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Dynamics of DNA in and Around a Nanopore
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Single stranded DNA is modeled as a flexible polymer. The motion of such DNA in a vessel partitioned by a membrane containing a cylindrical nanopore is modeled. Statistical quantities such as the probability that a polymer end is at the pore entrance at time t , first passage time to the pore entrance, and the translocation time through the pore are all derived. These quantities are useful for understanding the mechanism of DNA transport through the pore.