



قطب علمی  
سیستم‌های پیچیده  
و ماده چگال



سمینار هفتگی ماده چگال نرم

## DNA simulation at base-pair level

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DNA is one of the most important biological molecules which contains all the genetic information as the sequence of bases. lots of investigations have been done on DNA but its functionality is still remained as a secret. Nanomechanical behavior of DNA has a significant role on its functions like in interaction with proteins. In the last two decades with progress in experimental instruments, several methods are introduced to measure mechanical properties of single DNA molecule. But because of complexity of behavior of the molecule, simulation methods are still strong instruments to study DNA. In this seminar I am going to have a short overview on molecular models of DNA simulation especially at base-pair level. Then a coarse grain model at base-pair level with harmonic potential will be introduced. It will be shown that this model has great capabilities for study of DNA nanomechanics.

زمان: شنبه ۸۹/۵/۳۰ ، ساعت : ۱۵:۳۰

مکان: آمفی تئاتر دانشکده فیزیک