

Interactive comment on “Technical note: Improving the AWAT filter with interpolation schemes for advanced processing of high resolution data” by Andre Peters et al.

Anonymous Referee #1

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This paper aims at improving the automatic processing of time series from high resolution-lysimeters, allowing one to better estimate the evapotranspiration and rainfall effects. In a scientific context evolving towards data-mining processes, such an investigation is very useful and deserves publication as a technical note in HESS, when the following comments are taken into account.

Detailed comments: 1. P2 L20-23: need not to be discussed in this paper, but suggestion for future work: have you looked at routines used to process GNSS (GPS, GLONASS) time series, where identifying steps is challenging as well? 2. P2 L25: “if the signal strength is high” . . . “noise is high”: could you quantify? 3. P3 L4: the flux is zero: but what happens if the distance between anchors is reduced? 4. P5 l14: what

C1

is a “very high value”? 5. P5 L18: “with no fluxes”: I suppose that ET plays a major role in July. So I don’t understand “no flux”. 6. P5 L24: which filter? As described in 2.3? Elaborate. 7. P6 L20: “problematic”: I do not understand your point. As even at night a small slope (probably significant, this may be tested) appears, this implies steps. So, what’s the problem? The fact that an apparently smooth decrease in fluxes appear as an abrupt change when looking at steps? Why is it quantified as “high changes”? Incidentally, why do the raw data on Fig 2 (left) appear as sawtooth, i.e. as small groups, of increasing slopes (and to a lesser extent, in an opposite way on fig 2 right, upper panel), while on Figure 6 the raw data are rather grouped by constant levels? Elaborate. Minor details, typos. . . 8. P2 L32: derivative of the cumulative. . . 9. P2L32-33: the syntax of this sentence (“ET. . .interval”) looks strange. Elaborate. What is “certain”? 10. p3 L29: “in the time between”: prefer: “between 2 and 8 April, no data. . .” 11. P6 L14: “At the two days”: prefer: “On February 16 and 17, . . .” 12. P6 l15: “only approximately”: prefer: “the ET rate is estimated at the XX level” (and if you can provide an error bar, just add it). 13. P6 L23: “are only minimal”: what do you mean? “the difference is negligible”? 14. P8 L18: “in the same magnitude”: I suppose: “is similar of larger. . .”. 15. P12: mai → May

Please also note the supplement to this comment:

<http://www.hydrol-earth-syst-sci-discuss.net/hess-2016-51/hess-2016-51-RC1-supplement.pdf>

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C2