

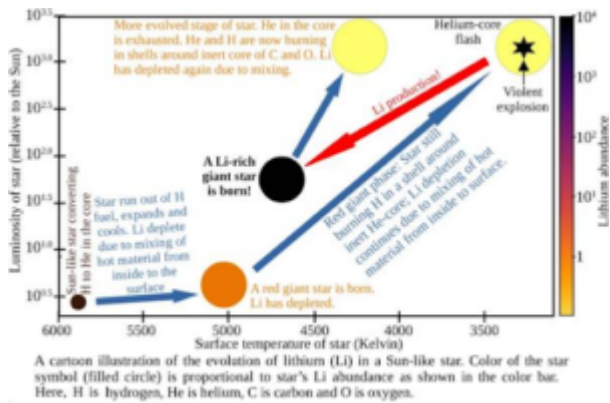
Abundance of Lithium in stars

December 2, 2021

In news- Recently, scientists have found a clue to the mystery behind the high abundance of Lithium.

Key findings-

- For more than four decades, Astronomers have known that a **class of stars have an anomalous amount of Lithium on their surface.**
- Scientists from the Indian Institute of Astrophysics (IIA) Bangalore, an autonomous institute of the Department of Science & Technology (DST), Government of India have for the **first time confirmed that all the lithium-rich stars are burning helium in their core.**
- They have speculated that **lithium production is linked to the violent helium-core flash.**
- The observations were gathered on the 3.9 m **Anglo-Australian Telescope** at the Australian Astrophysical Observatory.
- **The survey GALAH – named after a common Australian bird, provided** a collection of about 500,000 stars with well-determined physical and chemical properties, including lithium abundances.
- **This exercise, done for the first time on such a large scale and across a wide range of mass and metallicity,** reveals the rare presence of lithium-rich giants in all the Sun-like low-mass stars.
- They created virtual stars of various masses and metallicity and compared the properties of these virtual stars with that of real stars from the GALAH survey that confirmed that all the lithium-rich stars are burning helium in their core.



About Lithium-

- It is a trace element on Earth, and a key component of rechargeable batteries.
- It is a chemical element with the symbol Li and atomic number 3.
- It is a soft, silvery-white alkali metal.
- Under standard conditions, it is the lightest metal and the lightest solid element.
- Like all alkali metals, lithium is **highly reactive and flammable, and must be stored in vacuum, inert atmosphere or inert liquid such as purified kerosene or mineral oil.**