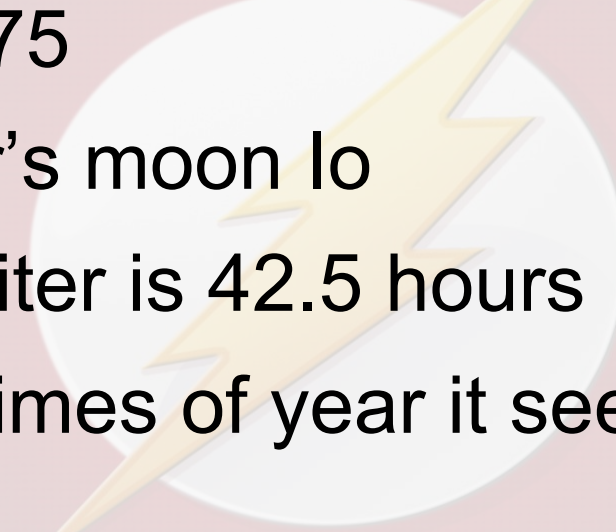


A yellow lightning bolt strikes a white circle, set against a light gray background. The lightning bolt is positioned diagonally, with its tip pointing towards the top right and its base towards the bottom left. The white circle is centered behind the lightning bolt.

Speed of Light

Roemer's Method

- Found in 1675
 - Uses Jupiter's moon Io
 - Io orbits Jupiter is 42.5 hours
 - At different times of year it seemed longer or shorter
- 

