Hydrology and Earth System Sciences Discussions

Hydrol. Earth Syst. Sci. Discuss., author comment AC1
https://doi.org/10.5194/hess-2022-186-AC1, 2022

Reply on CC1

Klaus Eckhardt

Author comment on "Technical note: How physically based is hydrograph separation by recursive digital filtering?" by Klaus Eckhardt, Hydrol. Earth Syst. Sci. Discuss., https://doi.org/10.5194/hess-2022-186-AC1, 2022

Keith Beven writes that the point of this article is to "to suggest that something might be physically-based by comparing one mathematical function to another mathematical function". Apparently, he does not concede the approach of Furey and Gupta (2001) to be physically based. I see it differently. In my view, their algorithm is physically based. One can argue about how accurate the physical basis is. However, a fundamental debate on whether hydrograph separation is useful or not goes far beyond the purpose of this technical note. There are, after all, a variety of methods of hydrograph separation and they are used. For more than four decades, recursive digital filtering has been one of them. The present contribution thus does exactly what HESS associates with a technical note: "Technical notes report [...] novel aspects of [...] theoretical methods and techniques which are relevant for scientific investigations within the journal scope." (https://www.hydrology-and-earth-system-sciences.net/about/manuscript_types.html).