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Signals and Their Source Location Inferred from Array Deployment in the Lützow-Holm Bay, East Antarctica: 2015

Characteristic features of infrasound waves observed in the Antarctic represent a physical interaction relating surface environment in the continental margin and surrounding Southern Ocean. Source location of several infrasound events are demonstrated by using combination of two array deployments along a coast of the Lützow-Holm Bay (LHB), East Antarctica, for data retrieving period in January - June 2015. These infrasound arrays being established in January 2013 clearly detected temporal variations in frequency content and propagation direction of the identified 7 large events. Many of these sources are assumed to have cryoseismic origins by comparison with the MODIS satellite data; the ice-quakes associated with calving of glaciers, discharge of sea-ice, collision between sea-ice and icebergs around the LHB. Moreover, several notable infrasound waves are recorded by local originated signals contaminated with high-frequency contents which may include regional earthquakes. Detail and continuous measurements of infrasound waves in the Antarctic is a proxy for monitoring regional surface environmental variation as well as temporal climate change in high southern latitude.

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