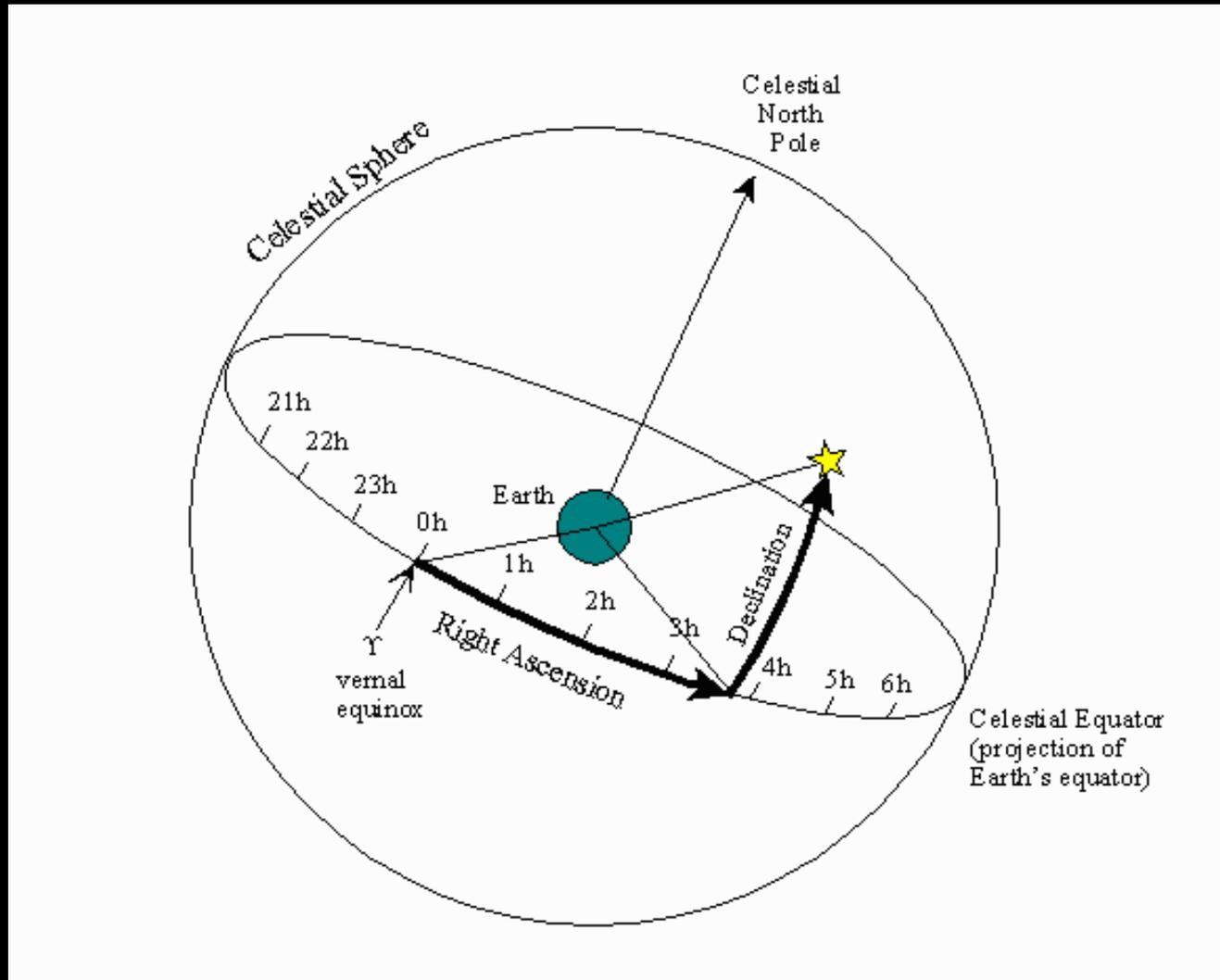


# Quick Stars Tutorial

# Right Ascension & Declination



# RA & Dec Units

The diagram illustrates the units for Right Ascension (RA) and Declination (Dec). It consists of two rows of text on a black background. The first row shows  $\alpha = 20^{\text{h}} 23^{\text{m}} 12.12^{\text{s}}$ . Red boxes highlight the 'hours' unit above '20h', the 'minutes' unit below '23m', and the 'seconds' unit above '12.12s'. The second row shows  $\delta = +23^{\circ} 52' 12.12''$ . Red boxes highlight the 'degrees' unit above '+23°', the 'arcminutes' unit below '52'', and the 'arcseconds' unit above '12.12''.

