

Interactive comment on “The impact of melt ponds on summertime microwave brightness temperatures and sea ice concentrations” by S. Kern et al.

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Received and published: 25 January 2016

It was of interest to read the manuscript “The impact of melt ponds on summertime microwave brightness temperatures and sea ice concentrations” by S.Kern et al. The authors have conducted a very diligent and serious work. However, they state that from satellite microwave radiometer data it is impossible to distinguish open water between ice floes from open water in melt ponds on ice floes. I would refer the authors to a paper by Tikhonov et al. (2015). It presents a new algorithm called Variation Arctic/Antarctic Sea Ice Algorithm 2 (VASIA2) for determining sea ice concentration from satellite microwave radiometer data. VASIA2 not only retrieves ice concentration but also calculates ice areas covered by snow-water mixtures (SWM), including melted

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snow and melt ponds.

Tikhonov V.V., I. A. Repina, M. D. Raev, E. A. Sharkov, V. V. Ivanov, D. A. Boyarskii, T. A. Alexeeva, N. Yu. Komarova. A physical algorithm to measure sea ice concentration from passive microwave remote sensing data. // *Advances in Space Research*. 2015. V. 56. N 8. P. 1578-1589. DOI: 10.1016/j.asr.2015.07.009.

Please also note the supplement to this comment:

<http://www.the-cryosphere-discuss.net/tc-2015-202/tc-2015-202-SC1-supplement.pdf>

Interactive comment on The Cryosphere Discuss., doi:10.5194/tc-2015-202, 2016.

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