

Gas giant spins a surprise

Uranus rotates differently in its northern and southern hemispheres.

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Uranus has atmospheric circulation patterns that are unlike those of any other gas-giant planet, scientists have found using 28-year-old data. This movie shows newly revealed features in Uranus's southern hemisphere, which appear as colourful bands and blobs.

Erich Karkoschka, a planetary scientist at the University of Arizona in Tucson, chased down the new detail by comparing 1,600 images taken by NASA's Voyager 2 spacecraft during a flyby in 1986. "To me it felt like there was a new space mission to Uranus," he said. "I applied new image-processing techniques so I could see features that other people couldn't see."

In a region that had been embarrassingly bland until now, Karkoschka found dozens of previously unseen features. By analyzing their rotation rates, he discovered that some southern latitudes of Uranus rotate as much as 15% faster as their northern-latitude counterparts. That is not the case for other gassy planets such as Jupiter and Saturn.

Uranus's south pole also has a spot off to the side that rotates five hours faster than the interior of the planet. Karkoschka presented the results on 12 November at a meeting of the American Astronomical Society's Division of Planetary Sciences in Tucson, Arizona.

The work might help reveal more about the mysterious interior of Uranus, as well as help astronomers unravel similar features in the clouds of hundreds or thousands of exoplanets.

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