

Interactive comment on “Sediment transport modelling in riverine environments: on the importance of grain-size distribution, sediment density and boundary conditions” by Jérémy Lepesqueur et al.

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The paper was elaborated based by the use of SISYPHE. Within this code, the determination of settling velocities obviously is cited after v. Rijn (Hand book of Sediment Transport by currents and waves. Delft Hydraulics, Rep. H461, 1989).

This formula, Eq. 6 in the paper under discussion has a spelling error. The number '18' in the denominator of the middle equation must be deleted.

The area-wise subdivision is unnecessary (saves at most minimal computation time).

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The middle equation also includes the solution “otherwise” and the solution for “ $d \leq 10^{-4}$ ”.

It should also be noted that the grain size data such as “ $d \leq 10^{-4}$ ” only concern sands. However, the equation applies to any sediment densities in which the grain size assignments of Eqn. 6 then would not apply.

Apart from that, Eqn. 6 with v. Rijn cited as its author, is not correctly cited. Correct citation is

Zanke, U. (1977): Berechnung der Sinkgeschwindigkeiten von Sedimenten (Determination of settling velocities of sediments). Mitteilungen Franzius Institute Univ. Hannover, Vol. 46, ISSN 0340 0077, full text for example at Researchgate).

However, this citing error is not at the expense of the authors. Leo v. Rijn, quoted this formula accidentally incorrectly. In others of his publications he has quoted this formula correctly.

Best wishes

Ulrich Zanke

Please also note the supplement to this comment:

<https://www.hydrol-earth-syst-sci-discuss.net/hess-2018-511/hess-2018-511-SC1-supplement.pdf>

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2018-511>, 2018.

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