Atmosphere of a 55 Cancri e Exoplanet

Source: TOI

Scientists have recently detected a **dense atmosphere enveloping 55 Cancri e, a** super-Earth twice the size of our planet, shedding light on its unique characteristics and potential implications for exoplanetary research.

- The atmosphere of 55 Cancri e is comprised of carbon dioxide and carbon monoxide, although exact amounts remain unclear.
    - Unlike Earth's atmosphere, which is a blend of nitrogen, oxygen, argon, and other gases, the atmosphere of 55 Cancri e is markedly different.
- The **boiling temperatures on 55 Cancri e, reaching up to 2,300°C**, make it inhospitable for life as we know it.
    - Despite its **uninhabitable conditions**, the discovery offers hope for finding other rocky planets with thick atmospheres that may be more conducive to life.
- The **55 Cancri e is an** exoplanet, located 41 light years away, has a mass eight **times that of Earth and is characterised by permanent day and night sides.**
    - It is a super-Earth, which is a unique class of planets that are **larger than Earth but lighter than ice giants like Neptune and Uranus.**
    - They can be composed of gas, rock, or a combination of both, and are typically between two to ten times the mass of Earth.
- The findings suggest that gases from **magma oceans on the planet's surface may contribute to maintaining its atmosphere.**
- Exploring **55 Cancri e could provide insights into the evolutionary processes** of Earth and Mars.

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