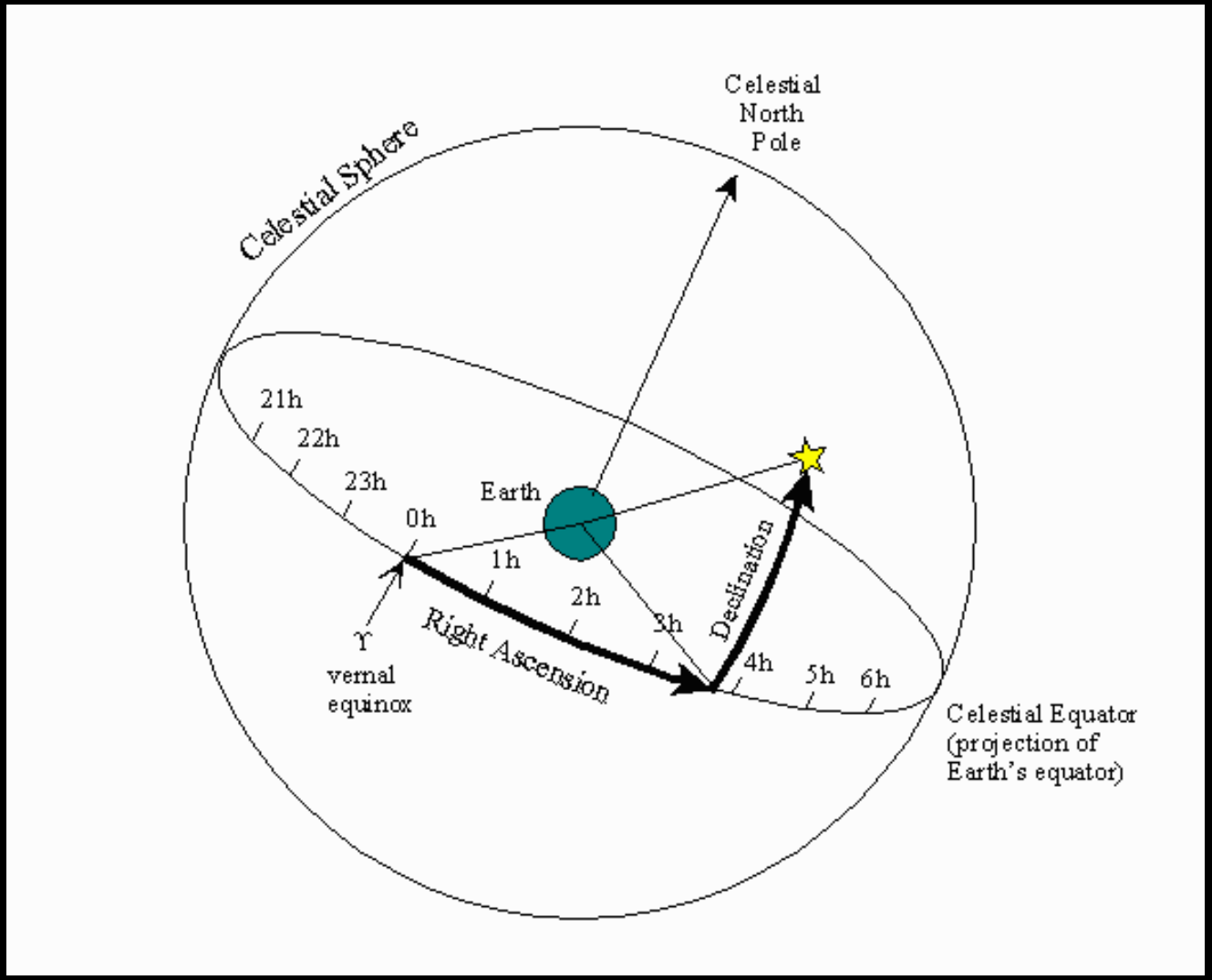
