

## Monitoring Titan's Dynamics Using Both Adaptive Optics and Vims Data

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We present the evolution as a function of time of several features visible in Titan's atmosphere. We base our study on disk-resolved observations gathered from 2000 to 2005 at the CFHT (with PUEO/KIR or PUEO/OASIS) or at the VLT (NAOS/CONICA) in the near Infrared, by means of either imagery or spectroscopy. First we will present the evolution of Titan's North-South asymmetry: the local enhancement of aerosols is expected to vary as aseasonal effect. The usual smile of Titan was characterized by a southern hemisphere enhanced in haze and gas and thus brighter in the infrared than the northern hemisphere. We witnessed the reversal of this asymmetry in 2002, beginning at higher altitudes in Titan's atmosphere and diffusing to lower altitudes with time. Diurnal effects were also detected in particular in 2005, confirming a stratospheric haze enhancement due to the condensation of aerosols during the night, first detected in 1998. Finally, we will underline the variations of the very large cloud feature near Titan's South Pole, visible at very specific wavelengths on our images - in particular at 2.12 micron -. It was confirmed by the Cassini mission, and disappeared in 2005. We will discuss its possible nature and characteristics deduced from the latest images available to us, from both the OA and the VIMS databases.