

## ZERO DISSIPATION LIMIT IN ABELIAN SANDPILES

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The Abelian sandpile model on the  $d$ -dimensional integer lattice is a particle system that is critical, in the sense well-known from lattice models of statistical physics. That is, several observables follow power law distributions, at least numerically, and occasionally this can be proved. Here we study a natural one parameter family of models called dissipative sandpiles, where a small amount  $\gamma$  of mass can be lost (dissipated) on each toppling. As  $\gamma$  approaches 0, the critical model is recovered, while for any  $\gamma > 0$ , the model has exponential decay of correlations. After discussing some basic properties, I will present estimates in  $d = 2$  and 3, on how fast the stationary measure of the dissipative model approaches the critical sandpile measure. (Partly joint work with F. Redig and E. Saada.)