

Atmospheric Neutrinos

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A cosmic ray is the radiation of high energy particles arriving at Earth from the Universe. These cosmic ray particles interact with the air nuclei in the high altitude atmosphere. In these high energy nuclear interactions, many pions and kaons are produced. Since these particles are unstable, they decay into other particles, including neutrinos. These neutrinos are called atmospheric neutrinos, and they have been studied in underground experiments. Through the studies of atmospheric neutrinos, neutrino oscillations, which occur because of finite neutrino masses, have been discovered.

