“凝聚态物理-北京大学周二论坛”

2007-05

时 间： **2007 年 4 月 3 日（星期二）下午 15:00－16:40**

地 点： **北京大学物理大楼中 212 教室**

报告题目： **Crowded Cells and Molecular Machines**

报告人： **Professor Raymond Kapral**

报告人简介： **Chemical Physics Theory Group，Department of Chemistry，University of Toronto**

研究方向： **Chemical Physics and Biophysics**

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Abstract

The cellular volume is crowded by structural elements such as microtubules and filaments, various organelles and a variety of other macromolecular species. The presence of these species leads to molecular crowding which can modify the diffusive and reactive dynamics of large and small molecules. Molecular machines are nonequilibrium devices that perform regular motions in the presence of strong noise to accomplish certain tasks. These machines operate in the world of low Reynolds number hydrodynamics. Using particle-based models of the dynamics, the influence of molecular crowding on transport, the role of hydrodynamic interactions on molecular machine operation and the effects of fluctuations in small spatially-distributed biochemical networks will be described.