

Cloud Chamber Particle Guide



muons

Muons are high-energy particles with a negative charge and a relatively large mass. Produced when cosmic rays enter our atmosphere, muons travel quickly and are rarely deflected by other atoms in the chamber, leaving behind long, straight tracks.



alpha particles

Alpha particles are a heavy combination of two protons and two neutrons. Alpha particles are produced when radioactive substances undergo radioactive decay. Alpha particles appear in cloud chambers as short, broad paths



particle decays

When a cosmic ray or muon breaks into smaller particles (decays), such as electrons and neutrinos, the pieces split in different directions, leaving bent or forked trails behind.



**electrons and
positrons**

Electrons are small negatively charged particles found in nearly all atoms, and positrons are their positively charged counterparts. Sometimes called beta particles, these particles are formed during radioactive decay or from collisions between cosmic rays and atmospheric atoms. They easily bounce off of other atoms, leaving behind thin, winding trails.