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Interactive comment on "Topography-based flow-directional roughness: potential and challenges" *by* S. Trevisani and M. Cavalli

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As a colleague of the authors involved in previous papers on similar topics, I would like to propose a short comment on the terminology of connectivity indices.

The paper introduces some changes in the computation of a topography-based index of sediment connectivity (IC); the revised index is named "degree of connectivity" (DC). Actually the degree of linkage between the components of a system is intrinsic in the term connectivity, so that "degree of connectivity" sounds somewhat redundant. It is possible to recall one of the definitions of connectivity reported by Heckmann (2015): "Connectivity is the degree to which a system facilitates the movement of matter and energy through itself. It is an emergent property of the system state. Structural con-

nectivity derives from the system's anatomy. Functional connectivity is inferred from the system's process dynamics".

Moreover, the two changes proposed, i.e., the computation of the connectivity index by means of eq. 3 and assessment of the impedance factor using eq. 5 can be implemented separately, so that a total of three variants to the IC index proposed by Cavalli et al. (2013) based on a previous work by Borselli et al. (2008) can be recognized.

To avoid spreading a plethora of names for similar indices of sediment connectivity (Gay et al., 2015 have proposed a variant of IC for low-slope areas), the original acronym IC could be maintained, and the variant implemented could be indicated when presenting applications.

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