

Nicolas Pétrélis (Université de Nantes, France)

A polymer in a multi interface medium.

ABSTRACT: We consider a model for a homopolymer interacting with an infinity of interfaces. The polymer configurations (after n steps) are given by the trajectories of an n -step directed simple random walk in dimension $1+1$. The medium consists in an infinity of equi-spaced horizontal interfaces and we allow the distance T between two consecutive interfaces to grow with the size of the polymer n . The interaction between the polymer and these interfaces takes the form of a homogeneous pinning or depinning term. We discuss in particular the vertical speed at which the right extremity S_n of the polymer travels in the medium. More precisely, we display the scaling limit of S_n for every interaction intensity and every growth regime of T_n .