سمینار هفتگی ماده چگال نرم

Monte Carlo simulation of asymmetric elastic rod model

Mohammad Saber Naderi
Department of physics
Sharif University

Sharply bent DNA plays an important role in many biological processes such as gene regulation, DNA replication and recombination. DNA cyclization experiments are well suited to study of sharply bent DNA, because they are sensitive to strongly bent conformations. Results of these experiments show that short length DNA molecules are more flexible than predicted by elastic rod model. Therefore, based on these experiments, the elastic rod model is not a suitable model for explaining elastic behavior of DNA at small lengths, although it can explain DNA elasticity at large length scales. Recently, it has been shown that a new model called asymmetric elastic rod model can explain high flexibility of DNA at small length scales.
This talk is about using Monte Carlo method for simulating elastic rod model and asymmetric elastic rod model and comparing their results with cyclization experiments.

زمان :شنبه ۸۸/۸/۲ ، ساعت : ۱۵:۳۰

مکان: آمفی تئاتر دانشکده فیزیک