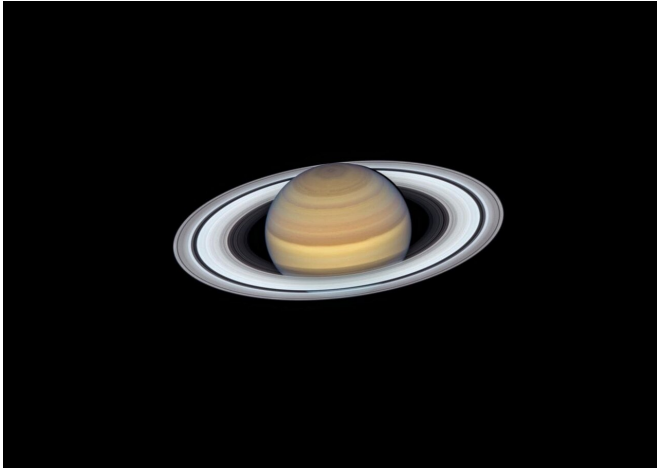


Saturn's rings shine in Hubble's latest portrait

12 September 2019, by Rob Garner



The latest view of Saturn from NASA's Hubble Space Telescope captures exquisite details of the ring system -- which looks like a phonograph record with grooves that represent detailed structure within the rings -- and atmospheric details that once could only be captured by spacecraft visiting the distant world. Hubble's Wide Field Camera 3 observed Saturn on June 20, 2019, as the planet made its closest approach to Earth, at about 845 million miles away. This image is the second in a yearly series of snapshots taken as part of the Outer Planets Atmospheres Legacy (OPAL) project. OPAL is helping scientists understand the atmospheric dynamics and evolution of our solar system's gas giant planets. In Saturn's case, astronomers will be able to track shifting weather patterns and other changes to identify trends. Credit: NASA, ESA, A. Simon (GSFC), M.H. Wong (University of California, Berkeley) and the OPAL Team

Saturn is so beautiful that astronomers cannot resist using the Hubble Space Telescope to take yearly snapshots of the ringed world when it is at its closest distance to Earth.

These [images](#), however, are more than just beauty shots. They reveal a planet with a turbulent, dynamic atmosphere. This year's Hubble offering, for example, shows that a large storm visible in the

2018 Hubble image in the north polar region has vanished. Smaller storms pop into view like popcorn kernels popping in a microwave oven before disappearing just as quickly. Even the planet's banded structure reveals subtle changes in color.

But the latest image shows plenty that hasn't changed. The mysterious six-sided pattern, called the "hexagon," still exists on the north pole. Caused by a high-speed jet stream, the hexagon was first discovered in 1981 by NASA's Voyager 1 spacecraft.

Saturn's signature rings are still as stunning as ever. The image reveals that the ring system is tilted toward Earth, giving viewers a magnificent look at the bright, icy structure. Hubble resolves numerous ringlets and the fainter inner rings.

This image reveals an unprecedented clarity only seen previously in snapshots taken by NASA spacecraft visiting the [distant planet](#). Astronomers will continue their yearly monitoring of the planet to track shifting weather patterns and identify other changes. The second in the yearly series, this image is part of the Outer Planets Atmospheres Legacy (OPAL) project. OPAL is helping scientists understand the atmospheric dynamics and evolution of our solar system's gas [giant planets](#).

Provided by NASA's Goddard Space Flight Center

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