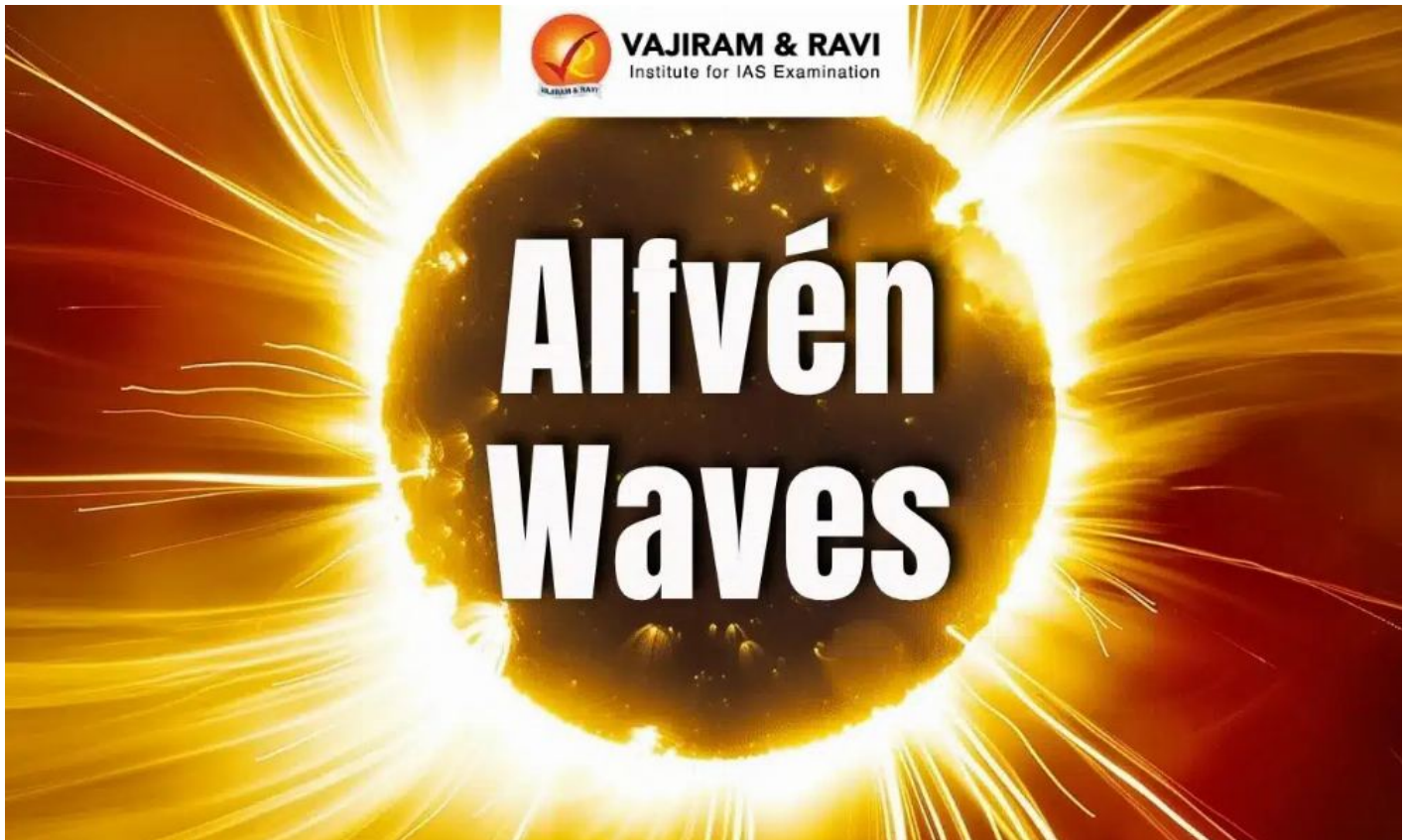


Alfvén Waves

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Alfvén Waves Latest News

Researchers have made a major advance in solar physics by capturing the first direct evidence of small-scale torsional Alfvén waves in the Sun's outer atmosphere, known as the corona.

About Alfvén Waves

- Alfvén waves are **low-frequency**, transverse electromagnetic waves that propagate along the **Sun's magnetic field lines**.
- It **occurs in a plasma** (or conducting fluid), resulting from the interaction of the magnetic fields and electric currents within it.
 - These waves **were first proposed** in 1942 by Nobel Prize-winning **physicist Hannes Alfvén**, are magnetic fluctuations that transfer energy through plasma.
- Larger and **more sporadic Alfvén waves** linked to solar flares have been detected before.
- **What Researchers have found?**

- The breakthrough was made possible by the unique capabilities of the **Daniel K. Inouye Solar Telescope's** Cryogenic Near Infrared Spectropolarimeter (Cryo-NIRSP).
- This is the first time **the subtle, ever-present twisting waves**, thought to be powerful enough to heat the corona, have been directly confirmed.
- The study suggests that Alfvén waves may account for at least half of the energy needed to heat the corona.

Source: IE

Source: <https://vajiramandravi.com/current-affairs/alfven-waves/>

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