

Temporal variation of ice sheet and ice shelf on East Antarctica using Synthetic Aperture Radar data

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Three years have passed since the launch of ALOS-2 and Sentinel-1A, and these satellites are collecting polar data smoothly. In recent, polar observations with high frequency, multi-band and wide area have archived as compared with ERS-1/SAR observation begun in 1991. In last year's JpGU, it was possible to analyze and report on the sudden discharge of fast ice in LH Bay using multiple SAR data. Based on the results of last year,

our study focus on the analysis of the subsequent change of the fast ice in the LH Bay and time series SAR data analysis of East Antarctica, which is said to have a slow response to Climate Change compared with the West Antarctica, in particular Syowa Station and its surrounding area and Prinsesse Lagnhild Kyst.

For analysis using SAR data, time series analysis of Grounding Line variation using InSAR and time series change of backscatter intensity are performed. We also try to quantitatively grasp the change amount of shelf ice in this area by using altimeter data as analysis results of these SAR data. For time series analysis, we will also try to use Google EarthEngine, which can use the SAR intensity image relatively easily.

Keywords: SAR, Time Series analysis