

Abstract Submitted
for the MAR06 Meeting of
The American Physical Society

Nonequilibrium Self-Assembly of Linear Fibers CHENGHANG ZONG, TING LU, TONGYE SHEN, PETER WOLYNES, University of California, San Diego — From physical viewpoint, a dynamic bio-fiber represents an interesting one-dimensional nonequilibrium system. We construct a minimal dynamic model for this type of fibers. Our model incorporates features such as realistic dynamics rules and site resolution. The steady state solutions are obtained with the nonequilibrium variational principle. The projection of steady state distributions produces an effective potential for the pure dynamic system. We demonstrate how dynamic behaviors such as catastrophe, rescue, and dynamic instability can be analyzed under the effective reaction coordinate.

Chenghang Zong
University of California, San Diego

Date submitted: 28 Nov 2005

Electronic form version 1.4