$\alpha = 20^{\text{h}} 23^{\text{m}} 12.12^{\text{s}}$

$\delta = +23^{\circ} 52' 12.12''$

# RA & Dec Conversions

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

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

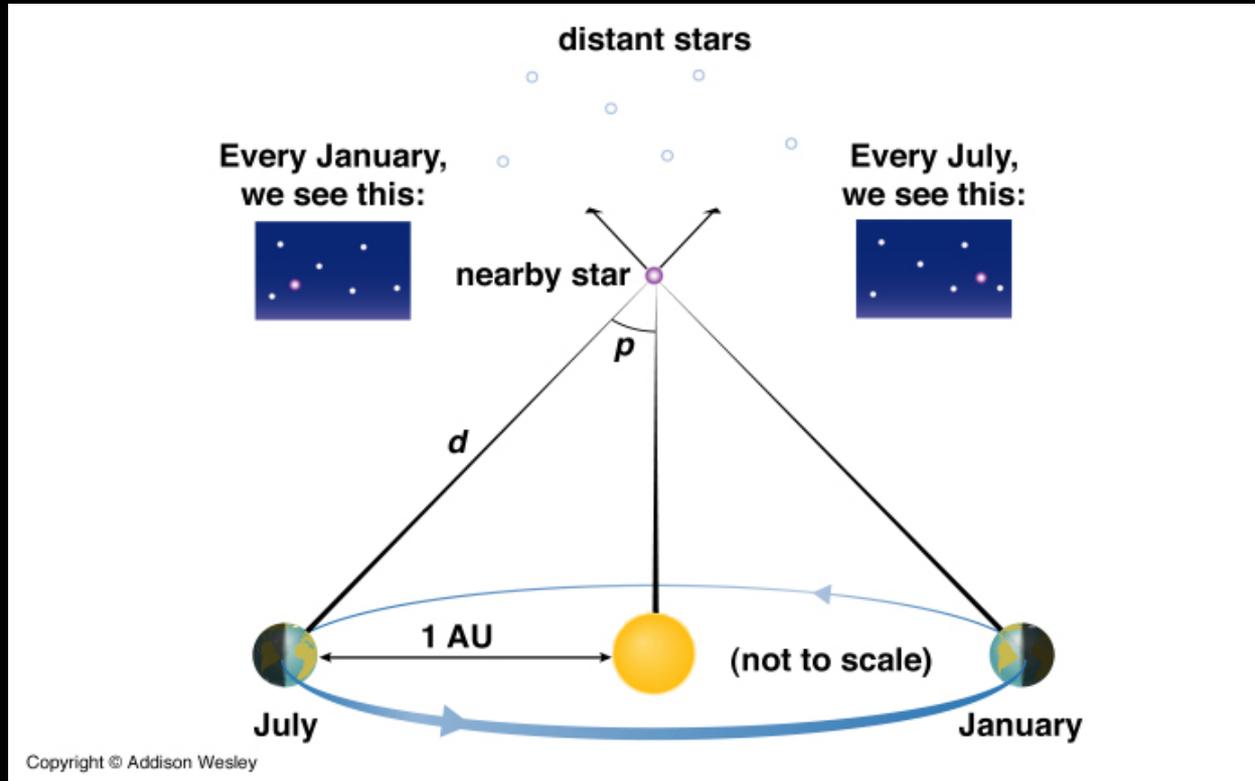
# Magnitude & Brightness

- 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

