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## Monitoring the flow of ice tongue of the Shirase Glacier using GPS buoys

Yuichi Aoyama<sup>1\*</sup>, Koichiro Doi<sup>1</sup>, Kazuo Shibuya<sup>1</sup>

<sup>1</sup>National Institute of Polar Research

The Shirase Glacier is the fastest flowing glacier in the Antarctica. Its ice tongue that is floating on the south of the Lutzow-Holm Bay had been broken and flowed away on several occasions. For monitoring the flow of the ice tongue of the Shirase Glacier, we planned to install the GPS buoys on the ice tongue and to measure the position of GPS buoys continuously. GPS buoy consists of the solar panel, the battery, and the single frequency GPS receiver. Instantaneous positions (longitude and latitude) of the GPS buoys are determined by the single frequency GPS and are transferred to National Institute of Polar Research (NIPR) through the Iridium Short Burst Data service at every 30 minutes. After simple checking of the dispersion in position measurements were conducted around Syowa Station, two GPS buoys have been installed on the ice tongue of the Shirase Glacier by members of JARE52 on Feb. 5, 2010. To prevent the movement of GPS buoy by the blizzard and strong winds, they are fixed to the weight. Their position data are collected continuously since its installation. We will present quantitative discussion about the flow of the ice tongue based on the position data obtained from the GPS buoys.

Keywords: GPS buoy, Shirase Glacier, Monitoring the flow of ice tongue