

## ***Interactive comment on “Approaches to calibrate in-situ capacitance soil moisture sensors and some of their implications” by N. A. L. Archer et al.***

**J. A. Gomez (Editor)**

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My overall impression of this manuscript agrees with those presented by the two reviewers. The manuscript addresses an issue that have been covered by several studies previously and the authors have not been able to highlight in detail which are the new findings of their study on relation with the current knowledge in the field. Additionally there are several shortcomings in the manuscript that have been addressed by the reviewers in their interactive comments. For those reasons my recommendation is that this manuscript should be rejected for publication in soil.

I summarize below the major comments of the interactive discussion by the two reviewers in case the authors consider that they could rework their manuscript for a possible submission in the future.

C1

1- Lack of focus: It seems that the topic of this manuscript is calibration of soil moisture sensors, but too much emphasis is put on the description of the soils and the geology of the experimental site and on the use of PTF (which probably contributes little to the manuscript).

2- It is not clearly explained what their manuscript contributes to previous studies on the same subject. The manuscript will benefit if the authors could highlight this clearly in the introduction and discussion section.

3- There is a large body of literature is available on calibration and accuracy issues with soil moisture sensors, but only part of this is taken into account. Additionally most of the previous that are studies are cited are in the introduction section, but the authors do not used them in the discussion of their results.

4- The overall structure of the manuscript is unbalanced. The introduction and material and methods sections are too long, while the results and discussion section are extremely concise.

5- There are several points in the manuscript where the authors might think about the soundness of the methods and the quality of some results. For instance: a) The soil moisture at 0.10 m is not necessarily representative of the entire core; b) the Akike (or any similar criteria) to evaluate the effect of fitting models with different number of parameters,

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