo	4.9	2264	1.2	0.63
Europa	5.2	1940	1.1	0.67
Ganymede	4.5	3274	1.8	0.43
Callisto	5.5	2995	1.6	0.22

Relative angular diameters of various bodies in the solar system

eat Mars,

Near Opposition						Near/Conjunction
Europa, 1.1 sec	lo, 1.2 sec	Callisto, 1.6 sec	Ganymede, 1.8 sec	Neptune, 2.3 sec	Uranus, 3.8 sec	Mars, 3.9 sec
0	0	\bigcirc	\bigcirc			

Jupiter, near Opposition Angular diameter: 48 arcsec Diameter: 86881 miles

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