

南極リュツォ・ホルム湾域でのインフラサウンド観測
- 第54次隊報告と初期結果 -

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**Infrasound Observations in the Lützow-Holm Bay region, Antarctica
- Observation Report and Initial Results by JARE-54 -**

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Characteristic infrasound waves observed in Antarctica demonstrate physical interaction involving surface environmental changes in the continent and surrounding oceans. A Chaparral type infrasound sensor was installed at Syowa Station (SYO; 39E, 69S), Antarctica, as one of the projects of the International Polar Year (IPY2007-2008). Continuous recording data during the three seasons in 2008-2010 clearly indicate a contamination of the background oceanic signals (microbaroms) with peaks between 4 and 10 s observed during a whole season. Microbaroms measurements are a useful tool for characterizing ocean wave climate, complementing other oceanographic and geophysical data. In austral summer in 2013, a few number of infrasound stations was deployed along the coast of the Lützow-Holm Bay (LHB), near SYO by the 54th Japanese Antarctic Research Expedition (JARE-54). Two different size of infrasound arrays were installed at SYO (approx. 200m aperture triangle array) and S16 area on the continental ice sheet (approx.2000m aperture triangle array). In addition, isolated single stations were developed at two outcrops along the LHB. The new two infrasound arrays clearly detected the microbaroms with their propagating directions from the Southern Ocean. Moreover, characteristic signals associated with calving of the edge of glaciers, as well as the shock waves generated from meteorite injection at the Russian Republic on 15 February 2013. In this presentation, several kind of newly obtained data are demonstrated. Detail measurements of the infrasound waves in Antarctica could be a new proxy for monitoring a regional environmental change together with temporal climate variations in polar region.