



Update of the Venus high and mid-altitude temperature profiles measured by SOIR on board Venus Express

Arnaud Mahieux (1), Ann Carine Vandaele (1), Séverine Robert (1), Rachel Drummond (1), Valérie Wilquet (1), Jean-Loup Bertaux (2,3)

(1) IASB - BIRA, Atmosphere, Brussels, Belgium (arnaud.mahieux@aeronomie.be, +32 23730426), (2) LATMOS, 11 Bd d'Alembert, 78280 Guyancourt, France, (3) Institut Pierre Simon Laplace, Université de Versailles-Saint-Quentin 78280 Guyancourt, France

The SOIR instrument on board Venus Express regularly sounds the Venus atmosphere using the solar occultation technique. From the infrared measured spectra, number density and temperature profiles are inferred. In this work, we focus on the main Venus atmospheric species, carbon dioxide. This study is a continuation of the work published in [Mahieux et al., 2012], and is devoted to the update of the Venus Atmosphere from SOIR measurements at the Terminator (VAST) previously presented in the above cited work. The method has been improved and more data have been included into the VAST compilation. The new compilation is given on a finer latitudinal grid. The latitude and local solar time variations are discussed. VAST is finally compared to the literature.

Reference

Mahieux, A., A. C. Vandaele, S. Robert, V. Wilquet, R. Drummond, F. Montmessin and J. L. Bertaux (2012). 'Densities and temperatures in the Venus mesosphere and lower thermosphere retrieved from SOIR on board Venus Express: Carbon dioxide measurements at the Venus terminator.' *J. Geophys. Res.* 117(E07001): doi:10.1029/2012JE004058.