

JARE54 で実施した南極内陸での 2 周波 GPS による氷床流動観測

福井幸太郎¹、藤田秀二²、本山秀明²

¹ 富山県立山カルデラ砂防博物館

² 国立極地研究所

Observation of Antarctica ice sheet flow detected from dual frequency GPS survey in JARE 54.

Kotaro FUKUI¹, Shuji FUJITA² and Hideaki MOTOYAMA²

¹Tateyama Caldera Sabo Museum

²National Institute of Polar Research

JARE 42 installed several GPS survey points along the traverse route connecting a coastal site S16 (69°02'S; 40°03'E; 591 m), Dome Fuji (77°19'S; 39°42'E; 3810 m) and Plateau station (79°15'S; 40°30'E; 3624 m) from Dec. 2001 to Jan. 2002. To elucidate Antarctic ice flow, JARE 54 measures the positions of the GPS survey points from Dec. 2012 to Feb. 2013. We employed a GNSS Technologies Inc., Gem-1 dual frequency GPS system. Annual horizontal flow velocities at Mizuho station, MD240, MD364, MD500 and MD620 are 22.7, 8.3, 4.3, 1.7, 0.9 m, respectively. Compared with the flow velocity before 2001 (Motoyama et al., 2008), the flow velocity after 2002 accelerates approximately some decimeters per a year at Mizuho, MD240 and MD364

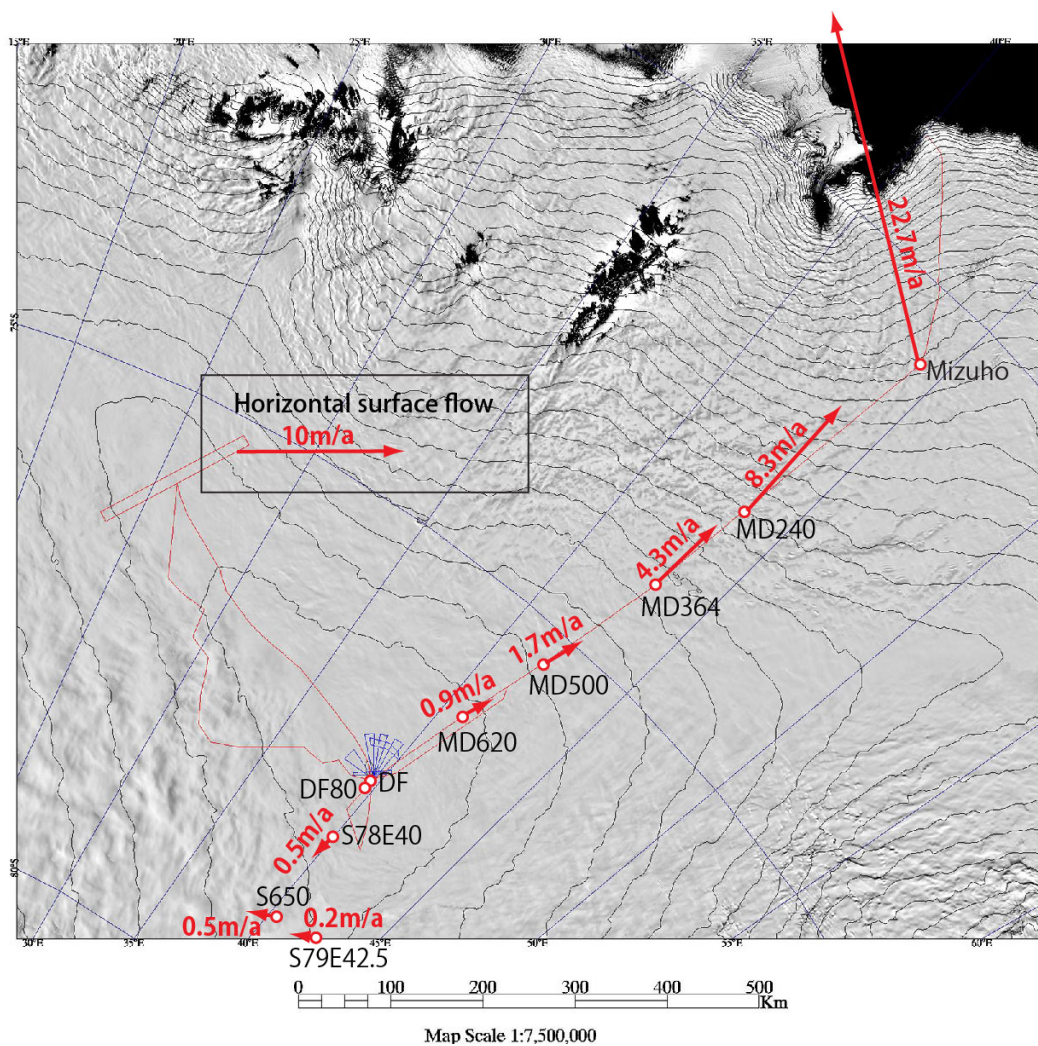


Fig. 1 Annual horizontal surface flow of ice sheet (The mean from 2002 through 2013)

Reference: Motoyama et al., Glaciological Data Collected by the 45th, 46th and 47th Japanese Antarctic Research Expeditions during 2004 – 2007. JARE data reports. *Glaciology*,34,1-22, 2008.