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Observing Two Pluto Stellar Approaches In 2006: Results On Pluto's Atmosphere And Detection Of Hydra

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Two stellar approaches of Pluto - on 10 April and 12 June 2006 - have been used to probe the planet's surroundings and atmosphere.

On 10 April 2006, Pluto missed the star by 0.5 arcsec, as seen from Chile (ESO La Silla and Paranal). The appulse was observed from VLT (AO, K band), NTT (H band) and 2.2-m reflector (I band). The flux of the star vs. time provides a cut across Charon, Nix and Hydra's orbits. It puts upper limits on the presence of rings around Pluto, and is used to detect hypothetical small satellites around the planet.

Furthermore, deep J band VLT/AO exposures reveal - for the first time using ground-based instruments - the presence of the newly discovered satellite Hydra.

On 12 June 2006, we got positive detections of Pluto's atmosphere from Hobart (Tasmania, 35 and 40-cm reflectors) and Blue Mountains near Sydney (25-cm reflector). Ongoing analysis suggests that Pluto's atmosphere has kept the pressure observed in 2002 during a previous stellar occultation. Thus, the collapse of the atmosphere - expected from Pluto's recession from the Sun - has not yet started.

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