

Abstract Submitted
for the MAR06 Meeting of
The American Physical Society

Polymer effects in forced passage of DNA and macromolecules through nanopores FRANCISCO SOLIS, Integrated Natural Sciences — The forced passage of DNA, RNA and other linear molecules through nanopores has been proposed as a method to investigate the properties of these molecules and, in particular, as a sequencing method. This talk will discuss the polymer effects that arise when a macromolecule is pulled with constant velocity and with adjustable force through a pore. For homogeneous, strongly stretched molecules, the passage rate is proportional but slower than the pulling velocity. In addition, if the molecule contains a set of inhomogeneities that act as well defined obstacles, each of these will exhibit a waiting time for passage, and a relaxation period to return to the steady passage rate. These waiting and relaxation times increase with the length of the segment of already processed molecule.

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Date submitted: 02 Dec 2005

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