



## Radiative energy balance at the Venus cloud top

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The upper cloud layer of Venus is known to play an important role in the radiative energy balance due to the presence of the UV absorber responsible for deposition of solar energy and efficient cooling to space. Observations suggest significant latitudinal changes of the cloud structure. From the equator to the pole, the cloud top altitude decreases from 74-67 km to 65-63 km while aerosol scale height changes from  $\sim 6$  km to less than 1 km. These trends significantly affect radiative energy balance that forces vigorous atmospheric dynamics at the cloud top level. In this study we calculate thermal cooling and solar heating rates in 0.2-200  $\mu\text{m}$  wavelength range, and investigate the effects of cloud structure on radiative energy balance. This work is based on the cloud and temperature structures derived from the radio science experiment VeRa and the thermal emission spectrometry from VIRTIS onboard Venus Express.