Geophysical Research Abstracts, Vol. 8, 07796, 2006 SRef-ID: 1607-7962/gra/EGU06-A-07796 © European Geosciences Union 2006



A continuous IC Glaciochemical Record of the last Glacial Period from the NGRIP Ice Core

M.-L. Siggaard-Andersen (1), M. Hansson (2), H. Fischer (5), M. Bigler (1,3), R. Röthlisberger (3,4), K. Goto-Azuma (6), J.P. Steffensen (1), U. Ruth (5), K.K. Andersen (1), H.B. Clausen (1), U. Jonsell (2), A. Walløe Hansen (1), S.J. Johnsen (1)

(1) Niels Bohr Institute, University of Copenhagen, Denmark, (2) Department of Physical Geography and Quaternary Geology, University of Stockholm, Sweden, (3) Climate and Environmental Physics, Physics Institute, University of Bern, Switzerland, (4) NCCR Climate, University of Bern, Switzerland, (5) Alfred Wegener Institute, Bremerhaven, Germany, (6) National Institute of Polar Research, Tokyo, Japan (mlsa@gfy.ku.dk)

Comprehensive chemical analysis of aerosol components over the time period from 100,000 to 10,000 years before present was performed on the NGRIP ice core. A continuous sampling for ion chromatographic (IC) analysis was performed at 55 cm resolution, providing a record of soluble ions from mineral dust and sea salt. The record provides a unique potential for detailed investigations of source load and transport of aerosol during the last glacial period. A comparison with GISP2 IC record shows a good agreement between the two ice core records, but with generally higher concentrations in the NGRIP ice core. A more detailed comparison between the two ice core ion records reveals strong regional differences in source contributions and transport paths for aerosol over Greenland during the glacial period, indicating a different transport pattern for aerosol over Greenland during the last glacial period.