

11.24: Types of Star Systems and Stars

There are numerous types of stars and star systems throughout the Universe. We will touch on a few of these; some of the more common stars and star systems and some of the strangest of the stars.

Occasionally, astronomers will look through their telescopes and see two or more stars which happen to line up so that we see what appears to be a double star system, yet these stars are not physically related to each other. These are called **Optical Doubles** and simply happen by chance. Such occurrences are more infrequent than one would think. Systems in which physically associated star systems are made up of two stars are **Binary Stars**. And a **Visual Binary** is a pair of stars that we can see orbiting each other.

An **Eclipsing Binary Star**, or EBS, is a star system in which the star's orbital plane is such that it lies in the line of sight of telescopes on Earth so that the stars eclipse each other. Also called **eclipsing variables**, as one star orbits the more massive central star, the observers on Earth see eclipses occur.

First, the orbiting star will eclipse the more massive central star, eclipsing or blocking some of the light from the more massive and larger central star. Then, the smaller orbiting star will pass behind the more massive central star, usually eclipsing or blocking all of the light from the orbiting star. These eclipses can occur often if the orbiting star is close enough to the more massive central star. Or it may take weeks or months, perhaps even years, between eclipses depending on the EBS.

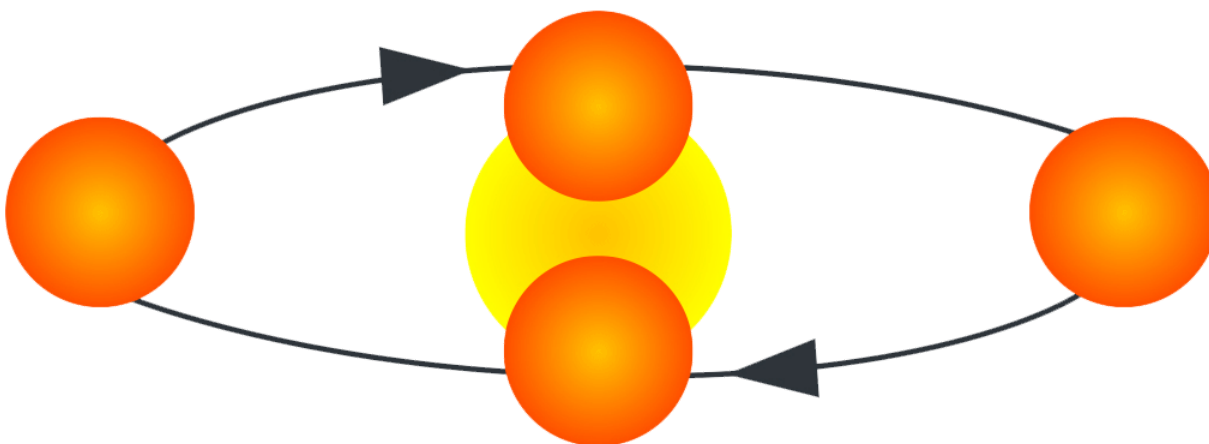


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