

Abstract Submitted
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Dynamic intermittency in discrete erodible-bed avalanches

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— The coexistence of fluid-like and solid-like behaviour in granular matter allows avalanches of grains to flow on the surface of a static but erodible bed. For sufficiently slow inflow, these avalanches are discrete, with previous experimentalists reporting that avalanche fronts pass a given point quasi-periodically. We report instead observations of dynamic intermittency between two regimes, one in which avalanches occur quasi-periodically and another in which the intervals between them are irregular. Finding the first regime consistent with existing models, we introduce a model for the second regime within the framework of Self-Organised Criticality, and describe the transition between the regimes with reference to the state of the erodible bed.

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