



Solar Eclipse

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Why in News

On 26th December 2019, India experienced an **Annular Solar eclipse** of **0.97 magnitude**, with **3 minutes and 39 seconds' maximum duration** of totality.

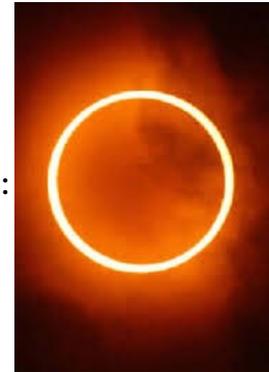


- Parts of **Kerala, Karnataka and Tamil Nadu** experienced the **full glimpse of the “Ring of Fire” solar eclipse**.
 - The **‘ring of fire’** is a **characteristic of the annular solar eclipse**. It causes the sun to look like a **ring (annulus)** and hence the name annular eclipse.
 - **Cheruvathur in Kasaragod district, Kerala** is one of the three places in the world where the solar eclipse was seen most clearly.
- **Partial phases of the solar eclipse** were visible from **all over the country** in varying magnitude depending upon the geographical position.
- This annular solar eclipse was also visible from Saudi Arabia, Qatar, United Arab Emirates, Oman, Sri Lanka, Malaysia, Indonesia, Singapore, Northern Mariana Islands, and Guam.

Eclipse Magnitude

- Eclipse magnitude is the **fraction of the Sun's diameter** which is covered by the Moon.
- It is **strictly a ratio of diameters** and should not be confused with eclipse obscuration, which is a measure of the Sun's surface area covered by the Moon.
- Eclipse magnitude may be expressed as either a percentage or a decimal fraction (e.g., 50% or 0.50).
- By convention, its value is given at the **instant of greatest eclipse**.
- A **solar eclipse** is a phenomenon that occurs when the moon comes in the way of the sun's light. The moon's shadow casts itself on Earth, blocking out the sun's light (as seen from Earth).
- The moon's shadow has **two** parts: **a central region (umbra)** and **an outer region (penumbra)**. Depending upon which part of the shadow passes over the

Earth, one of **three types** of solar eclipses could be observed:



- **Total Solar Eclipse**- The entire central portion of the sun is blocked out by the moon.
- **Partial Solar Eclipse**- Only part of the sun's surface is blocked out.
- **Annular Solar Eclipse**- The sun is covered in such a way that only a small ring-like sliver of light is seen from the sun's disc. This ring is known as the ring of fire.

An annular eclipse happens when the moon is farthest from Earth. As the moon is farther away from Earth, it seems smaller and is unable to block the entire view of the sun, because of which the ring-like structure could be observed.

Source:TH