

Study of fission dynamics and nuclear viscosity using particle emission as a probe

Monday

February 23

4 P.M.

Rm 124 NSH

Dr. Yogesh Gupta

Postdoctoral Research Associate, University of Notre Dame

Understanding of fission dynamics in a wide energy regime has been a topic of continued research interest. Among many other degrees of freedom, the nuclear viscosity plays a crucial role in governing the fission dynamics. Several probes have been employed previously to study the fission dynamics and hence the nuclear viscosity.

Study of near scission particle emission (ternary fission), is a very good probe to provide information about the nuclear motion during saddle to scission points. I will discuss the systematic study of pre-scission and near scission α -particle emission made for various systems over a wide range of Z^2/A and excitation energies. It is seen that nuclear collective motion exhibits a changeover from dynamical emission to statistical one in going from very low excitation energy to the higher one which is a result of variation of viscosity with energy. Detailed experimental, procedure and results would be presented.

Refreshments served prior to the seminar in Rm 124.