Interactive comment on "SMOS near real time soil moisture product: processor overview and first validation results" *by* Nemesio Rodríguez-Fernández et al.

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GENERAL COMMENTS

This is a well written and interesting paper describing a neural network approach for retrieving soil moisture from SMOS in near-real-time. The results are highly relevant for operational applications in hydrology, meteorology and other earth sciences. The results are realistic and I recommend publication after minor revisions.

SPECIFIC COMMENTS

Page 3, lines 8-9: Explain why the NRT requirements cannot be met by the operational

SMOS Level 2 processor. Is it just a matter of timeliness?

Page 3: Please also discuss possible disadvantages of the neural network approach already here. One topic is certainly the difficulties caused by changes in the sensor characteristics and Level 1 algorithms. Refer to experiences from other operational NRT services.

Page 4, line 5: What exactly do you mean by "arboreous component"? Do you mean the forest canopy?

Page 4, line 16: "... was obtained by training ..."

Page 8, line 23: 50 % is a very large value. Please explain.

Chapters 3.1 and 3.2: Please explain why the neural network relies on normalised data instead of the absolute brightness temperature values.

Page 8, line 32: Here you allow no open water (0 %), which is in stark contrast to the 50 % threshold from above.

Page 8, bottom: Reformat list of put into table.

Chapter 4.1: Please explain why you decided not to use more advanced metrics.

Discussion of Table 1 and Figure 5: The fact that the correlation R is overall slightly better for NRT than the L2 processor is noteworthy. Please discuss this in more detail and provide possible hypothesis why this is the case.

Page 16, line 15: Explain what you mean by "similar". What are the differences in implementation to the approach introduced by Rodriguez-Fernandez (2015)?