

Abstract Submitted
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The possibility of a Very High Momentum Particle Identification upgrade for Alice EDMUNDO GARCIA, Chicago State University — The results of RHIC have strongly altered the perception of the baryon production in heavy-ion collisions. From a proton over pion ratio of 9% in the thermal region, above transverse momenta of 3 GeV/c this ratio equals or even surpasses unity. Several theoretical predictions for LHC assume an enhanced baryon production at higher transverse momenta: 10-20 GeV/c. In that optics we have decided to propose to the ALICE collaboration an upgrade of the particle identification capabilities with a new detector of small size 12 square meters. In the first stage we consider building a prototype to be commissioned at the end of 2011. The prototype would consist of a C4F10 gas Cherenkov detector with spherical mirror focusing, and CsI photocathode coupled with MWPCs. The detector would identify pions and kaons up to a momentum of 26 GeV/c with a 4 sigma separation. We will discuss also the possible use of GEMs as a photo detector where encouraging results have been obtained by our protocollaboration. The physics capabilities of such a detector in conjunction with the ALICE experiment will be contemplated.

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