

HDO and SO₂ thermal mapping on Venus: Statistical analysis of the SO₂ plumes and comparison with space data

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We have continued our ground-based campaign to monitor HDO and SO₂ on Venus in the thermal infrared range, using the TEXES (Texas Echelon Cross Echelle Spectrograph) imaging spectrometer at the IRTF (InfraRed Telescope Facility), at Mauna Kea Observatory. Following the observations described in Encrenaz et al. (A&A, 595, A74, 2016), maps of HDO and SO₂ have been recorded on December 16, 22 & 23, 2016 (evening terminator), January 20 & 21, 2017 (evening terminator), and July 12 & 13, 2017 (morning terminator). These data will be discussed and compared with our previous measurements. Using the whole TEXES data set between January 2012 and July 2017, we will present a statistical study of the behavior of the SO₂ plumes as a function of date, latitude, longitude and local time. Our results will be compared with the results obtained by Venus Express and Akatsuki.