Particle identification

Abstract

Particle identification in a high-energy physics experiment has the goal of identifying which types of particles were produced in the event being studied, and is therefore central to performing a physics analysis. The techniques which are used will be described: combining the information from tracking, calorimeter and muon detectors to identify stable particles and determine whether they are charged or neutral; then combining those particles to search for unstable ones, which have decayed before reaching the detector. A particularly interesting (and challenging) problem is to separate the stable charged hadrons (π, K, p), and the various approaches for this will be explained.