

Mira Stars

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Mira Stars Latest News

Recently, the most precise determination of the expansion rate of the universe was made using cool, giant variable stars 'Mira' by the scientists from Inter-University Centre for Astronomy and Astrophysics (IUCAA).

About Mira Stars

- Mira, also known as **Omicron Ceti**, is a star that remarkably **changes its brightness over time, in a regular pattern.**
- The name, **Mira**, means **“the wonderful” in Latin**, and it lived up to that name by becoming the prototype for an entire **class of stars known as Mira variables.**
- With the variability first measured by astronomers in **the 17th century**, Mira was the first known example of a “variable star”—a star that doesn’t shine with a constant brightness.
- Mira variables are a type of giant star that go through **regular cycles of expanding and contracting.**
- These cycles cause their brightness to vary in a predictable way, typically over periods ranging **from 100 to 1,000 days.**

- These stars are relatively cool, with **surface temperatures around 3,000 Kelvin** (about half the temperature of the Sun's surface), and they are in the late stages of their life.
- One of the most important things about Mira variables is that there is a strong relationship between how bright they are and how long their pulsation cycles last.
- This relationship allows astronomers to use them as "**standard candles.**"
- A standard candle is an object in **space whose true brightness** is known. By comparing how bright the object appears from Earth to how bright it actually is, scientists can calculate how far away it is.
- This is a key method used to measure distances in the universe, forming part of what astronomers **call the "extragalactic distance ladder."**

Source: PIB

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