

Vera C Rubin Observatory

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Vera C. Rubin Observatory Latest News

Scientists analyzing the first images from the Vera C. Rubin Observatory recently discovered the fastest-spinning asteroid in its size class yet named 2025 MN45.

About Vera C. Rubin Observatory

- It is located 8,684 feet above sea level atop the **Cerro Pachón mountain** in the **Chilean Andes**, where dry air and dark skies provide one of the world's best observing locations.
- It is named after **American astronomer Vera C. Rubin**, who provided **evidence about dark matter for the first time** in the 1970s.
- It is jointly **funded** by the **U.S. National Science Foundation** and the **U.S. Department of Energy's Office of Science**.
- The observatory has four main scientific **goals**:
 - Understand the nature of **dark matter and dark energy**.
 - Create an **inventory of the asteroids, comets, and other objects in the solar system**.

- **Map the Milky Way** and help reconstruct its history.
- **Explore objects** — like exploding stars and black holes — **that change position or brightness** over time.
- The centrepiece of the observatory is the **Simonyi Survey Telescope**.
 - The 8.4-meter telescope has the **world's largest digital camera**, which is the size of a small car, weighs 2,800 kg, and boasts a staggering resolution of 3,200 megapixels.
 - It can **capture** about **45 times the area of the full moon in the sky with each exposure**.
 - It is the **fastest-slewing telescope in the world** and takes just five seconds to move and settle from one target to another.
 - This speed is due to the telescope's compact structure (owing to the three-mirror design) and its mount, which floats on a film of oil.
- This observatory will provide **comprehensive images of the night sky** unlike anything astronomers have seen before.
- It will constantly **scan the sky of the southern hemisphere for 10 years**, creating an ultra-wide, ultra-high-definition time-lapse record of the universe.
- It will produce approximately 20 terabytes of data every night. The **amount of data gathered** by Rubin Observatory **in its first year** alone **will be greater than that collected by all other optical observatories combined**.
- It **revealed its first images** on June 23, **2025**.

Key Facts about 2025 MN45

- It is a newly discovered **asteroid**.
- It resides in the **main asteroid belt between Mars and Jupiter**.
- It measures about 0.4 miles (710 meters) across.
- It completes **one rotation every 1.88 minutes**, making it “the **fastest-spinning asteroid with a diameter over 500 meters** that astronomers have found.

Source: **LS**

Source: <https://vajiramandravi.com/current-affairs/vera-c-rubin-observatory/>

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