

Abstract Submitted
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Dynamics of assembly of proteins along a stretched DNA¹ RANJITH PADINHATEERI, Department of Physics, University of Illinois at Chicago, IL 60607, JOHN MARKO, Department of Physics and Astronomy, and Department of Biochemistry, Molecular Biology and Cell Biology, Northwestern University, Evanston, IL 60208 — We study the dynamics of filling of a one-dimensional lattice by k -site-long hard particles. We show that a model with adsorption, desorption and diffusion of k -mer particles can mimic in vitro experiments involving assembly of proteins along a stretched DNA. We study the dependence of force on the protein assembly dynamics and final filling. We also show that in a regime when adsorption rate is much larger than desorption rate, and no diffusion, one gets a power-law-like filling dynamics soon after jamming.

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