

STEREO spacecraft

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About STEREO spacecraft:

- The pair of **STEREO (Solar TERrestrial RELations Observatory) spacecraft** were launched on October 25, 2006, from Florida's Cape Canaveral Air Force Station.
- The two spacecraft were situated **in Sun's orbit, STEREO-A ("Ahead") and STEREO-B ("Behind")**.
- The dual-spacecraft mission accomplished its major goal by delivering **the first-ever stereoscopic view of our star**.
- On February 6, 2011, another significant milestone was achieved as both STEREO-A and -B reached a remarkable **180-degree separation in their orbits, which gave us the full sphere image of the Sun**.
- **Significance of STEREO-A**
 - It **will synthesize its views** with those from **Nasa's and the European Space Agency's Solar and Heliospheric Observatory (SOHO)** and Nasa's Solar Dynamics Observatory (SDO).
 - Its distance from Earth changes throughout the flyby, it will optimize its stereo vision for different-sized solar features at different times, akin to adjusting the focus on a several million-mile-wide telescope.

- It will allow scientists **to understand how a coronal mass ejection's** (CME) magnetic field evolves on its way to Earth.
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Q1) What is the heliosphere?

The heliosphere is a vast region of space surrounding the Sun where the solar wind, a stream of charged particles emanating from the Sun, interacts with the interstellar medium, which is the tenuous gas and dust that exists between stars in our galaxy.

Source: [Spacecraft prepares for rare Earth flyby 17 years after it left planet](#)

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

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