

STRONG BURSTS IN AVALANCHING SYSTEMS

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The connection between avalanche dynamics and space physics has been studied for several years. In that context we recently suggested an avalanche model which explains the phenomena of reconnection. In this work the model is generalized to include the influence of an extremely strong perturbation, reflecting the effect of plasma storms originating from the sun. In addition, we allow for diffusion processes and show that the behavior changes with the onset of diffusion processes, rendering it quasiperiodic, along with the suppression of small-size avalanches. In contrast with sandpiles, these bursts are not edge triggered and the transition is gradual.