Jupiter

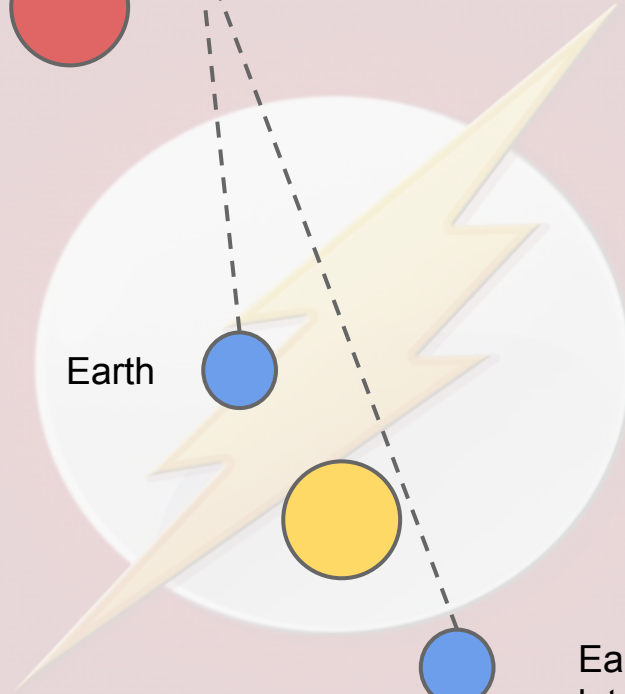


Io

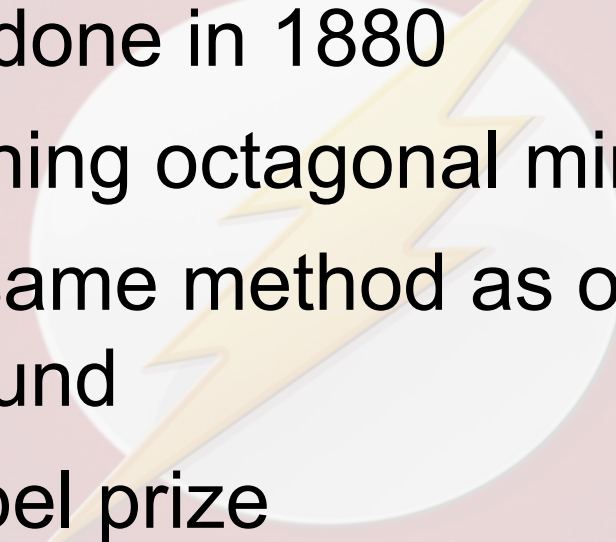
Earth

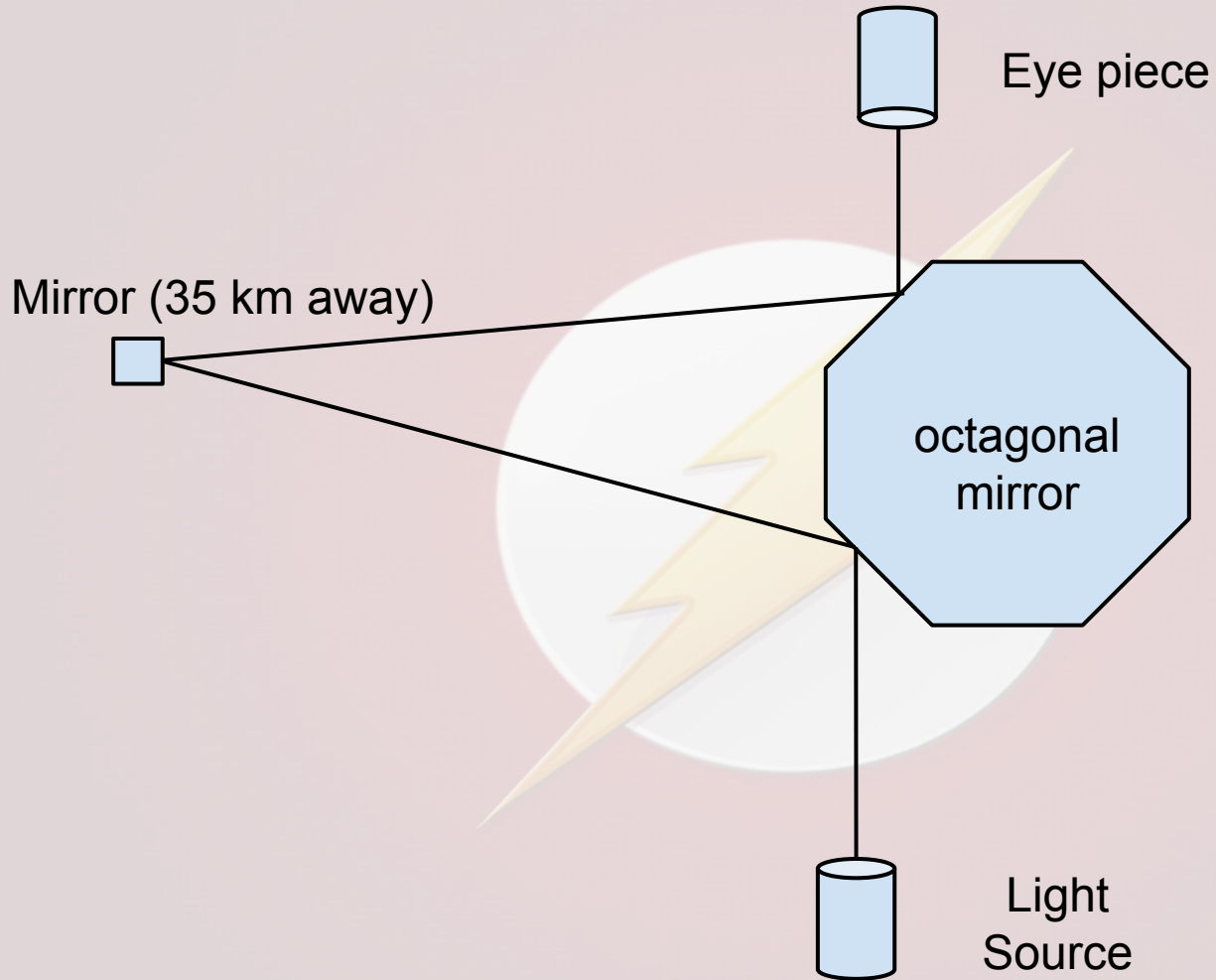


Earth 6 months
later

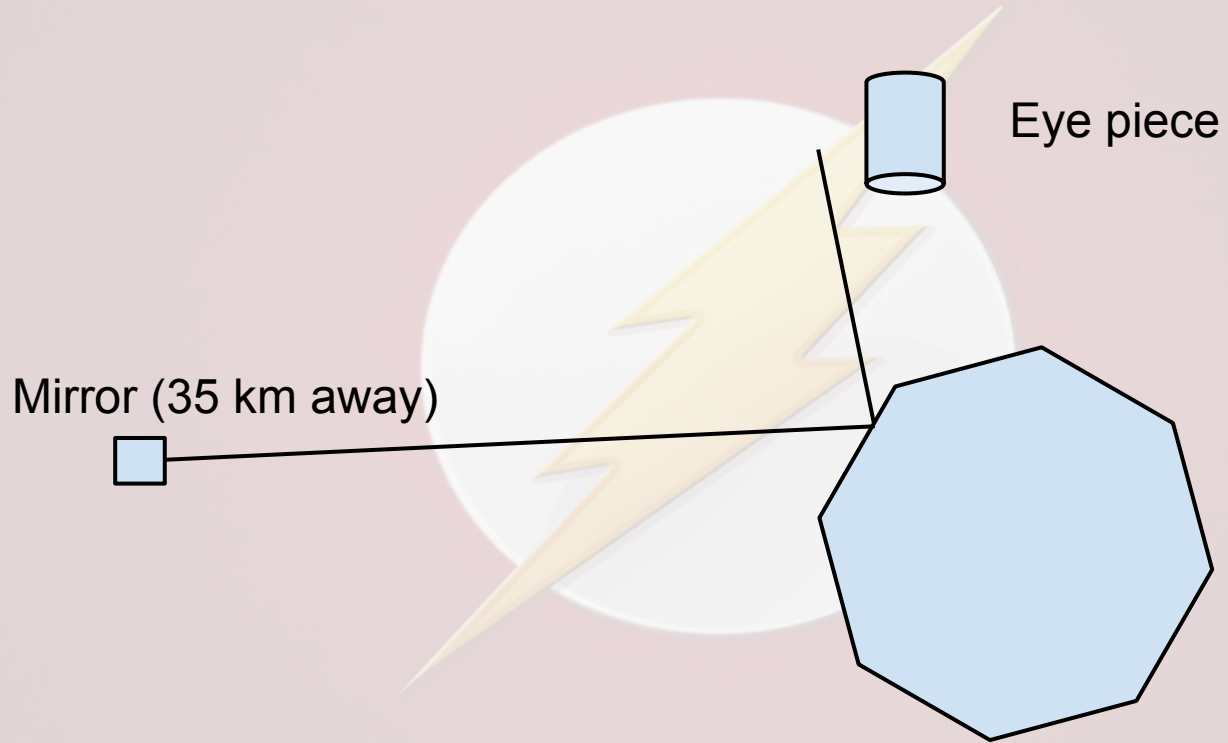


Michaelson's Method

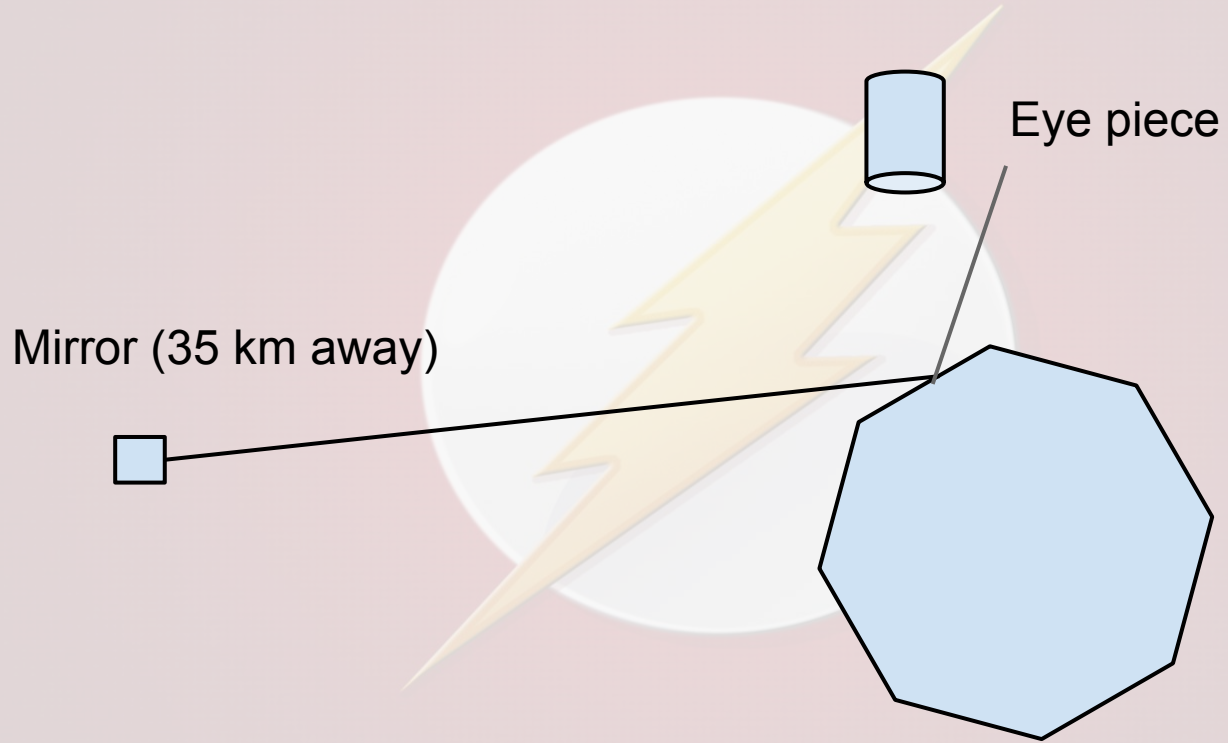
- Experiment done in 1880
