

Fig. 1: "Novel," fracture surface of a fuse network with quenched disorder.



Fig. 2: "Critical," hard spheres colored by the argument of their hexatic order parameter.

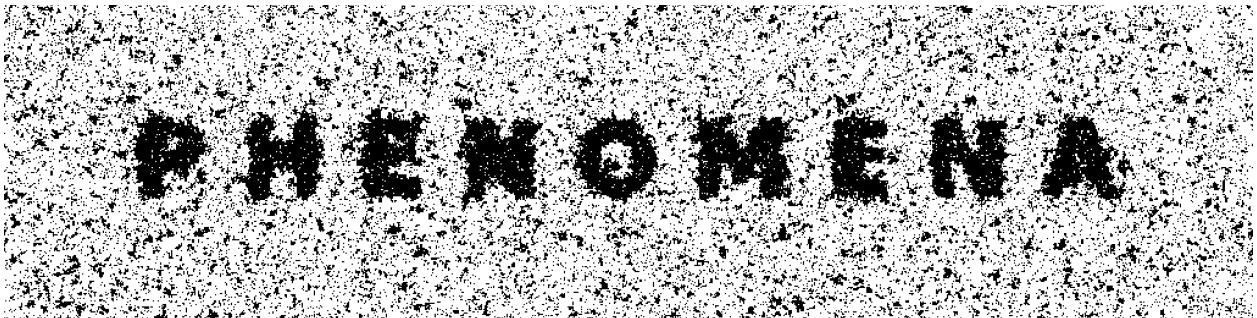


Fig. 3: "Phenomena," constant-magnetization Ising model in its high-temperature phase.

## B Exam

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Advised by Jim Sethna

15 June 2020  
14:00 EDT

When nature makes a continuous change from one phase to another, it's often more violent than an abrupt one, with massive fluctuations of every size. Long the domain of obscure metals and high pressures, singular critical phenomena are now known to arise in everyday circumstances. We'll see properties of some unusual singular behavior, develop faster numeric experiments, and apply critical theory to both the world's most common building material and an obscure metal.

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