

**Colliding or Merging Beam Section, A. NODA,**  
Kyoto Univ. Inst. for Chemical Research - In order to enable the collision or merging between beams of different ion species with different magnetic rigidity, such a configuration of storage rings as two rings commonly use the same long straight section as a part of their circumference has been studied. A pair of the dipole magnets with the same strength of opposite polarities and a septum magnet are used at both ends of the straight section. In this configuration, ion beam and/or electron beam with magnetic rigidity less than 1 Tm can be treated. In case of merging beam, the magnetic rigidities of two ion beams should be different from each other more than 10% in order to be separated by this system. The interaction between the ion beams with momentum differences less than 10% can be studied by storing in a single ring of large momentum acceptance. In the present paper, the idea for colliding or merging section for ion and/or electron beams are presented together with an example of two rings including such a section.