

Gaia Spacecraft

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About Gaia Spacecraft:

- It was launched by the **European Space Agency (ESA)** in December 2013.
- It is located 1.5 million kilometres from Earth at **the second Sun-Earth Lagrange point (L2)**.
- **Mission:**
 - It monitors each of its target **stars about 14 times per year**. It is precisely charting their positions, distances, movements, and changes in brightness.
 - It is expected to **discover hundreds of thousands of new celestial objects**, such as extra-solar planets and brown dwarfs, and observe hundreds of thousands of asteroids within our own Solar System.
 - The mission is also studying **more than 1 million distant quasars** and providing stringent new tests of Albert Einstein's General Theory of Relativity.
- It contains **two optical telescopes** that work with three science instruments to precisely determine the location of stars and their velocities, and to split their light into a spectrum for analysis.
- It is creating an extraordinarily **precise three-dimensional map** of nearly two billion objects throughout our Galaxy and beyond, mapping their motions, luminosity, temperature and composition.

This huge stellar census is providing the data needed to tackle an enormous range of important open questions relating to the **origin, structure** and **evolutionary history** of **our Galaxy**.

Q1: What are Quasars?

The quasi-stellar radio sources (Quasars) were first discovered six decades ago. These are very luminous objects in faraway galaxies that emit jets at radio frequencies. They are located in supermassive black holes, which sit in the centre of galaxies.

Source: [Gaia spacecraft, mapping a billion stars in space, hit by micrometeoroid](#)

Source: <https://vajiramandravi.com/current-affairs/gaia-spacecraft/>

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