

Abstract Submitted
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Particle Identification in Nuclear Emulsion by Measuring Multiple Coulomb Scattering KHIN THAN TINT, KAZUMA NAKAZAWA, JUNYA YOSHIDA, MYINT KYAW SOE, AKIHIRO MISHINA, SHINJI KINBARA, HIROKI ITOH, YOKO ENDO, HIDETAKA KOBAYASHI, Gifu University, E07 COLLABORATION — We are developing particle identification techniques for single charged particles such as Xi, proton, K and π by measuring multiple Coulomb scattering in nuclear emulsion. Nuclear emulsion is the best three dimensional detector for double strangeness ($S = -2$) nuclear system. We expect to accumulate about 10000 Xi- minus stop events which produce double lambda hypernucleus in J-PARC E07 emulsion counter hybrid experiment. The purpose of this particle identification (PID) in nuclear emulsion is to purify Xi-minus stop events which gives information about production probability of double hypernucleus and branching ratio of decay mode. Amount of scattering parameterized as angular distribution and second difference is inversely proportional to the momentum of particle. We produced several thousands of various charged particle tracks in nuclear emulsion stack via Geant4 simulation. In this talk, PID with some measuring methods for multiple scattering will be discussed by comparing with simulation data and real Xi-minus stop events in KEK- E373 experiment.

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