1063-60-222 **Yuval Peres**, **Alistair Sinclair**, **Perla Sousi** and **Alexandre Stauffer***
(`stauffer@cs.berkeley.edu`). *Detection and Percolation on Mobile Geometric Graphs.*

We consider the following dynamic Boolean model introduced by van den Berg, Meester and White (1997). At time 0, let the nodes of the graph be a Poisson point process in $\mathbb{R}^d$ with constant intensity and let each node move independently according to Brownian motion. At any time t, we put an edge between every pair of nodes if their distance is at most r. We study two features in this model: detection (the time until a target point—fixed or moving—is within distance r from some node of the graph) and percolation (the time until a given node belongs to the infinite connected component of the graph). We obtain asymptotics for these features by combining ideas from stochastic geometry, coupling and multi-scale analysis. (Received August 16, 2010)