

must be criticized. Axis symmetry model is preferable. Interaction between the mid-latitudes is also an important problem.

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SNOW CRYSTAL OBSERVATIONS DURING THE FIRST
LONGITUDINAL CROSSING OF GREENLAND, 1978
(Abstract)

Keiji HIGUCHI and Naomi UEMURA

Water Research Institute, Nagoya University, Furo-cho, Chikusa-ku, Nagoya 464

Snow crystal observations were carried out during the trip across the ice sheet of the First Longitudinal Crossing of Greenland, from May 12 to August 22, 1978. Plastic replicas of snow crystals were made at 19 points, and photographs of snow crystals were taken at 17 points. Meteorological observations on temperature, pressure, wind and weather were carried out at least once a day during the trip. The shapes of observed snow crystals were mainly column, plate and their combinations, and temperature at the ground in these cases was in a wide range between -2°C and -18°C . It is interesting that large dendritic crystals were observed on June 20 and July 7. In the case of June 20, diameter of dendritic crystals was mainly in the range between 4 and 5 mm, and air temperature at the ground (2450 m above mean sea level) was -10°C . From these data and experimental results of artificial snow crystals, it can be said that cloud layer where snow crystals formed is 1000 m in thickness and with stable lapse rate of $0.3^{\circ}\text{C}/100\text{ m}$.

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ARTIFICIAL MAKING OF SNOW CRYSTALS OF COLD
TEMPERATURE TYPES (Abstract)

Katsuhiko KIKUCHI and Noboru SATO

*Department of Geophysics, Faculty of Science, Hokkaido University,
Kita-10, Nishi-8, Kita-ku, Sapporo 060*

In order to study in detail the growth mechanism and crystalline structure of the snow crystals of cold temperature types (peculiar shapes) growing below -20°C , a new diffusion type cloud chamber was constructed. Using the new chamber, various types of peculiar shapes of snow crystals were made artificially under the temperature conditions below -20°C . Almost all peculiar shapes grown artificially were already observed under natural conditions at Syowa Station and South Pole Station in Antarctica, in Arctic Canada, and in Hokkaido Island of Japan, by KIKUCHI. The production frequency of peculiar shapes in the experiments was nearly of the same percentage as that observed in Arctic Canada and Hokkaido Island of Japan. Some considerations were made on the snow crystals of cold temperature types.

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