Geophysical Research Abstracts
Vol. 14, EGU2012-8097, 2012
EGU General Assembly 2012

First Observations of Venus UV dayglow at limb from SPICAV/Venus Express

J.-L. Bertaux, J.-Y Chaufray, and F Leblanc
(Jean-Loup.Bertaux@aerov.jussieu.fr)

The thermospheres of Venus and Mars are similar in their composition, structure, and temperatures. The aeronomic UV dayglow reflects the CO_2 composition, and the products of ionization/ dissociation CO_2+, CO, C, O, in addition to H at Lyman alpha.
While Mars dayglow has been well studied in the past with Mariner 9 and Mars Express with limb viewing observations of the thermosphere, to our knowledge there are no observations at the limb for Venus. Also, limb or disc, no day glow spectra above $\sim$180 nm was ever reported. With SPICAV on Venus Express, we had also great difficulties to get some spectra of the dayglow. The main reason is that the detector of SPICAV UV is an image intensifier with a CsI cathode, sensitive up to 315 nm. The disc of Venus is orders of magnitude brighter than the dayglow above 200 nm, from solar UV backscattered by the clouds.
We will report the first detection of the UV dayglow of Venus at the limb, obtained with a coarse spectral resolution (6-7 nm), owing to some spacecraft conservative constraints. The dayglow extends from 115 km up to 180 km; its spectrum is similar to Mars dayglow (but much brighter). Similarities and differences between the two planets UV dayglow will be discussed.