Abstract Submitted
for the MAR15 Meeting of
The American Physical Society

Comparison of Translocations of Ring and Linear Polymers NING OUYANG, MURUGAPPAN MUTHUKUMAR, University of Massachusetts — We compare the translocation dynamics of ring and linear polymer chains (pertinent to circular and linear DNA) through a nanopore under a driving force, using the Fokker-Planck formalism and scaling arguments. We report qualitatively different dynamics between these topologies arising from the conformational entropy of the polymer and pore-polymer interaction.

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Date submitted: 11 Nov 2014 Electronic form version 1.4