

ICE STRUCTURE AND CRYSTAL FABRICS OF THE 2200 M ICE CORE AT VOSTOK STATION, ANTARCTICA

by

N.I. Barkov, V.Ya. Lipenkov and V.N. Petrov

(Arctic and Antarctic Research Institute, Ul. Beringa 38, 199226 Leningrad, U.S.S.R.)

ABSTRACT

Both the ice structure and the ice fabric along the 2200 m ice core at Vostok Station were investigated during the 25th, 29th and 30th Soviet Antarctic Expeditions.

Several kinds of three-dimensional parameters of polycrystalline ice were measured, e.g. the mean diameter and size distribution of ice crystals and air bubbles, and specific volume

The variation in most of these parameters along the core reflects not only the process of metamorphism in ice

but also changes in the environmental conditions at the surface. The causes of these variations are discussed, in order to estimate the possibility of a paleoclimatic interpretation.

The evolution of *c*-axis fabrics with depth is discussed in relation to the ice-deformation conditions.

A comparison of ice fabrics at Vostok, Byrd Station and Camp Century shows that similar mechanisms cause the reorientation of crystals. The role of temperature in fabric development is discussed.

FLOW PROPERTIES OF THE INLAND ICE AT CAMP CENTURY, NORTH-EAST GREENLAND

by

D. Dahl-Jensen and N.S. Gundestrup

(Geophysical Institute, Department of Glaciology, University of Copenhagen,
Haraldsgade 6, DK -2200 Copenhagen N, Denmark)

ABSTRACT

The determination of the surface velocity at Camp Century makes it possible to determine an improved velocity versus depth profile. This profile is interpreted in terms of

the ice-flow properties of Wisconsin and Holocene ice. As the Camp Century hole has been located, further improvements can be obtained from direct measurements in the old deep hole.