SEMINARIUM Z MAGNETYZMU I NADPRZEWODNICTWA

Uprzejmie zawiadamiamy, że w **ŚRODĘ**

10 czerwca 2009 r., o godz. 10:00

w sali 203 (bud. 1) odbędzie się seminarium, na którym

Prof. Sanjay Kumar

Department of Physics, Banaras Hindu University, India

wygłosi referat na temat:

„Effect of molecular crowding during stretching of biopolymers"

Single molecule force spectroscopy provided details of the mechanism involved in understanding the unfolding process. In most of the studies, the effect cellular environment has been ignored. It has been proposed recently that unfolding processes in vivo may be significantly different than in vitro. In this talk, we shall discuss the issue related with molecular crowding and confinement experienced by protein in the cell during unfolding. We consider a linear polymer chain in a disordered environment modeled by percolation clusters on a square lattice. The disordered environment is meant to roughly represent molecular crowding as seen in cells. The model may be viewed as the simplest representation of biopolymers in a cell. We show the existence of intermediate states during stretching arising because of molecular crowding. In the constant distance ensemble the force-extension curves exhibit oscillations. We observe the emergence of two or more peaks in the probability distribution curves signaling the coexistence of different states and indicating that the transition is discontinuous unlike what is observed in the absence of molecular crowding.

Serdecznie zapraszamy

Roman Puźniak
Henryk Szymczak
Andrzej Wiśniewski