

## Quadrantid Meteor Shower

### Why in News?

The world is all set to witness the 1<sup>st</sup> Quadrantid meteor shower of the year 2025.

#### Meteor shower

- It is a celestial event in which a number of meteors are observed to radiate, or originate, from one point in the night sky called Radiant.
- **Caused by** - Streams of cosmic debris called meteoroids entering Earth's atmosphere at extremely high speeds on parallel trajectories.

- **Name Quadrantids** - It comes from the obsolete constellation Quadrans Muralis, which was named in 1975 by French astronomer JJ Lalande.
- **Origin** - It possibly emerged from asteroid 2003 EH1.

*Quadrans Muralis is located between the constellations of Bootes and Draco (near the end of the handle of the "Big Dipper").*

*Asteroid 2003 EH1 is believed to be a fragment of an extinct comet that broke down in 1490-91, which takes 5.52 years to orbit the Sun once.*

- **Observation** - It was 1<sup>st</sup> seen in 1825 by Belgian astronomer Adolphe Quetelet.
- **Fireball meteors** - These meteors usually lack persistent trains but often produce bright fireballs.
- They are known for their larger explosions of light and color with magnitudes brighter than -3.
- It persists longer than an average meteor streak due to the fireballs which originate from larger particles of material.
- **Speed** - They enter the Earth's atmosphere at high speed, typically around 40km per second.
- **Visibility** - In its peak activity, observers can spot 60 to 120 meteors per hour and the visibility depends mainly on location and timing.

*Quadrantid Meteor Shower in 2025 favour the western regions of North America during pre-dawn hours. They are likely to shine bright as Earth's forward-facing side hits them at high speed.*

<b>Asteroid</b>	A relatively small, inactive, rocky body <i>orbiting the Sun</i> .
<b>Comet</b>	A relatively small, at times active, object whose ices can vaporize in sunlight forming an atmosphere (coma) of dust and gas and, sometimes, a <i>tail of dust and/or gas</i> .
<b>Meteoroid</b>	A small particle <i>from a comet or asteroid</i> orbiting the Sun.
<b>Meteor</b>	The light phenomena which results when a meteoroid enters the Earth's atmosphere and vaporizes; <i>a shooting star</i> .
<b>Meteorite</b>	A meteoroid that survives its passage through the Earth's atmosphere and <i>lands upon the Earth's surface</i> .

## References

1. [The Indian Express| 1<sup>st</sup> Quadrantid Meteor Shower of 2025](#)
2. [NASA| Quadrantids Meteor Shower](#)

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