

## ***Interactive comment on “Active Layer Thickness Estimation from X-Band SAR Backscatter Intensity” by Barbara Widhalm et al.***

**Anonymous Referee #1**

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Although all three reviewers used different words, I think we all say essentially the same thing: the authors need to create a link between those vegetation characteristics (or land cover classes) that drive both x-band backscatter and ALT dynamics. Overlapping vegetation characteristics that influence both backscatter and ALT would simultaneously provide both a motivation for the study and an explanation of the results. The authors find that backscatter correlates with ALT, at least for ALT > 70 cm, clearly indicating a relationship. The missing piece of the manuscript and the significant scientific advance is explicitly identifying what vegetation characteristics drive this relationship.  
Reviewer 1

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Interactive comment on The Cryosphere Discuss., doi:10.5194/tc-2016-177, 2016.