

Cosmogenic Be-10 and Al-26 exposure ages for the geological samples from the Lutzow-Holm Bay, East Antarctica

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Our knowledge for the melting history of the Antarctic ice sheet is limited due to little direct age determinations on the glaciological deposits. During the last glacial, ice sheets were existed extensively at the high latitude of the northern hemisphere that lead global sea-level lowered as much as 130m. The large numbers of studies have revealed their important role on the abrupt climate changes by the great ice sheets as is known the Heinrich events. Tropical uplifted corals dated by Uranium disequilibrium dating suggested that global sea-level rose as much as 15 m during a Heinrich event and the study also suggested the contribution of the melt water from the Antarctica (Yokoyama et al., 2001). However its detailed mechanism on the global climate changes is still unknown.

To understand the timing of the melting events, we are investigating the coast of the Lutzow-Holm Bay, East Antarctica where the bedrock is exposed widely. Both bedrock and boulder samples were obtained during the JARE (Japan Antarctic Research Expedition) campaign lead by the National Institute for Polar Research (NIPR) to conduct cosmogenic radionuclides measurements to obtain the exposure ages. We report preliminary report of both Be-10 and Al-26 ages for the samples and discuss the consequence of the data for understanding the timing of the melting events in East Antarctica.