

# Observations of night OH in the mesosphere of Venus

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Venus airglow emissions detected at wvelengths of 1.40–1.49 and 2.6–3.14  $\mu\text{m}$  in limb observations by the Visible and Infrared Thermal Imaging Spectrometer (VIRTIS) on the Venus Express spacecraft are attributed to the OH (2–0) and (1–0) Meinel band transitions as well [1, 2]. The integrated emission rates for the OH (2–0) and (1–0) bands were measured to be  $100\pm 40$  and  $880\pm 90$  kR respectively, both peaking at an altitude of  $96\pm 2$  km near midnight local time for the considered orbit. We use the Caltech 1-D KINETICS model to successfully model these observations for Venus and discuss the conclusions from a comparative planetology perspective, highlighting the similarities and differences between Venus and Earth. Results from this model are used to provide input for tracer species to the Michigan VTGCM to help describe transport on the nightside.

## References:

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[2] Soret, L., Gerard, J.-C., Piccioni, G., and Drossart, P. (2010) *GRL*, 37, L06805.