



## **The Mars and Venus airglow: observations and excitation processes**

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Airglow spectra of Mars and Venus resemble each other as a consequence of the similar chemical composition of the atmosphere of the two planets. However, the intensities and the spatial distribution of the emissions reflect differences in distance from the Sun, total atmospheric pressure,  $N_2/CO_2$  and  $O/CO_2$  ratios and dynamical processes. We shall briefly review excitation processes for the day- and night-side airglows on both planets. Recent ultraviolet dayglow observations collected with the SPICAM instrument on board Mars Express and the UVIS spectrograph during the Cassini flyby of Venus will be presented and discussed. Measurements of the nitric oxide  $\delta$  and  $\gamma$  bands in the UV nightglow of both planets with SPICAM and SPICAV will be reported.

The relationship between the  $O_2(^1\Delta)$  and OH Meinel emissions observed with the VIRTIS infrared spectral imager in the nightside Venus atmosphere will be discussed. The similarity of their spatial distribution suggests a common precursor to both emissions. The intensity and the vertical distribution of these two features will be compared with those predicted by model calculations assuming that the reaction between ozone and atomic hydrogen is the main source of vibrationally excited OH radical.