

[mex216] Lorentz transformation II

Consider the two events with coordinates $x_1 = 1\text{ly}$, $t_1 = 1\text{y}$ and $x_2 = 2\text{ly}$, $t_2 = 0.5\text{y}$ in frame S . (Here “ly” stands for light-years and “y” for years.) The two events are simultaneous in frame S' .

- (a) Find the relative velocity v between frames S and S' .
- (b) Find the time $t'_1 = t'_2$.

Solution: