

Comment to Reply to Referee Report on
"Technical Note: Three-dimensional transient groundwater flow
due to localized recharge with an arbitrary transient rate in
unconfined aquifers"

by C.-H. Chang, C.-S. Huang, and H.D. Yeh,
offered for publication to HESS

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1 General comments

The authors responded carefully to my earlier remarks.

One point remains. The reference they included w.r.t. formula (23) in the original manuscript (p. 12258) about the solution for time-varying recharge rate does not learn us more than just the same formula. It is advised to include a reference for the Duhamel Principle in a well-known book, *e.g.* Bear (1972, p. 300) or Bear (1979, formula (5-150)) (both without proof; from the presentation in these references the formula (23) can easily be derived by the method of Integration by Parts) or a reference with a mathematical proof (*e.g.* Sneddon (1986, p. 279-281) or Bartels and Churchill (1942)). The last reference uses the Laplace Transform technique.

2 Some minor remark

Page 12272, l. 1: Change "Ralte" into "Rate".

References

- R.C.F. Bartels and R.V. Churchill. Resolution of boundary problems by the use of a generalized convolution. *Bulletin of the American Mathematical Society*, 48:276–282, 1942.
- J. Bear. *Dynamics of Fluids in Porous Media*. American Elsevier, New York, 1972.
- Jacob Bear. *Hydraulics of Groundwater*. McGraw-Hill, New York, 1979.
- Ian N. Sneddon. *Elements of Partial Differential Equations*. McGraw-Hill, New York, 1986.