





Jupiter

This Gemini Observatory image shows Jupiter's two giant "red" spots brushing past one another in the planet's southern hemisphere.

This near-infrared image incorporates adaptive optics to correct, in real-time, for most of the distortions caused by turbulence in the Earth's atmosphere. The result is a view from the ground that rivals images from space. In the near-infrared, the red spots appear white rather than the reddish hue seen at visible wavelengths.

Both red spots are massive storm systems. The top of the larger one, known for a long time as the Great Red Spot, lies about 8 kilometers (5 miles) above the neighboring cloud-tops and is the largest hurricane known in the solar system. The smaller storm (officially called Oval BA, but informally known as Red Spot Junior) is another hurricane-like system but was temporary and is no longer a feature in Jupiter's clouds.

Red Spot Junior was roughly half the size of its famous cousin, but its winds blew just as strong. This mighty storm formed between 1998 and 2000 from the merger of three long-enduring white ovals, each a similar storm system at a smaller scale, which had been observed for at least 60 years. But it was not until February 27, 2006 that Philippine amateur astronomer Christopher Go discovered that the color of the newly formed white oval had turned brick red. Astronomers were witnessing the birth of a new red spot.

No one is certain why this white oval turned red. However, University of Hawai'i astronomer Toby Owen supports a hypothesis developed by New Mexico State University astronomer Reta Beebe, suggesting that the merger of the three white ovals led to an intensified storm system.

Technical Data:

Jupiter and Red Spots:

Near-infrared image of Jupiter obtained on the night of July 14, 2006 (UT, July 13 HST) using the Gemini Near-Infrared Imager (NIRI) in conjunction with Altair, the natural/laser guide star adaptive optics system (in natural guide star mode, with field lens) on the Gemini North telescope on Mauna Kea in Hawai'i.

Field of view: 41 arcseconds Orientation: north up, east left

See full press release and image download at: <http://www.gemini.edu/node/196>