Solar Radiometry Studies of Mexico City Plume

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Solar radiation measurements have been conducted in the presence of the pollutant plume downwind of Mexico City. A solar radiometer (POM1) has been used to measure direct and diffuse solar radiation at 7 different wavelengths, presenting optical properties of atmosphere. A solar spectrometer (Ocean Optics HR4000) was another type of instrument used in this study. High resolution spectra of direct solar radiation provided information on selected chemical compounds in the atmosphere (H_2O, O_2, O_3, NO_2, etc.). For the total of 4 days, the instruments operated continuously at T0, T1 and T2. Additionally the measurements were taken when tracing plume to the east coast. All data were collected simultaneously with the mobile lidar, operating from the bed of the truck. While the lidar was continuously mapping the plume, both radiometer and spectrometer were deployed once every 0.5 – 1 h. for measurements.