

Relative Light Speed

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See Unified Absolute Relativity Theory at:

<http://www.wbabin.net/saraiva/saraiva105.pdf>
<http://www.wbabin.net/saraiva/saraiva223.pdf>

It's impossible to detect the orbital Earth speed with any experiment done inside the Earth atmosphere and Earth gravitational field. So, the Michelson-Morley experiment measures a zero speed between the Earth and the Earth atmosphere and gravitational field.

Astronomical aberration proves that light speed is relative. Light speed sums with the speed of the detector.

Io's eclipse period variation also proves that light speed is relative.

Io's eclipse period

Io's eclipse period relative to Jupiter is a constant:

$$\Delta t = 1.53 \times 10^5 \text{ s}$$

But, observed from the Earth this period changes with the Earth speed relative to Jupiter or Io.

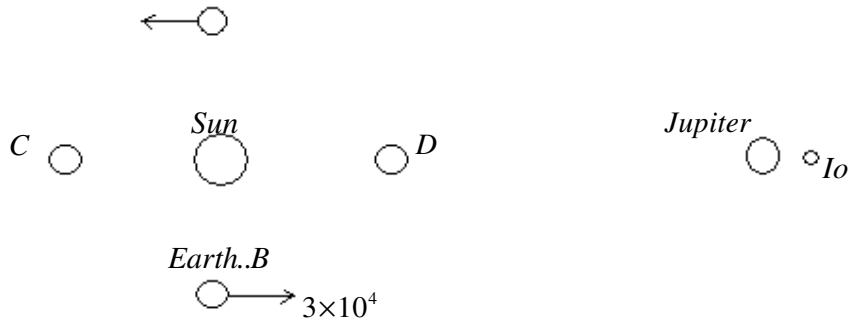
A difference between distances is a constant: $\Delta x = x_2 - x_1 = \text{const} \tan t$

A difference of speeds is also a constant: $\Delta v = v_2 - v_1 = \text{const} \tan t$

A difference of times is a variable: $\Delta t = \frac{x_2}{v_2} - \frac{x_1}{v_1} = \text{variable}$

A period changes with relative speed. It doesn't change with distance.

$$3 \times 10^4 \text{ Earth..A}$$

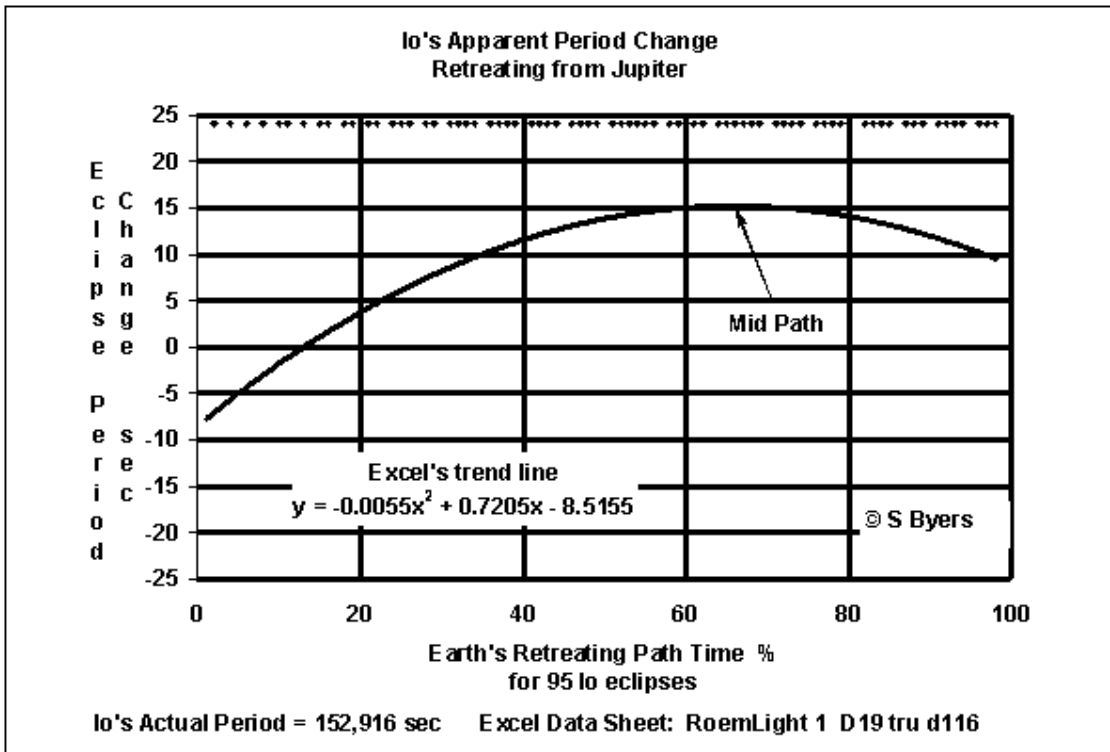


$$\Delta t_C = \Delta t_D = \Delta t$$

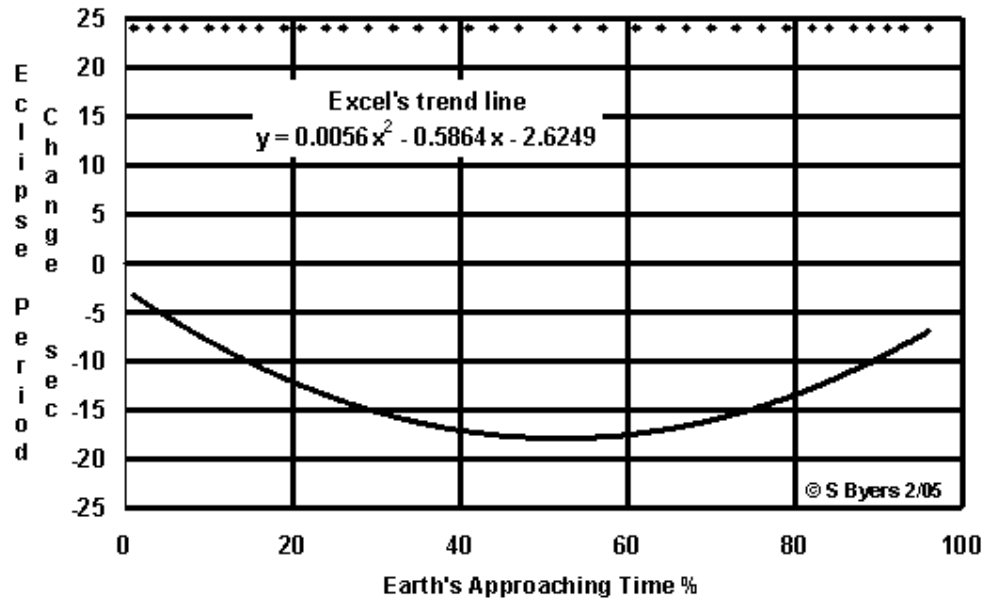
$$\Delta t_A = \frac{\Delta t \cdot c}{c - 3 \times 10^4} > \Delta t ; \quad \Delta t_B = \frac{\Delta t \cdot c}{c + 3 \times 10^4} < \Delta t$$

$$\Delta T = \Delta t_A - \Delta t = \Delta t \frac{3 \times 10^4}{c} = 15.3s$$

- Astronomy on line data
- www.amsmeteors.org/mallama/galilean/timings.html



**Io Apparent Period Change
Earth Approaching Jupiter**



Actual Io period = 152,916 sec

Excel Data Sheet: RoerrLight3 D17 tru D112

It's evident that light speed is relative.