



Sulfur oxides above Venus' clouds from SPICAV/SOIR VEX occultations

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We present new results from Venus Express solar occultations in the ranges of SO₂ absorption (190-230 nm, 4 μm) and SO (190-230 nm). The dioxide (SO₂) was detected by spectrometer SOIR at altitudes 65-80 km in the IR and by spectrometer SPICAV at 85-105 km in the UV. The monoxide's absorption was measured only by SPICAV UV at 85-105 km.

Very recent papers about SO_x content above Venus' clouds were published to describe a presence of several layers of the dioxide abundance (Belyaev et al., 2012; Zhang et al., 2012). In the lower layer (65-80 km) SO₂ mixing ratio varied around 0.02-0.5 ppmv, and in the upper layer (85-105 km) it increased with altitude from 0.05 to 2 ppmv, while [SO₂]/[SO] ratio was around 1 to 5. Those behaviors detonated new puzzles about sulfur-bearing sources in Venus mesosphere, and some arguments were contra our SPICAV/SOIR results (Sandor et al., 2012; Krasnopolsky et al., 2012).

Now we've got new database (especially, cross-sections of gaseous absorption) to improve SPICAV/SOIR retrievals for SO and SO₂. Results from those retrievals are presented here.