

## **Planetary Instability in Twin Star Systems**

## Source: IE

The stability and dynamics of planetary systems have long captivated astronomers, with a recent study shedding light on the **intriguing interactions within twin star systems**.

- This study, published in the journal Nature, was conducted by Monash University in Australia, investigates the potential for planetary instability and the process of planetary ingestion (star engulfs a planet) within these celestial configurations.
- The study focused on 91 pairs of stars referred to as "twins", which share identical chemical makeup and are of similar mass and age, originating from the same interstellar cloud also known as co-natal stars.
  - Despite their similarities, these twin stars are not gravitationally bound binary systems.
- When a star engulfs a planet, its chemical composition changes, allowing researchers to identify stars with elevated levels of specific elements as remnants of rocky planets.
  - Surprisingly, a significant number of these twin star systems exhibited signs of having ingested planets, resulting in alterations to their chemical compositions.
- The study indicates that planetary instability may be more prevalent than previously assumed, with approximately 8% of observed pairs displaying signs of planet ingestion.
  - This research challenges the conventional understanding of planetary system stability, revealing that a notable fraction of studied stellar pairs included one star that had consumed a planet.

Read more: Star Engulfing Jupiter-Sized Planet

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