Interactive comment on “Stream recession curves and storage variability in small watersheds” by N. Y. Krakauer and M. Temimi

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This is an interesting and useful contribution. However, I would like to point out to the Authors a recent contribution to the subject of recession curves, which, I believe, is relevant to the Authors’ reasoning because:

1. power laws of the type $\frac{dQ}{dt} \propto Q^\alpha$ are not necessarily linked to a one-to-one relation, say $S \propto Q^\beta$, between discharge and the water volume, $S$, stored within the catchment, as assumed by the Authors. Recession curves for the same catchment and from different events actually show a lack of a one-to-one relation between $S$ and $Q$.

2. In many cases (mildly steep to steep catchments with negligible disturbances) $\alpha$ can be linked to the morphological properties of the network rather than to a storage-discharge relationship.

3. estimates of $\alpha$ may be biased if performed by pooling together all recession curves from a given catchment.

Particularly points 1. and 3. could affect the results obtained by the Authors.

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References:


Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 8, 1827, 2011.