
SERGUEI POPOV, UNICAMP

Two-dimensional random interlacements

We define the model of two-dimensional random interlacements using simple random walk trajectories conditioned on never hitting the origin, and then obtain some its properties. Also, for random walk on a large torus conditioned on not hitting the origin up to some time proportional to the mean cover time, we show that the law of the vacant set around the origin is close to that of random interlacements at the corresponding level. Thus, this new model provides a way to understand the structure of the set of late points of the covering process from a microscopic point of view. Also, we discuss a continuous version of the model, build using the conditioned (on not hitting the unit disk) Brownian motion trajectories. This is a joint work with Francis Comets and Marina Vachkovskaia.