



## Iron Rain on Exoplanet

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### Why in News

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**Wasp-76b**, an **exoplanet** (planet outside the solar system), probably has **iron raining** on it.

### Key Points

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- Wasp-76b orbits so close to its host star that its dayside temperatures exceed 2,400 degrees Celsius - hot enough to vaporise metals like iron.
- The planet's nightside, on the other hand, is 1,000 degrees cooler, allowing those metals to condense and rain out.

### Wasp-76b

- Wasp-76b is a **huge gas planet** that is **twice the width of Jupiter**. Its name comes from the UK-led Wasp telescope system that detected it in 2016.  
The UK **Wide Angle Search for Planets (WASP)** is a collaborative project involving several UK universities. The primary aim is the discovery of exoplanets.
- It is **640 light-years from the Earth** and is so close to its star that it takes just 43 hours to complete one revolution.
- Another of the planet's interesting features is that it always presents the same face to the star - a behaviour scientists call being "**tidally locked**". Earth's Moon does exactly the same thing.
  - Tidal locking is the name given to the situation when an object's orbital period matches its rotational period.
  - The moon takes 28 days to go around the Earth and 28 days to rotate once around its axis. This results in the same face of the Moon always facing the Earth.