

Today in Math History...

-25 September 1644

Olaus Roemer born. The Danish astronomer was the first to measure the speed of light.

Jupiter (B) eclipsing its moon Io (DC) as viewed from different points in earth's orbit around the sun. It is possible to time the orbital revolution of Io because it enters and exits Jupiter's shadow at regular intervals (at C or D). Roemer observed that Io revolved around Jupiter once every 42.5 hours when Earth was closest to Jupiter (at H). He also observed that, as Earth and Jupiter moved apart (as from L to K), Io's exit from the shadow would begin progressively later than predicted. It was clear that these exit "signals" took longer to reach Earth, as Earth and Jupiter moved further apart. This was as a result of the extra time it took for light to cross the extra distance between the planets, time which had accumulated in the interval between one signal and the next. The opposite is the case when they are approaching (as from F to G).

