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The Opinion Dynamics of Majority Rule SIDNEY REDNER, PU CHEN, CNLS, LANL & Boston University — We investigate the long-time behavior of a majority rule opinion dynamics model in finite spatial dimensions. Each site of the system is endowed with a finite-state spin variable that evolves by majority rule. In a single update event, a group of spins with a fixed (odd) size is specified and all members of the group adopt the local majority state. For the case of two states, repeated application of this update step leads to a coarsening mosaic of spin domains and ultimate consensus in a finite system. The approach to consensus is governed by two disparate time scales, with the longer time scale arising from realizations in which spins organize into coherent single- opinion bands. The extension to more than two states leads to a surprising faster evolution as soon as one state establishes itself as a local majority somewhere in the system.

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