UPWARD MOVEMENT OF THE ICE SHEET NEAR THE YAMATO MOUNTAINS ESTIMATED FROM AN ICE CORE ANALYSIS (ABSTRACT)

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Measurements of density, total gas content, $\delta^{18}O$, and electrical conductivity were carried out along a core 100 m long. A profile of *in situ* bubble pressure was obtained from the data on density and total gas content, taking into account the volume relaxation of the core in the period between core recovery and density determination. The bubble pressure was appreciably higher than the overburden pressure at corresponding depths. It was considered that the pressure difference was caused by the continuous lifting of the ice, since ice flow was obstructed in the blue-ice area. From the profile of the pressure difference, the vertical distribution of the upward velocity was calculated, which provided a time-scale for the core. It was found that the 100-m-long core represented a record of about 10^4–10^5 years. The velocity was much smaller than the rate of sublimation at the bare ice area. This indicated a significant thinning of the ice sheet in the meteorite ice field near the mountains.

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ON THE SIMULATION OF RADAR ECHO INTENSITY FROM THE ICE SHEET IN THE EAST ANTARCTICA (IV) (ABSTRACT)

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We have grouped the radar echoes from the ice sheet near the Sirase Glacier in East Antarctica, and succeeded in the simulation of some kind radar echoes. And, on the radar echo having the standard echo form, we have found the features to be as follows.

(1) The density in the ice sheet is the constant ($\rho_s \fallingdotseq 0.92$) 150 m below from its surface.
(2) The reflective coefficient is near the constant within 150–500 m from its surface.
(3) We have found the relation between the observed radar echo and the hight of the airplane.

Using these conditions, the temperature of 200 m under the surface of the ice sheet near the Sirase Glacier has been observed by the 179 MHz radar on the airplane. On the other hand, we have been certain of the temperature distribution by twice observed values for a double-trip flight.

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