

Abstract Submitted
for the DNP20 Meeting of
The American Physical Society

Search for clustering of strange quarks in relativistic heavy ion collision at the LHC SURYA PRAKASH PATHAK, University of Houston, ALICE COLLABORATION — Heavy ion collisions at the LHC provide a tool to study the phase transition from the hadronic matter to a deconfined phase of quarks and gluons. This state of strongly interacting QCD matter produced in high energy collision, revealed an enhance production of strange hadrons. Taking this result as a basis, we search for clusters of strange quarks in heavy ion collision by studying the azimuthal distribution of particles on an event by event basis. We will present experimental result of the mean and variance of the probability of event clustering $P(E)$ and N_{min}/N_{max} where N_{min} and N_{max} are the smallest and largest number of particles produced per event in the respective azimuthal bins. The data are measured as a function of centrality for six different azimuthal bins in Pb-Pb collision at 5.02 TeV using the ALICE experiment at the LHC. The measurement of kaons, which serves as a proxy of strange quarks, is then compared with the result for pions, which represent the light quark distribution.

Surya Prakash Pathak
Univ of Houston

Date submitted: 23 Jun 2020

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