

Interactive comment on “Detection and characterization of drizzle cells within marine stratocumulus using AMSR-E 89 GHz passive microwave measurements” by M. A. Miller and S. E. Yuter

Anonymous Referee #3

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The authors describe a new method of detecting drizzle cells from passive microwave remote sensing with rather high spatial resolution. The paper is well structured and easy to follow. I have only some minor comments and suggest that the paper to be published in AMT after the authors have addressed these comments.

specific comments:

Abstract (and elsewhere): "heavy drizzle" is not well defined a description. Can it some-

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how be characterized, especially in order to discriminate "heavy" from "light" drizzle, e.g. in terms of rain rates?

p 4574 l 10: if the cloud tops are not iced, LWP=CWP (not "similar"). Otherwise specify how ice clouds are treated (by the way: are multilayer clouds flagged out?).

p 4575 ll 23f.: It would be worth shortly describing the physical principle behind the 0dBZ threshold.

p 4576 l 20.: Is the threshold similar for all liquid phase clouds or is it specific for marine Sc?

p 4577 ll. 22ff.: Are day and night MODIS data used? Is the MODIS cloud product equally good at day and at night (I doubt it). Consequently, is it possible to get a nighttime cloud bias in the drizzle product?

p 4579 ll 10ff.: Here the question is very relevant, if cloud fraction and cloud top temperatures from MODIS are equally good at day and night. As no solar channels are used for cloud flagging at night I assume that the cloud detection is biased at night and that this nighttime bias consequently is also reflected in the statistics of the cloud top temperature. Please discuss this effect.

p 4582 ll 15f.: The red box also covers land pixels. I assume an ocean flag has been used here.

Interactive comment on Atmos. Meas. Tech. Discuss., 5, 4571, 2012.

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