Interaction of charged particle with matter: introduction

- Heavy: p, α, ...
  - Light: electron, positron

- Interaction: Coulomb

- Types of interactions
  1. Inelastic collision with the electrons (dominant) ⇒ excitation of atoms or ionization
  2. Inelastic collision with the nuclei (very high energy) ⇒ excitation of nuclei or bremsstrahlung radiation
  3. Elastic scattering with the nuclei (Rutherford)
  4. Elastic collision with the electrons (only significant for low energy electrons)