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Analysis of VIRTIS-H nightside spectra in the $2.3 - \mu$m window.

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The thermal nightside emission of Venus proved to be a major mean to study the planet's lower atmosphere. The relatively high spectral resolution of the VIRTIS-H channel ($R \sim 1500 - 2000$) also enables detailed investigations of both horizontal and vertical distributions of minor species (CO, OCS, H_2O, HDO, SO_2, HF) and of dT/dz in the $30-40$ km range as well as relevant information about the cloud aerosol particles. Constraints on CO, H_2O and OCS mixing ratios have already been derived using the best spectra available in the equatorial region ($S/N > 10$), where our estimations agree with similar Earth-based studies. The lower quality of spectra acquired at higher latitudes adversely affects our retrievals. Nevertheless, it is possible to overcome these difficulties and to derive at least CO and OCS mixing ratios in some places (though less precisely), thus helping to confirm the suspected latitudinal variations of both gases.