

RELATION BETWEEN THE SPECIAL RADAR ECHO FROM  
WITHIN THE ICE SHEET AND THE CONFIGURATION  
OF THE GROUND (I) (ABSTRACT)

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It has been considered very difficult to analyze radar echos except for those of standard form. In this work we have attempted to estimate ground structures under an ice sheet using non-standard radar echos.

We determined the standard radar echo from the thick ice sheet and ground of the Antarctic Continent under it, and succeeded in simulating nonstandard radar echos.

We have calculated the discrepancy from a standard radar echo by a simulation method, and estimated the influence of cracks and of the temperature profile within the ice sheet, volcanic ash and meteorites in the ice sheet, and shape and water content of the boundary between ice sheet and ground of the Antarctic Continent.

As the gradients of temperature and density of the ice sheet are very small, the radar echo is not influenced by these within an ice sheet up to at 350-600 m thick.

We succeeded in estimating the shape, temperature and roughness of the ground under the ice sheet.

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REPORT ON ANTARCTIC CLIMATE RESEARCH OBSERVATIONS  
BY THE 28TH JAPANESE ANTARCTIC RESEARCH  
EXPEDITION (ABSTRACT)

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The five years program on Antarctic Climate Research (ACR) has been started by the 28th Japanese Antarctic Research Expedition (JARE). The main subjects are (I) interannual variation of Antarctic atmosphere, and (II) air-sea ice interaction. In the 28th expedition, the stress was placed on the former and the following observations were made mainly around Syowa

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