



ABC-PYR: a new remote high mountain station in the Himalayas to study the atmospheric composition change and climate

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The South Asian Region is one of the most densely populated regions in the world. Moreover, during the last decades an impressive economic development involved this region with important effects on environment. In order to well evaluate the environmental consequences of this development, not only on local scale, the monitoring of atmospheric composition at high altitudes can play a relevant role. For these reasons and in order to make up for a lack of information at high altitude in this region, in the framework of the Ev-K²-CNR SHAREASIA (Stations at High Altitude for Research on the Environment) and ABC (Atmospheric Brown Clouds) projects, on January 2006 the remote monitoring station ABC-PYR Laboratory has been installed in the Khumbu valley (Nepal), at 5079 m asl. This monitoring station was projected to perform continuous measurements of chemical, physical and optical properties of aerosol and tropospheric ozone, as well as non-continuous measurements of halocarbons and other greenhouse gases. Thus, this station, controlled by a remote satellite connection and designed to operate for long-term in extremely adverse weather conditions, represents a unique source of data for evaluating the background conditions of the free troposphere, for quantifying the pollution levels at high altitudes of the Himalayan ridges, between India and China, and for studying regional and long-range air mass transport of natural and anthropogenic compounds.