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Observations of stratospheric source gas profiles  
during the Arctic winter

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An international campaign was performed at ESRANGE rocket base, near Kiruna, Sweden (68°N) from January 4 to February 15 in order to investigate the Chemistry of Ozone in the Polar Stratosphere (CHEOPS). Within the framework of this campaign two sets of large stratospheric air samples were collected by means of a balloon borne cryogenic air sampler. The two balloons were launched on February 1, and February 10, 1988. At present the samples are analyzed in our laboratory for their contents of several long lived trace gases such as CH<sub>4</sub>, N<sub>2</sub>O, H<sub>2</sub>, CO<sub>2</sub>, CO and the major halocarbons CH<sub>3</sub>Cl, CFC<sub>1</sub>, CF<sub>2</sub>Cl<sub>2</sub>, CCl<sub>4</sub>, CH<sub>2</sub>Cl<sub>2</sub>, C<sub>2</sub>F<sub>3</sub>Cl<sub>3</sub>.

The vertical profiles derived from these samples will be presented and compared with previous observations made in February 1987. The data will be discussed in view of the dynamical evolution of the arctic polar vortex during this winter.