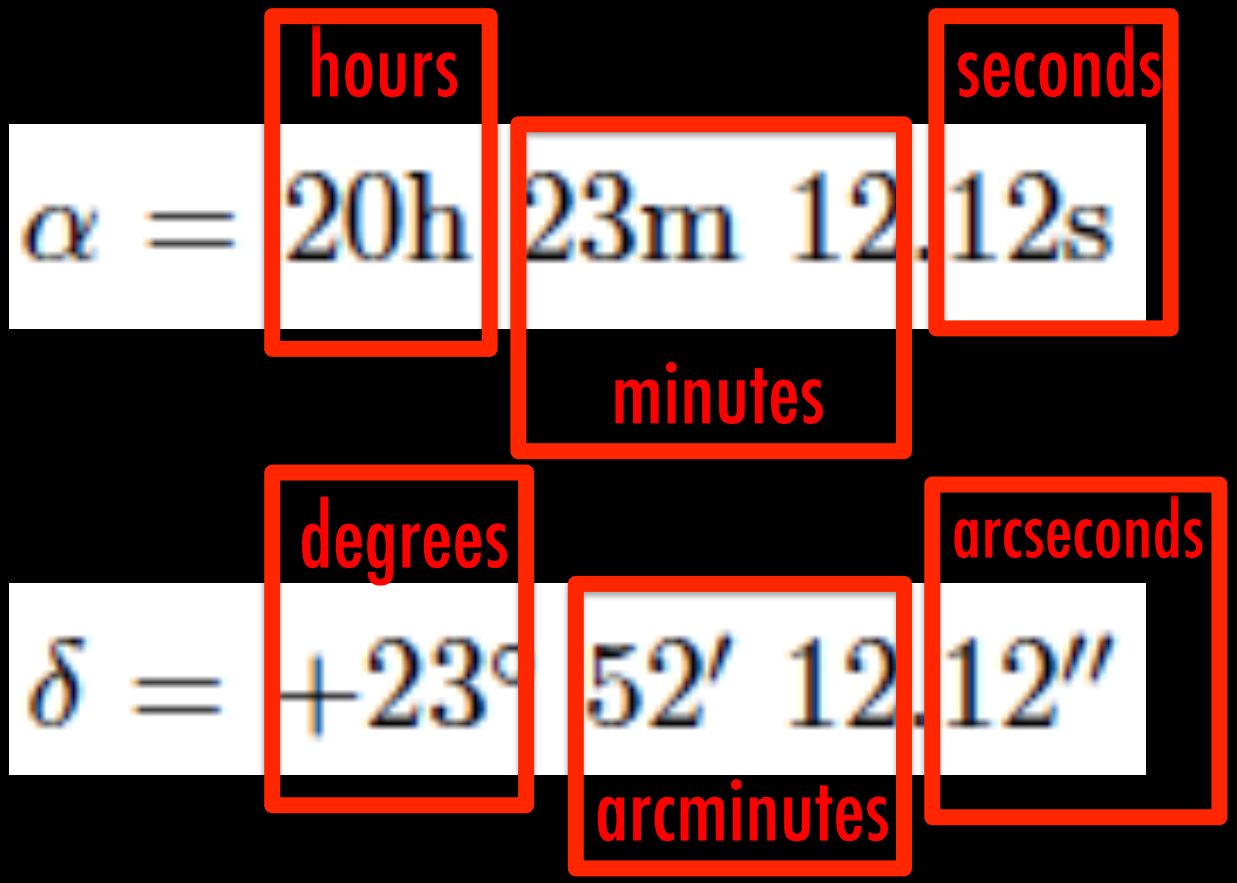
Quick Stars Tutorial

