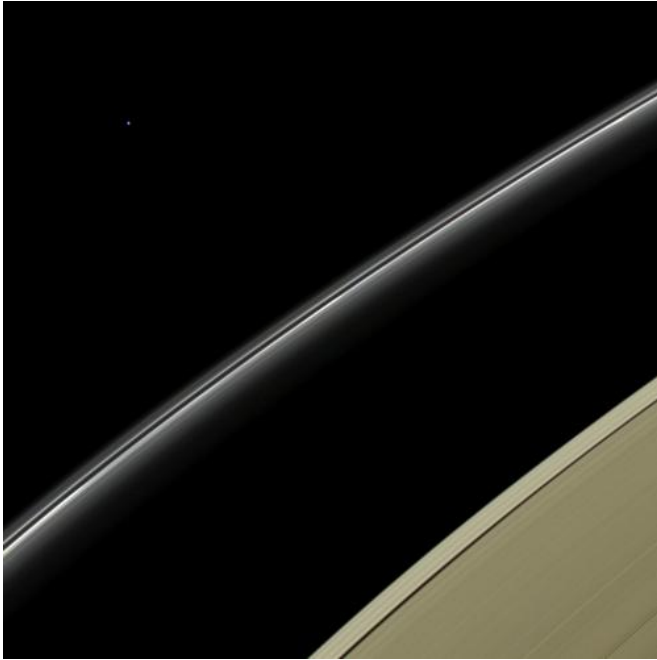


# Cassini spies the ice-giant planet Uranus

1 May 2014



This view from NASA's Cassini spacecraft features a blue planet, but unlike the view from July 19, 2013 (PIA17172) that featured our home planet, this blue orb is Uranus, imaged by Cassini for the first time. Uranus is a pale blue in this natural color image because its visible atmosphere contains methane gas and few aerosols or clouds. Methane on Uranus -- and its sapphire-colored sibling, Neptune -- absorbs red wavelengths of incoming sunlight, but allows blue wavelengths to escape back into space, resulting in the predominantly bluish color seen here. Cassini imaging scientists combined red, green and blue spectral filter images to create a final image that represents what human eyes might see from the vantage point of the spacecraft. Uranus has been brightened by a factor of 4.5 to make it more easily visible. The outer portion of Saturn's A ring, seen at bottom right, has been brightened by a factor of two. The bright ring cutting across the image center is Saturn's narrow F ring. Uranus was approximately 28.6 astronomical units from Cassini and Saturn when this view was obtained. An astronomical unit is the average distance from Earth to the sun, equal to 93,000,000 miles (150,000,000 kilometers). This view was acquired by the Cassini narrow-angle camera at a distance of approximately 614,300 miles (988,600 kilometers) from Saturn on April 11, 2014. Image scale at Uranus is approximately 16,000 miles (25,700 kilometers) per

pixel. Image scale at Saturn's rings is approximately 4 miles (6 kilometers) per pixel. In the image, the disk of Uranus is just barely resolved. The solar phase angle at Uranus, seen from Cassini, is 11.9 degrees. Credit: NASA/JPL-Caltech/Space Science Institute

(Phys.org) —NASA's Cassini spacecraft has captured its first-ever image of the pale blue ice-giant planet Uranus in the distance beyond Saturn's rings.

The robotic spacecraft briefly turned its gaze away from the ringed beauty of Saturn on April 11, 2014, to observe the [distant planet](#), which is the seventh planet from the sun.

The planets Uranus and Neptune are sometimes referred to as "ice giants" to distinguish them from their larger siblings, Jupiter and Saturn, the classic "gas giants." The moniker derives from the fact that a comparatively large part of the planets' composition consists of water, ammonia and methane, which are typically frozen as ices in the cold depths of the outer solar system. Jupiter and Saturn are made almost entirely of hydrogen and helium, with smaller percentages of these ices.

When this view was obtained, Uranus was nearly on the opposite side of the sun as seen from Saturn, at a distance of approximately 28.6 astronomical units from Cassini and Saturn. An [astronomical unit](#) is the average distance from Earth to the sun, equal to 93 million miles (150 million kilometers). At their closest - once during each Saturn orbit of nearly 30 years - the two planets approach to within about 10 astronomical units of each other.

In addition to its aesthetic appeal, Cassini's view of Uranus also serves a practical purpose. Scientists working on several of Cassini's science investigations expect that they will be able to use images and spectra from these observations to help calibrate their own instruments.

Provided by NASA

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