Print this Page for Your Records Close Window

Variability of the Venus Oxygen Airglow

Presentation Time: Tuesday, 3:15 p.m. - 6:00 p.m.

Jeremy A. Bailey[1], V. S. Meadows[2], S. Chamberlain[1], A. Simpson[1], D. Crisp[3]

[1]Australian Centre for Astrobiology, Australia, [2]California Institute of Technology, [3]Jet Propulsion Laboratory.

Presentation Number: 26.10

Facility Keywords: Facilities: AAT()

We have obtained spatially resolved near-IR spectroscopic observations of the night-side of Venus through the last three inferior conjunctions using IRIS2 on the Anglo-Australian 3.9m telescope and CASPIR on the 2.3m ANU telescope. The data are used to investigate the extreme variability of the spatial distribution and intensity of the O_2 airglow emission feature at 1.27 microns. The airglow emission was very strong in September 2002, and much weaker in July 2004. Substantial night-to-night variations are also seen in both the intensity and spatial distribution of the emission. The emission is typically brightest near the anti-solar point, consistent with an upper atmosphere circulation in the form of a tidal flow from day-side to night-side. However, there are substantial variations from this typical pattern, with plumes of emission sometimes extending over long distances, and reaching regions close to the terminator. The Venus O_2 airglow provides a probe of the chemistry and dynamics of the Venus upper atmosphere. These and earlier ground-based observations help to provide context for the more detailed studies that will be possible by the Venus Express spacecraft.

OASIS - Online Abstract Submission and Invitation System™ ©1996-2006, Coe-Truman Technologies, Inc.