



Sea Ice Mass Balance influenced by Ice Shelves: The SIMBIS project - Preliminary results of the first Field Campaign

S. Paul (1), S. Willmes (1), M. Hoppmann (2), P. Hunkeler (2), U. Baltes (1), M. Nicolaus (2), G. Heinemann (1), R. Timmermann (2), and C. Driüe (1)

(1) University of Trier, Germany (paul@uni-trier.de), (2) Alfred Wegener Institut

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S. Paul2, S. Willmes2, M. Hoppmann1, P. Hunkeler1, U. Baltes2, M. Nicolaus1, G. Heinemann2, R. Timmermann1, C. Drüe2

1 Alfred-Wegener-Institute, Bremerhaven, Germany

2 Environmental Meteorology, University of Trier, Germany

Correspondence to: paul@uni-trier.de

54286 Trier, Behringstr.21, Germany,

Fon: +49(0)651-2014504

Fax: +49(0)651-2013817

The overall goal of the SIMBIS project is to improve our understanding of formation processes and properties of Antarctic sea ice and how these are influenced by its snow cover and platelet ice. Platelet ice is ice that is formed in the water column from super-cooled water originating from ice shelf cavities. In order to achieve this goal, we combine in-situ measurements with satellite observations and numerical studies. Measurements of sea-ice thickness, snow depth, and the under-ice platelet-ice layer thickness reveal the role of ice shelves for sea-ice formation and its seasonality. The first field campaign was performed on land-fast sea ice of the Atka Bay close to Neumayer III station, Antarctica, between November 2012 and January 2013. Energy balance measurements and measurements, focusing on optical properties, were performed to describe thermodynamic properties of sea ice and its snow cover. Part of the measuring program comprised of high resolution sensible/latent-heat and CO₂ flux measurements. First results from this recent field campaign with a focus on the Eddy-Correlation and AWS measurements are presented.