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Discussions

Interactive comment on "Separating precipitation and evapotranspiration from noise – a new filter routine for high resolution lysimeter data" *by* A. Peters et al.

W. Durner (Editor)

w.durner@tu-bs.de

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Lysimeter technology has arrived at a quality level that suggests using lysimeters as the potentially most accurate systems to determine highly resolved evapotranspiration (ET) and precipitation (P) measurements at a point scale. However, calculated ET and P from lysimeter weight changes do not only depend on the precision of the weighing device but also on external conditions, which overlay the weight signal of the lysimeters with a random component that can have a large variety of structures. The manuscript of Peters et al. contains a proposal for an adaptive method to separate noise in lysimeter weight recording from physically true signals. It appears to be a promising step forward

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to getting a fully adaptive method that no longer needs expert-knowledge based and subjective manual intervention in the calculation process. Two excellent reviews helped to remove some unclear expressions and ambiguities in the paper. Thus, the resulting HESS paper is expected to mark a significant step forward. The aim, however, has not fully been achieved yet: Some disagreement between reviewers and the authors remains e.g. in (i) the question, whether a Savitzky-Golay smoothing (preserving spikes) or a moving average smoothing is more adequate. Furthermore, some philosophical issues arise, e.g., with respect to where a line should be drawn between negligible and significant short term events, and about time scales of interest for researches. Also, it is still not clear how (or whether at all) the validity of a procedure can really be proven. At least, there is agreement between authors and reviewers that further progress will require a mixture of expert knowledge, comparison with external measurements, and processing of synthetic data (with known "truth").

It is my pleasure to recommend publication of this piece of fine work.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 10, 14645, 2013.