

# **Modelling the radiance spectra from the atmosphere of Venus - analysis the structure of Venusian clouds**

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Venusian clouds makes the major contribution to attenuating incident solar radiation and to the thermal state of the lower atmosphere. The clouds and haze are mainly composed of sulphuric acid aerosols and some other components but the nature and structure of clouds is not completely clear. Numerical modeling is necessary to better understand the radiative processes and recognize optical characteristics of aerosols in the atmosphere. Simulations are also useful to interpret the remote sensing data. The interpretation of spectroscopic data is not straightforward because observed spectra are the results of a combination of different contributions e.g. radiation transmitted, scattered and emitted in the atmosphere.

Presented work is directly connected with visible and infrared spectroscopic observations during Venus Express mission (PFS and VIRTIS). The main purpose of the paper is to simulate the total directional radiance at the top of the atmosphere by means of an radiation transfer model. In the paper we show the examples of synthetic spectra of night and day side of Venus.