

## **Influence of sea level change on gravity observation with a superconducting gravimeter at Syowa Station, Antarctica**

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Continuous gravity measurement with a superconducting gravimeter has been carried out since 1993 in Syowa Station, Antarctica. Superconducting gravimeter TT-70 #016 had been used for the measurement from 1993 to 2003 and, since 2003, CT #043 has been used for it. Parallel measurement with the two gravimeters in a building was carried out for about six months in 2003.

Observation of sea level has also been carried out at the Nisi-no-ura Cove in Syowa Station since 1976 with tide gauges.

Syowa Station is located on East Ongul Island and the distance of the building for the SG from the coast is only several hundred meters. Therefore influence of sea level change on gravity is considerably large. The gravity trend since January 2004 indicates good correlation with trend of tide gauge data at Nisi-no-ura Cove. The obtained response coefficient was approximately 0.2 microgal/cm.

In this study, we will discuss the influence of non-tidal sea level changes. Because sea around the island is covered by thick sea ice all year round except for austral summer season, we will also investigate seasonal variation of the influence.