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Interactive comment on "Just two moments! A cautionary note against use of high-order moments in multifractal models in hydrology" *by* F. Lombardo et al.

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We honestly thank David E. Rupp and Mina Ossiander for their constructive and encouraging comment, and for calling our attention on the paper by Ossiander and Waymire (2000). We agree that this paper provides insight into the estimation theory required to identify the probability distribution of the cascade generators in discrete multiplicative cascade models, which have been widely used in several fields in science to reproduce the scaling properties empirically observed in real data series. It demonstrates that the two most common estimators of multiscaling exponents (i.e., the slopes of regression lines for log-log plots of sample moments of various orders versus

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the averaging scale) converge almost surely to the structure function of the cascade generators as the sample becomes large for all moment orders within a certain critical interval, whose upper bound is consistent with our results.

On the other hand, we recently proved that discrete multiplicative cascade models generate synthetic series whose autocorrelation function corresponds to a non-stationary process (Lombardo et al., 2012) and, therefore, these models are somewhat unrealistic for most hydrological processes.

Anyway, the interesting paper by Ossiander and Waymire (2000) is relevant to our work, and so we will add a citation to this in the revised manuscript. Moreover, we are very glad to discover that we converge to the same results with different approaches.

REFERENCES

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