

1.125 First results from a field campaign at a high altitude urban metropolitan area in the Central Andes.

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Abstract:

From the beginning of 2016 instrumentation has been set up at two of the largest cities of Bolivia, La Paz and El Alto, which are part of the metropolitan area of La Paz. Two

locations were chosen in order to study the background urban aerosols: the International Airport of El Alto at 4090 m asl, at the edge of the Altiplano plateau, and the ex-zoo of La Paz at 3600 m asl located at the center of the city within a valley. Instruments for characterizing aerosol particle properties, both physical and chemical, have been deployed at both sites. In addition the concentrations of several reactive gases are being monitored at the same time. Besides studying the temporal behavior of all these quantities, one important goal of the campaign is to estimate emission factors at the peculiar conditions of this region (high altitude, elevated intensities of UV radiation and a large fleet of relatively old vehicles running on gas, gasoline and diesel). Studies related to source apportionment have been designed and will be carried out during the planned one-year campaign. The outcomes of this effort, together with the results of a previous, but shorter study, are expected to help local governments to take measurements in order to improve air quality in the region. In addition, this field campaign will contribute to a better understanding of observations performed at the nearby GAW station of Chacaltaya (5240 m asl) and the transport of pollutants into the free troposphere. The results from the first months of continuous measurements at both locations will be presented and discussed under this framework.