Lecture 11 -> clicker -> clicker

More on proper time: proper time between two events is the time as measured by a stationary clock present at both events

Then, in that clock's FoR,

$$DX = 0 \quad \Delta t = PROPER TIME$$

$$S^{2} = (\Delta t)^{2} - (\Delta x)^{2} = C^{2} (PROPER TIME)^{2} > 0$$

$$\therefore PROPER TIME = \sqrt{\frac{S^{2}}{C^{2}}}$$

What if we have an clock that does not move with constant speed?

---> need to break its trajectory into small pieces of approximately constant speed



For C, u=0 the whole time. For others, u is not zero, so

TI-UZL (I =) UESS PROPER TIME

P & C O

This makes sense: moving clocks run slow

Collisions, momentum and conservation of momentum