Right Ascension & Declination



RA & Dec Units


hours
seconds
$\alpha = 20\text{h}\ 23\text{m}\ 12.12\text{s}$
minutes
degrees
arcseconds
$\delta = +23^\circ\ 52'\ 12.12''$
arcminutes

RA & Dec Conversions

$$1^\circ = 60' = 3600''$$
$$1' = 60''$$

$$24 \text{ hours} = 360^\circ$$
$$1 \text{ hour} = 15^\circ$$
$$1 \text{ minute} = 15'$$
$$1 \text{ second} = 15''$$

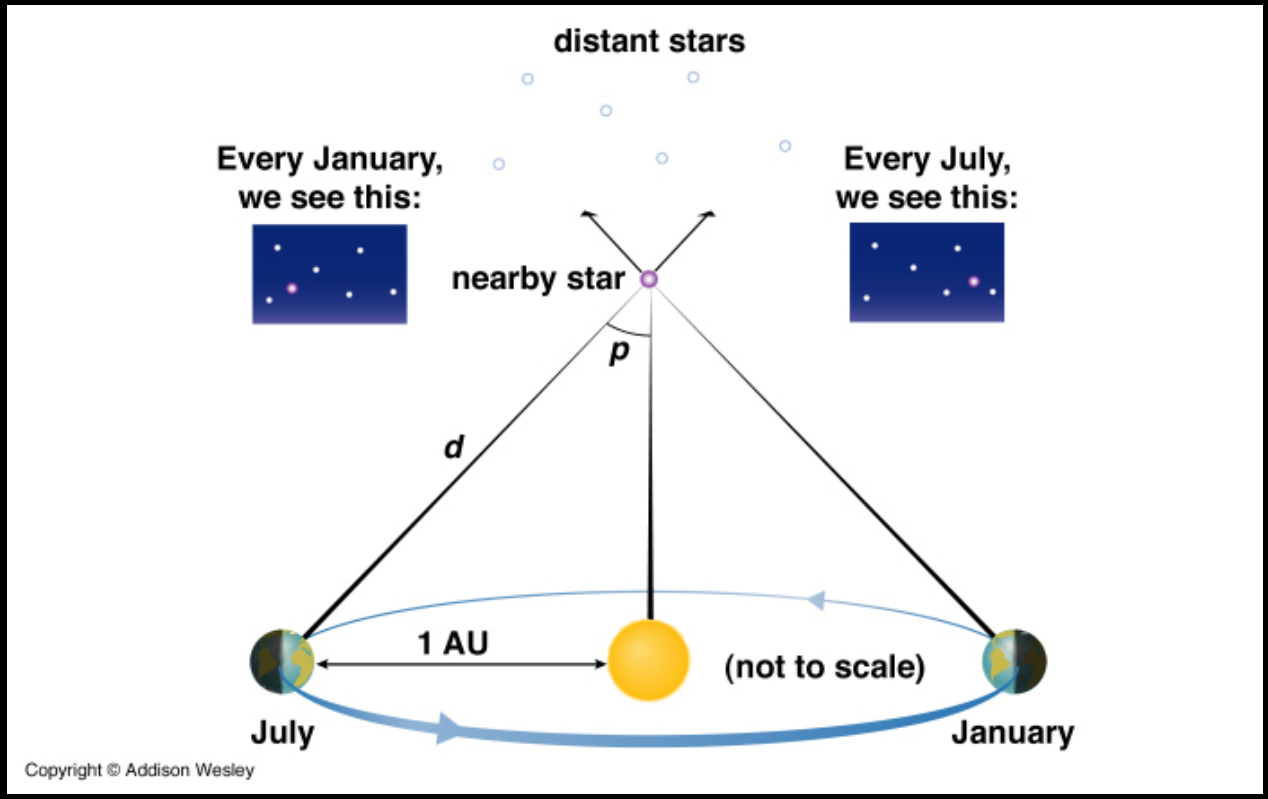
Magnitude & Brightness

- Brighter object = lower mag
- V mag = 540 nm (visible light)
- B-V = color index
  - Lower B-V = bluer
- Magnitude scale is logarithmic

Difference in Brightness

$$\text{Difference in Brightness} = 2.512^{\Delta m}$$

Distance from Parallax



$$\text{Distance [parsec]} = 1.0 \;/\; \text{Parallax [arcsec]}$$

Absolute Magnitude

Apparent mag

$$M = m + 5(\log_{10} P + 1)$$

Parallax (arcseconds)

Proper Motion