#flo #hw #reading

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1 | Einstein!

axioms are true, and things derived from axioms are true (”true”) if we mirror reality, then we can judge truth by what is (ruler and compass) - but this ”truth” is limited! - as revealed through general relativity - every scene, event, or object in space is relative to a point on a rigid body - required to be on the surface of rigid bodies - dependent on the existence of points that are distinguishable - we can surpass these limitations! - by doing this: - modify the reference rigid body such that it reached the target object - use a number for length instead of predefined points of reference - we don’t need to actully modify the original rigid body. - aka, cartesian coords!

> ”the purpose of mechanics is to describe how bodies change their position in space with time.”

wrong! according to einstein

standing on a train, drop a stone, does it fall in a straight line or a parabolic curve ”in reality”? thus, what is space and time? hence, the def above sucks.

instead, we get ”motion relative to a practically rigid body of reference” we also have to deal with time, as defined by clocks located in each reference frame

1.1 | chapter 4 and on, later

inclass! the law of inertia: a body w/o gravitational influence or will either stay in uniform motion or be at rest we can only use this in the galilein system

inertial reference frames w/o rotation can inherent laws from eachother

1.2 | starting, again

- W = v + w, where W is relative velocity and v, w are the individual velocites
  - this equations **does not work!** for reasons which, we are about to learn.
  - but we are gonna assume it is correct

1.2.1 | the apparent incompatibility of the law of propagation of light with

the principle of relativity :CUSTOM$_{ID}$: the-apparent-incompatibility-of-the-law-of-propagation-of-light-with-the-principle-of-relativity

- we know that the velocity of light cannot depend on the velocity of the emmiter
  - else, we can get things that travel faster than light
- also, diff speeds for different wavelenghts?

me direction traveling `w=c-v`

  - but if we are in diff directions…

- but we dont actully need to cull one of the laws that contradict, we just need to do use **special relativity**
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