



Iodine Monoxide in the Subtropical Free Troposphere.

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An improved DOAS spectrometer operating in MAXDOAS mode has been installed at the NDACC Subtropical Izana Observatory (28°N, 2370 masl) on March 2010. The instrument has been optimized for the visible region (415-532 nm) for NO₂, O₃, IO, CHOCHO, H₂O, and O₄ profile retrievals on a long-term basis. The station is located all the year round above the trade winds sea of clouds delimiting the top of the Marine Boundary Layer (MBL). Preliminary results suggest ubiquitous presence of Iodine Monoxide (IO) in the free troposphere but at low concentration levels. Estimation based on paths obtained by simultaneous O₃ measurements by ozonesoundings yields values of 0.1-0.2 pptv while the instrument detection limit remains quite stable at 40 ppqv. Maximum IO concentration is found at 0° instrument elevation (pointing to horizon) and good correlation with O₄ is observed indicating that free troposphere IO over the Subtropical Atlantic comes from MBL and is upwelled by ventilation.