

Interactive comment on “Efficient reconstruction of dispersive dielectric profiles using time domain reflectometry (TDR)” by P. Leidenberger et al.

E. Zehe (Editor)

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Dear Authors!

Although the recommendation of both reviewers is to publish the manuscript after minor revisions, my feeling is that this recommendation is not congruent with the rather critical tenor of both reviews. After checking the reviews and your manuscript the following points/questions appear to me as rather critical:

1) Both reviewers point out that the presented approximation of transmission line parameters is error prone when used for two and three rod probes, especially when they are coated with dielectric material. Dr. Hübner even recommends the comparison of the presented approximation with results from finite element calculations. I won't go that far, but you should discuss this point and at least explain why you did not use numerical methods/software to calculate the transmission line parameter and explain the

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advantage of your approach.

2) Both reviewers recommend a validation of your reconstructed profiles with independent measurements and ask for a reconstruction of a more realistic/maybe synthetic soil moisture profile. My feeling is this is an essential point to judge the potential of the presented signal inversion.

Therefore, my feeling is you should thoroughly revise the manuscript and address the recommendations of both reviewers with special emphasis on these two critical points. I hope you will find the reviewers comments useful for preparing your revised manuscript. Please add a detailed list that explains how you addressed the reviewer comments.

Sincerely yours,

Erwin Zehe

Interactive comment on Hydrology and Earth System Sciences Discussions, 2, 1449, 2005.

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