

What is Double Sun halo?

June 19, 2024 • vajiramandravi.com



About Double Sun halo:

- It is a **rare optical phenomenon** where two concentric rings appear around the sun.
- This occurs when sunlight is refracted through ice crystals suspended in cirrus clouds, creating this dazzling visual effect.
- It is a variation of the more common 22-degree halo, where a bright ring encircles the sun.
- In this case, two halos are visible – an inner halo with a radius of approximately 22 degrees and an outer halo with a radius of around 46 degrees from the sun's center.
- **Formation:**
 - The formation of a double sun halo is a result of the unique shape and orientation of the ice **crystals in the cirrus clouds**. These crystals, typically hexagonal in shape, **act as natural prisms, refracting and reflecting** the sunlight in specific angles.
 - When the ice crystals are randomly oriented, the refracted sunlight creates the **inner 22-degree halo**. However, if the crystals are aligned horizontally, with their flat faces parallel to the ground, an additional refraction occurs, resulting in the outer 46-degree halo.
 - This precise alignment of the ice crystals is rare, making the double sun halo a relatively uncommon sight, especially in regions like Ladakh, where the atmospheric conditions are ideal for such

phenomena.

Q1: What are Cirrus Clouds?

Cirrus Clouds are delicate, feathery clouds that are made mostly of ice crystals. They are thin and wispy in appearance, often appearing as delicate, high-altitude filaments or strands.

Source: Rare double Sun halo seen in Leh: What is this rare phenomenon?

Source: <https://vajiramandravi.com/current-affairs/double-sun-halo/>

© Vajiram & Ravi. For personal use only.