



Field tests of ECC ozonesondes

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Ozone profile observations have been made at Sodankylä (67.4° N, 26.6° E) since March 1988 using the balloon borne electrochemical concentration cell (ECC) ozonesondes. Since May 2003 we have performed a series of comparison flights of the ECC ozonesondes in Sodankylä motivated by the need to assess the differences due to variations in sonde types and sensing solutions. For the comparison flights the ENSCI and the SPC ozonesondes were prepared with cathode solution concentrations of 0.5 % KI (half buffer, ENSCI sondes) and 1.0 % KI (full buffer, SPC and ENSCI sondes). When the ENSCI sondes were prepared with the 0.5 % KI solution and the SPC sondes with the 1.0% KI solution, we found less than 2 % relative difference between the SPC and ENSCI sondes in the stratosphere. The column ozone from these flights was in good agreement with the ground-based spectrophotometer measurements. The 1.0 % KI sensing solution in case of the ENSCI sondes led to overestimation of the total column compared to the ground-based measurements and to relative difference between the ENSCI and the SPC sondes increasing from 4 % at 10 km to 9 % at 30 km altitude.