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L 98-59b: Tiniest Planet Discovered by TESS

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The National Aeronautics and Space Administration's (NASA) Transiting Exoplanet Survey Satellite (TESS) has discovered the smallest planet called L 98-59b, between the sizes of Mars and Earth orbiting a bright, cool, nearby star.



- L 98-59b is around **80% of Earth's size** and about 10% smaller than the previous smallest planet discovered by TESS.
- The two other planets in the system, **L 98-59c** and **L 98-59d**, are respectively around 1.4 and 1.6 times Earth's size.
- L 98-59b's host star, "L 98-59" is an M dwarf (M dwarfs stars, are much smaller and dimmer than our own sun and aren't bright enough to see with the naked eye. They are also known as red dwarfs, comprising some 70% of all the stars in our galaxy) about one-third the mass of the Sun and lies about 35 light-years away in the southern constellation Volans.

None of the planets lies within the star's habitable zone.

- While L 98-59b is a record for TESS, even smaller planets have been discovered in data collected by **Kepler satellite**, including Kepler-37b, which is only 20% larger than the Moon.

Transiting Exoplanet Survey Satellite (TESS) Mission

- NASA Transiting Exoplanet Survey Satellite (TESS) mission led by the **Massachusetts Institute of Technology** (with seed funding from Google) will look for planets orbiting the **brightest stars in Earth's sky**.
- TESS will survey 200,000 of the brightest stars near the sun to search for transiting exoplanets.

- TESS was launched on April 18, 2018, aboard a **SpaceX Falcon 9 rocket**.
- TESS employs the **transit method** to detect exoplanets:
 - The transit method of detecting exoplanets looks for **dips in the visible light** of stars and requires that planets cross in front of stars along our line of sight to them.
 - Repetitive, periodic dips reveal a planet or planets orbiting a star.