 - Used a spinning octagonal mirror
 - Essentially same method as our clapping at a wall for sound
 - Won the nobel prize
- 



Too Slow



Too Fast



So How Fast is it?

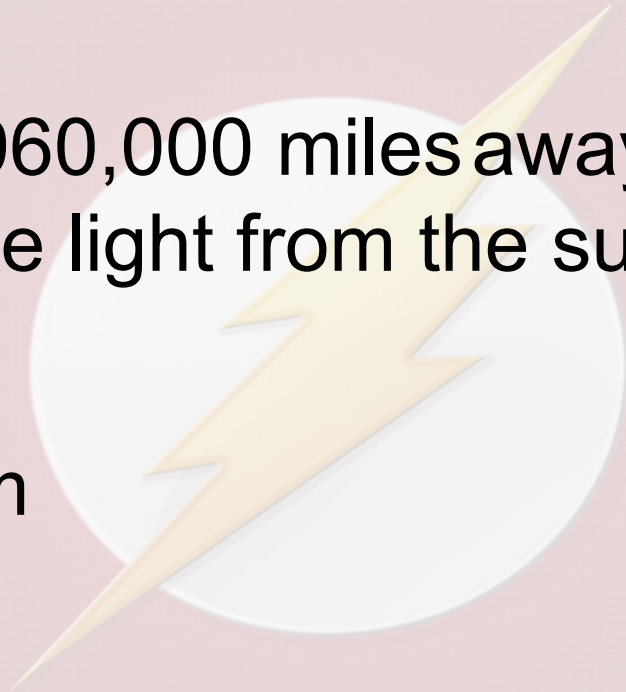
- 300,000 km/s
- 3×10^8 m/s
- 6.7×10^8 mph



Reality check...

The sun is 92,960,000 miles away from us. How long does it take light from the sun to get here?

1 mile = 1.6 km



Don't Forget Pluto

Pluto is 3,670,050,000 miles away from the sun.
How long does it take light from the sun to get to Pluto?



Time to switch it up

Light from the sun takes 12 minutes to get to Mars. How far away is Mars from the sun?

