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A Study of Erraticity of Rapidity-Gaps in 28Si-AgBr Collisions at 14.6A GeV

Content :

A systematic study of event-to-event fluctuations proposed for low multiplicity events has been investigated using the rapidity-gap method by analyzing the data of relativistic shower particles produced in 28Si-AgBr interactions at 14.6A GeV. It may be observed that the two new quantities, S_q and \bar{S}_q are better parameters, which are used to describe erraticity, will be examined quantitatively for the present data. It is found that S_q and \bar{S}_q deviate significantly from 1 in pseudorapidity and azimuthal spaces. There is a clear evidence that signifies the presence of event-to-event fluctuations in the multiparticle production for our data. The experimental results on the erraticity exhibit a remarkable closeness to analogous data obtained from UrQMD model. Finally, the investigation gives an evidence in favour of erratic fluctuations of rapidity-gaps of produced pions in relativistic nuclear collisions.

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