

IMPORTANT to distinguish between proper motion and parallax! - 4 -

- both cause stars to move against the fixed background of the night sky.
- With several epochs of observations it is possible to tell the diff b/w them — a star exhibiting proper motion will move uniformly in one direction across the sky
 - one displaying parallax will return to its original position after one year of observations tracing out elliptical path on sky.

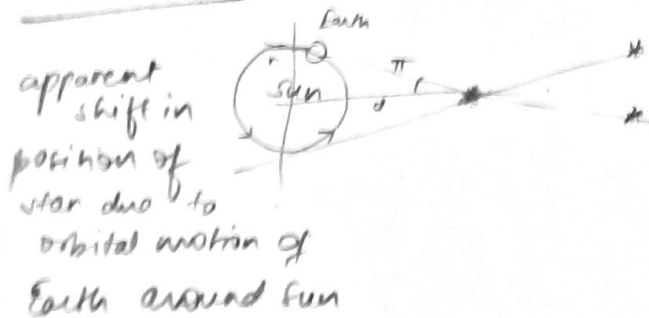
However, breaking this degeneracy is not always simple — all stars exhibit both at some level — it can take several epochs to separate the two due to experimental uncertainties.

$$\mu^2 = \mu_{RA}^2 + \mu_{Dec}^2$$

$$v_t = \mu D$$

v_t transverse vel
 D distance

Parallax



(astronomy.swin.edu.au/cosmos/P/Proper+motion)

QUEST →

to get rid of parallax errors.
why don't we measure/observe the star from the same position in the orbit? — annual obs? everytime