
Seminar

Study of decay dynamics of di- and tri-atomic molecules using a recoil ion momentum spectrometer

Deepankar Misra

Tata Institute of Fundamental Research, Mumbai

The basic understanding of decay dynamics of poly-atomic molecules is a topic of current and fundamental interest. Momentum resolved study of fragmentation of simple molecules, under the impact of fast electrons and highly charged heavy ions, is very important to understand breakup dynamics of the transient, often multiply charged, molecular ions formed in the collision reactions. In order to study these processes we have developed a new Recoil Ion Momentum Spectrometer (RIMS). The present design is a modified version of the two-field, Wiley-McLaren type spectrometer which has an option to use an electrostatic lens inside the flight-tube.

In this talk, I will briefly describe the design and ion optical simulation details of the spectrometer. Later, I will present some of our recent results on the fragmentation dynamics of N_2 , N_2O and CO_2 molecules obtained using this newly built spectrometer.

Tuesday, May 12th 2015

11:30 AM (Tea/Coffee at 11:15 AM)

Seminar Hall, TCIS