

Interactive comment on “Snow thickness retrieval over thick Arctic sea ice using SMOS satellite data” by N. Maaß et al.

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While I haven't read the whole article, I skimmed through the first section. It says you used the Burke model for radiative transfer simulations. The Burke model is, unfortunately, incomplete and only accounts for upwelling radiation. To completely account for all reflected radiation (both upwelling and downwelling) you need to perform a matrix inversion. I discuss this in the final report for the SMOS-Ice project and re-derive the model so it accounts for both upwelling and downwelling radiation.

Interactive comment on The Cryosphere Discuss., 7, 3627, 2013.