

ApRES measurement on the western Getz Ice Shelf

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In January 2016, during the 2015/2016 Amundsen Sea Expedition, we deployed four autonomous phase-sensitive radio echo sounders (ApRES) on the Getz Ice Shelf (GIS) to measure the ice-shelf basal melt rates. The four sites are located on the west side of GIS: GW1 near the Siple Island and GW2~GW4 to the southwest from GW1. The radars deployed at GW2 and GW4 are still alive although other two stopped sending their data in August 2016. The melt rates were calculated from the ice-shelf thinning rates, offset by the strain rate through the ice column. The estimated melt rates show temporal variations and slightly different patterns between western and eastern parts of the western GIS. We will further discuss on analyzing the ApRES data in terms of relationship between melt rates and other forcings (i.e., tide oscillation, atmospheric forcing, mean flow, etc.) and defining vertical boundaries and structures in the west side of GIS. Additionally, some methods of ice mass balance estimation using ApRES and satellite data will be introduced for the future research.