Pre-class Preparation

Thursday
Read: Crackling Noise, James P. Sethna, Karin Dahmen, and Christopher R. Myers, *Nature* 410, 242 (2001). Focus in particular on Fig. 7 and related discussion
12.9: Hysteresis and Barkhausen noise
submit electronically by 9:30 Wednesday evening.

Tuesday
Pre-class question: submit electronically by 9:30 Monday evening.

**Eddy currents and the average avalanche shape.** The breakthrough that allowed us to find the ‘correct’ answer experimentally for the shape was to avoid eddy currents. But a complete theory ought to be able to incorporate eddy currents as well. Speculate as to how they might arise (corrections to scaling, or a new renormalization group fixed point, ...)

**Exercises**

12.11 Extreme value statistics: Gumbel, Weibull, and Fréchet.

12.13: Avalanche size distribution