

Interactive comment on “An evaluation of ASCAT surface soil moisture products with in-situ observations in southwestern France” by C. Albergel et al.

Anonymous Referee #2

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General comments:

This article presents the validation of ASCAT surface soil moisture products with in-situ observations from SMOSMANIA and SMOSREX in southwestern France. While the article is not particularly original and mostly a validation paper, it is certainly useful to document this effort.

Some information is redundant (e.g. Table 4) and the analysis could have been more detailed. Moreover, the text is somewhat imprecise in the description of results (see points 1)-3) below). Finally, while it is interesting that the correlation of the site mea-

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surements with the ASCAT retrievals may depend on the choice of the ASCAT grid points (Table 3), it is not very consistent to provide this analysis only for the "problematic" stations. Thus I would suggest that the same analysis be performed for all stations (point 4) below. Also, it would be useful that the authors would reflect on possible explanations for the better performance of the ASCAT data depending on location at the LZC and SFL sites (Table 3).

Despite the mentioned shortcomings, I consider that the article deserves publication in HESS subject to the minor revisions listed below.

Specific comments:

1) Abstract: "the other 11 stations present significant correlation levels". This is not exact. Only 9 stations present significant correlation levels (Table 1). For the other 2 stations (LZC, SFL), the significant correlation is only available when one solely considers part of the ASCAT data (Table 3). Please revise the text accordingly.

2) Text, page 2231, section 3.1.: "The URG and LZC in-situ observations present the highest correlation". This is not quite exact. In the case of the LZC station, this is only correct for the western measurements from ASCAT (Table 3).

3) Text, page 2234, section 4 (conclusions): "11 stations present significant correlation levels of SSM for the descending (a.m.) orbit with an average correlation coefficient of 0.556." This is not exact (see points 1) and 2)). Please revise the text accordingly.

4) Table 3: The authors should extend this analysis to all 12 considered stations. It is well possible that the results may be spatially variable for the other stations as well.

5) Table 4: This table is redundant to Tables 1 and 3 (the only difference to Table 1 is that the results of the NBN station are removed and that the results of the SFL and LZC stations are replaced with the "best fit" to ASCAT measurements (SFL: Northern value, LZC: Western value)).

6) Fig. 1: Location of stations. Please add a second plot on this figure zooming on

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Southwestern France with a precise map of the region and the exact location of the soil measurement stations with name.

7) Fig. 6: Since measurements down to 90 cm are available at the SMOREX site, please add another figure with the same analysis down to 90 cm at this site.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 5, 2221, 2008.

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