



Remote Sensing of NO₂ and O₃ VCD over Buenos Aires province, Argentine, using a portable zenith-sky DOAS.

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The development of remote sensing systems for monitoring of key chemical species, such as ozone (O₃), nitrogen dioxide (NO₂) and others trace gases, is fundamental to understand the dynamic processes that occur in the stratosphere. We have developed a low-cost and portable zenith-sky DOAS (Differential Optical Absorption Spectroscopy) system to study the seasonal variation of the stratospheric trace gases. We highlight the main characteristics of the system components: a mini-spectrometer (HR4000, Ocean Optics), two optical fibers (400 μm of core, 6 m and 25 cm of longitude), a home-made external shutter and the control/data processing software. We present measurements of the NO₂ and O₃ vertical column density (VCD) carry out at CEILAP (34° 33' S, 58° 30' W, 20 m a.s.l.), Villa Martelli, Buenos Aires province, Argentine. The data retrieved with our system are compared with those coming from the OMI instrument (Ozone Monitoring Instrument, AURA satellite) and a Dobson spectrophotometer (managed by National Weather Service). We analyze the correlation between the O₃ and NO₂ concentration.