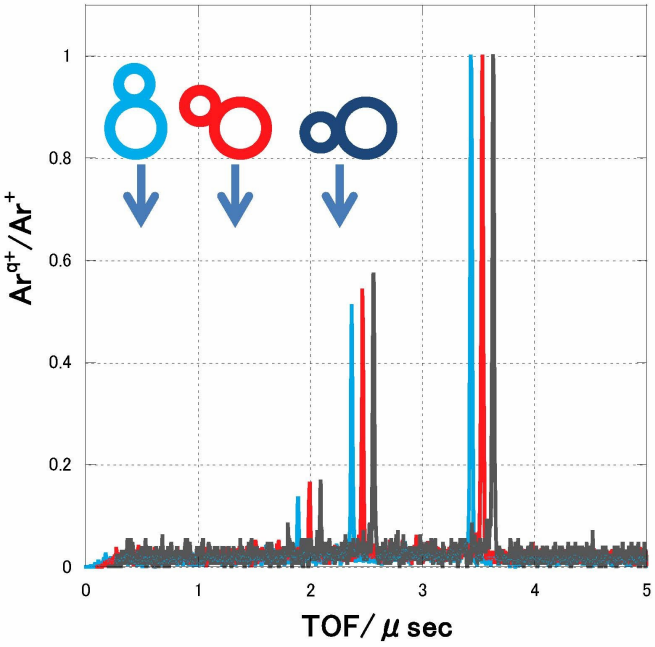
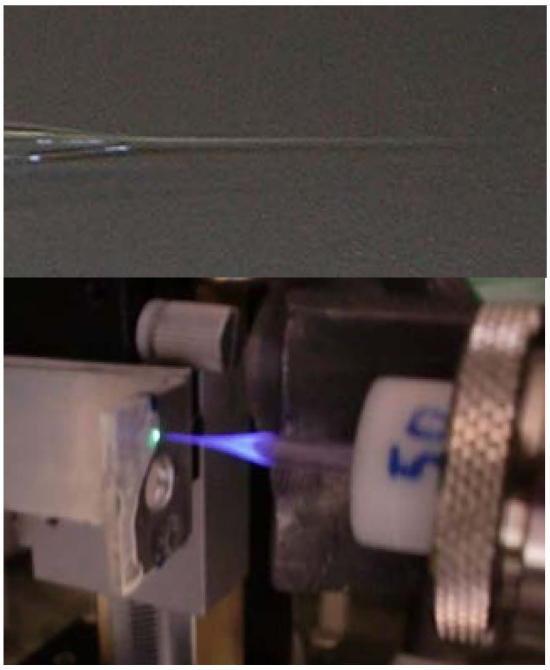
Collision dynamics of MeV ion beam in collisions with various target and its application

Kunikazu ISHII [Physics Course]





(left) Change of ionization degree by orientations of incident molecular ions

(right) Pictures of capillary and ion beam in air.

We have studied collision dynamics of MeV energy ion in collisions with various targets. Recently, we have started studies of stereoscopic collision dynamics of MeV molecular ions in collisions with atomic and molecular target and have found that ionization degree of the target are changed by orientations of incident molecular ions. On the other hand, we have also studied transmission properties of MeV ion beam via glass capillary optics. Recently we have tried to obtain intense microbeam into air with He-capillary, which is normal glass capillary filled with low pressure He gas. In the future, we will introduce these techniques to in-air material analyses.

Keywords : MeV energy ion beam, molecular dissociation, capillary optics