

Quadrantid Meteor Shower

Why in News?

The world is all set to witness the 1st 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 1st 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.

Asteroid	A relatively small, inactive, rocky body <i>orbiting the Sun</i> .
Comet	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> .
Meteoroid	A small particle <i>from a comet or asteroid</i> orbiting the Sun.
Meteor	The light phenomena which results when a meteoroid enters the Earth's atmosphere and vaporizes; <i>a shooting star</i> .
Meteorite	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| 1st Quadrantid Meteor Shower of 2025](#)
2. [NASA| Quadrantids Meteor Shower](#)

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