Edexcel Physics A-Level

Topic 10.1 - Space Distances and Stars

Flashcards

What is the Astronomical Unit?

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The astronomical unit is the mean distance between the Earth and the Sun.

$1AU = 1.5 \times 10^{11}m$

What is the unit of a light year a measure of?

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Distance.

What is a light year?

What is a light year?

The distance through space that a light photon travels in the space of a year.

$$1ly = 9.46 \times 10^{15}m$$

What can parallax be used for?

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Parallax can be used to calculate distances in space, using observations and trigonometry.

What is a parsec?

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A parsec is an astronomical unit of distance. A star is one parsec (pc) away from the Earth if the parallax angle is 1 arcsecond.

What is a Hertzsprung-Russell diagram?

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A Hertzsprung-Russell diagram is a plot of a star's stellar luminosity against its surface temperature.

What category of star is represented by the main diagonal on a H-R diagram?

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The main sequence stars.

What category of stars lie below the main sequence diagonal on a H-R diagram?

What category of stars lie below the main sequence diagonal on a H-R diagram?

White dwarfs.

What categories of stars lie above the main sequence diagonal on a H-R diagram?

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Red giants and red supergiants.

State the equation linking the intensity, luminosity and distance of a star.

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$$I = \frac{L}{4\pi d^2}$$