

ASP2014

Report of Abstracts

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Particle detection I-II

Abstract content

- Introduction
- The goal: measuring subatomic particles (E, p, charge,, mass, .
- In collisions of proton-proton, electron-positron, CR, neutrinos, dark matter.
- Detection of particles, how do they interact with matter, what does the interaction depend on (E, p, charge,, mass, beta, gamma .
- Interaction of radiation with matter
- Photons: PE, Compton, Pair creation
- Ionization/excitation, Bethe Bloch formula, range of particles, Bragg peak
- Electrons, Bremsstrahlung, radiation length, critical energy
- Electromagnetic showers of electrons and photons, (muons)
- Hadronic interactions ! showers, interaction length, solid and atmospheric absorbers
- Multiple scattering
- Cerenkov, Transition radiation
- Simple particle identification (dE/dx, e/p, TOF, Cerenkov/ TR, muons.
- Exercise for the WE !!!!!

Summary

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