In this work, the term "type" concerns the particular analytical structure of a random cascade model, while the term "class" is related to its parameter dependency on time scale and rainfall height. Consequently, it is clear that a particular type of model can be associated to several classes. By adopting this terminology, three classes of increasing complexity can be identified in technical literature.

Class I parameters are independent of both time scale and rainfall height at coarser resolution;

Class II: dependency on time scale is only allowed;

Class III: parameters depend on both time scale and rainfall height at coarser resolution.

Innovation in this work

Class IV: parameters depend on rainfall height at coarser resolution, and dependency on time scale is allowed for selected temporal resolutions only.

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References