

STUDY OF RADIO-ECHO SOUNDING IN THE CENTRAL REGION OF DOME A □ EAST ANTARCTICA: RESULT AND PERSPECTIVE

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The Dome A region of East Antarctica is the highest, least accessible and poorest known of the Antarctic continent. During the austral summer in 2004/2005, Chinese inland team arrived at the summit of Dome A, we deployed ice penetrating radar measurements using Two-frequency radar system (60MHz and 179MHz), and successful collected radio-echo sounding dataset along radar survey transects in the Dome A region. Analyses of this new dataset allow a much fuller understanding of the glaciological conditions at Dome A, from which, we will uncover:

The depth-age relationship of ice around Dome A and, from this, the location of a future ice core. The central area of Dome A is an ideal candidate place to acquire a longest time series ice core.

The ice thickness, bed topography and internal layers of Dome A. The large-scale topography beneath Dome A shows the Gamburtsev Mountains. Also, an assessment of whether the Antarctic ice sheet initiated at Dome A can be established.

The past rates of ice accumulation at the Dome A region. From which, identification how the ice sheet has evolved in the central region over the past few glacial-interglacial cycles.

The long-term glacial history of Dome A. Dome A is the most continually glaciated region on earth.