Title:	Stochastic Sandpile Models in two Dimensions
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Abstract:	Self-organized criticality (SOC) is a property of dynamical systems that are self attracted towards criticality without tuning the external parameter. Sandpile models are toy models of building a pile of sand by adding sand grains. By putting different boundary conditions (open boundary or closed boundary) and tuning the drive (no drive, stochastic drive, constant drive), sandpiles exhibit interesting features like Self organized criticality, absorbing-phase transition, and proportionate growth. Earlier physicist showed that the 1D Manna Sandpiles belong to the universality class, same as (1+1) dimensional Directed Percolation (DP), and 1D Oslo Sandpiles belong to the quenched Edwards-Wilkinson universality class. The present numerical studies of a 2- dimensional open Manna and open Oslo sandpiles suggest that their critical behaviour are the same. Numerical studies on the 2-dimensional closed Manna sandpiles show critical behaviour different from DP.
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