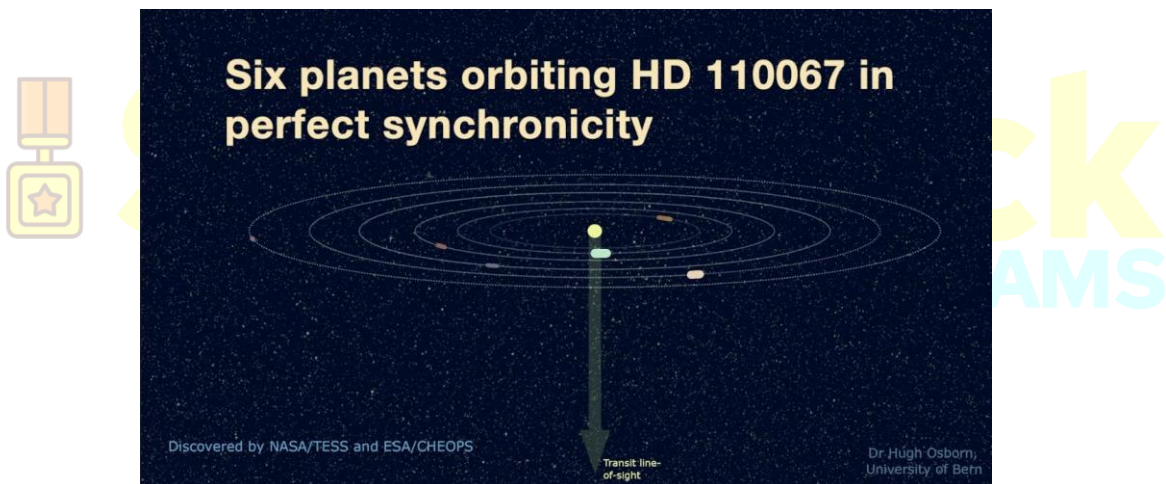


Scientists Discover Rare System With 6 Planets Orbiting In Sync

Why In News

- Scientists have discovered a pack of planets - six to be exact - in **HD 110067** located in **Coma Berenices constellation**, about 100 light years away from Earth. The constellation is still part of our Milky Way Galaxy.
- The constellation is brighter than others found in the galaxy. According to a Washington Post report, which is based on the study published in journal Nature, it is 10,000 time brighter than **Trappist-1, a red-dwarf star**.
- The new paper has been written by 150 scientists from 12 countries.

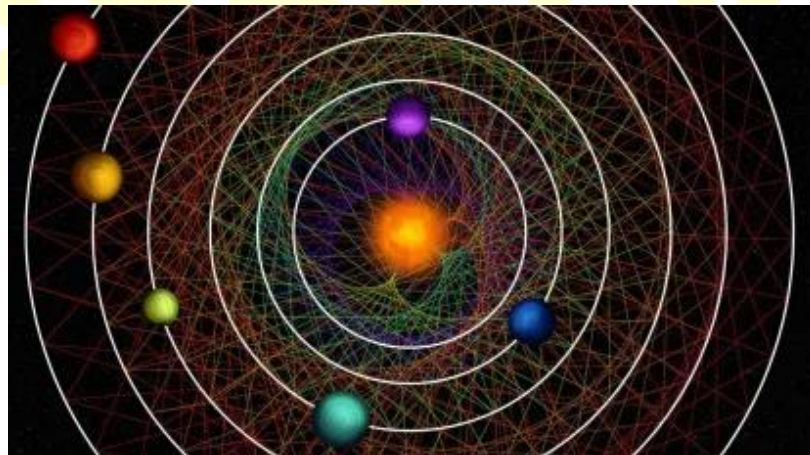


About Discovery

- The six planets orbit a star called HD110067, which is about 100 light-years away from the Earth in the northern constellation of Coma Berenices.
- NASA's **Transiting Exoplanet Survey Satellite (TESS)** in 2020 detected the star's brightness dipping, indicating that planets were passing in front of it.



- Scientists said that these planets were formed at **at least four billion years ago** and remarkably, have been unchanged since then.
- These six planets are orbiting a **Sun-like star**.
- A star smaller and cooler than our Sun hosts a truly strange family of planets: **six “sub-Neptunes”** – possibly smaller versions of our own Neptune – moving in a cyclic rhythm.

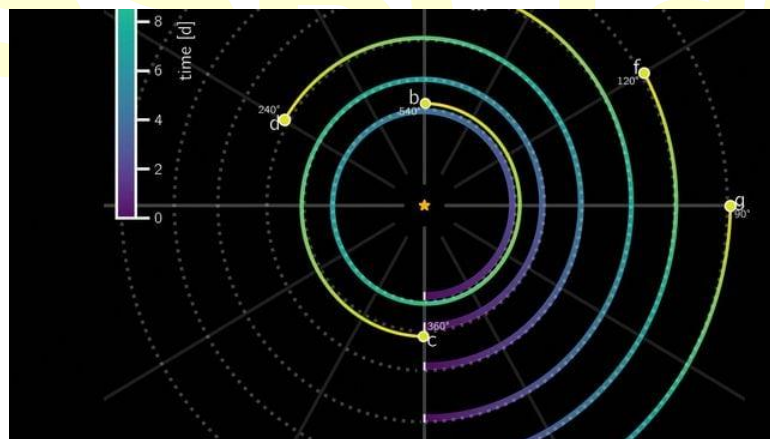


- The discovery was part of scientists' mission to **find a habitable planet like Earth** (often dubbed as Earth 2.0).
- And these resonant orbits are rock-solid: The planets likely have been performing this same **rhythmic dance since the system** formed billions of years ago.
- Such reliable stability means this system has **not suffered the shocks and shakeups** scientists might typically expect in the early days of planet formation – smash-ups and collisions, mergers and breakups as planets jockey for position.

- But planets in this **six-pack** are hot, gassy and not pleasant places to visit, said the study.



- The discovery made the news because of the **unusual nature of the planets, which are locked into a resonance with one another.**
- The study said that one planet make three orbits, while an adjacent one makes two. "These resonant chains are very rare in nature," lead author Rafael Luque of the University of Chicago told reporters about the discovery, as per the Post report.



- The planets are the sizes of Earth and Neptune, a class known as "sub-Neptunes" The scientists used the spacecraft of American space agency **NASA and the European Space Agency (ESA).**
- The stable orbital pattern of these planets is because of the fact that they have been free of any major disturbance, such as a catastrophic impact, or the close passage of another star.