

Abstract Submitted  
for the MAR11 Meeting of  
The American Physical Society

**A Coupled-Dynamics Model for Polymer Translocation** TIMO IKONEN, TAPIO ALA-NISSILA, Aalto University School of Science, Finland, ANIKET BHATTACHARYA, University of Central Florida, WOKYUNG SUNG, Pohang University of Science and Technology, South Korea — We study a coarse-grained model of driven translocation of biopolymers, which comprises coupled equations of motion for the translocation coordinate  $s$  and the spatial coordinates for the first and the last bead of the translocating chain. We use Langevin dynamics simulations to solve the equations of motion and to study the dynamics of translocation through a nanopore, including the residence time distribution of the individual monomers and the average translocation time. In addition, we consider the time evolution of the spatial coordinates of the first and last bead, which underline the asymmetry of the dynamical chain conformations on the *cis* and *trans* sides.

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Date submitted: 18 Nov 2010

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