1154-05-1463 **Daryl R. DeFord*** (ddeford@mit.edu), 32 Vassar St., D475A, Cambridge, MA 02139. *Markov chain sampling for connected graph partitions.*

Applications to political redistricting have led to increased interest in methods that generate large collections of maps for evaluating potential gerrymanders. A natural approach is to use Markov chains defined on the space of connected graph partitions to generate these plans. In this talk, I will discuss several recently designed proposal methods, based on spanning trees, that move efficiently through this space and address related questions of computational complexity. As with many similar problems where it is difficult to prove bounds on mixing times directly, this research has been driven by computational approaches, with well-designed experiments motivating and leading towards the theoretical results. (Received September 16, 2019)