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Polymer translocation induced by bad solvent CHRISTOPHER LORSCHER, ANIKET BHATTACHARYA, University of Central Florida, TAPIO ALA-NISSILA, Helsinki University of Technology — We report Langevin dynamics simulation studies of a translocating homopolymer through a nano pore induced by different existing solvent conditions at the *cis* and *trans* compartments of the pore. Specifically, we study the mean first passage time $\langle\tau\rangle$ as a function of the chain length N and determine the scaling exponent $\langle\tau\rangle \sim N^{\alpha}$. We also look at the mean force experienced by the chain and its conformations as a function of the translocated segments. Our studies also reveal detail picture of the translocation process which may provide insights relevant for the entry of a DNA into a host cell.

Aniket Bhattacharya
University of Central Florida

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