



Remote Sensing of Venus' atmosphere during the Venus transit in June 2004

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Using data collected from the Venus-Sun transit on 8th June, 2004, one can make estimates about the feasibility of making positive spectral detections of biomarkers in extrasolar planet atmospheres. During the transit, transmission spectra from Venusian atmospheric layers were measured in three wavelength regions in the near-infrared. Absorption lines of the most abundant molecule, CO₂ and its isotopes were detected. The line-by-line, spectrum-resolving radiative transfer program SQuIRRL (Schwarzschild Quadratur InfraRed Line-by-line) was used to calculate and validate the observed absorption lines.