Japan Geoscience Union Meeting 2010
(May 23-28 2010 at Makuhari, Chiba, Japan)
©2009. Japan Geoscience Union. All Rights Reserved.

SGD002-P02 Room: Convention Hall Time: May 27 17:15-18:45

Replacement of superconducting gravimeter at Syowa Station, Antarctica

Hiroshi Ikeda[1], Yuichi Aoyama[2*], Koichiro Doi[2], Kazuo Shibuya[2]

[1]University of Tsukuba, [2]National Institute of Polar Research

Continuous gravity observation with a superconducting gravimeter (SG) has been carried out since a SG TT-70#016 had deployed in Syowa Station, Antarctica in 1993. In 2003, the SG TT-70#016 had replaced by a SG CT#043 with a 4K cryocooler in order to reduce workloads of a staff in charge in Syowa. However, because a record observed by the CT#043 contained large instrumental drift and maintenance of the 4K cryocooler became impossible due to bankrupt of the manufacturer, we had to replace the SG to a new one as soon as possible. In January 2010, replacement of CT#043 to a new SG-058 has been finished, and then the continuous observation with the new SG was started.
Before the transportation to Syowa Station, the SG-058 was tentatively deployed in University of Tsukuba, and observation with the SG was carried out in order to check the rate of instrumental drift for three months. We did not find distinct instrumental drift in the period of the tentative observation.
In this presentation, we will show the spec of the new SG, status of the observation in Syowa Station and the primary result.

Keywords: Superconducting gravimeter, Antarctica, Syowa Station, 4K cryocooler