

Abstract Submitted
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A study of SOC models by the use of joint distributions ESPEN JETTESTUEN, ANDERS MALTHERS, JENS FEDER, Centre for Physics of Geological Processes, University of Oslo — A precise characterization of scaling behavior is important for the further development of self-organized criticality. This has been achieved for models that display finite size scaling, but is lacking for systems that have more complicated scaling form. We propose that scaling of structures in joint probability densities can be used to identify the underlying structure in systems that show multi-scaling behavior. Here, we will study two simple models by the use of joint probability distributions. One is the BTW model that have multi-scaling behavior and the other is a randomized version of the Olami-Feder-Christensen earthquake model which has a simple finite size scaling form. We will also relate the scaling of the joint probability density to other well-known measures.

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