

Contribution ID : 164

# Event-by-Event Fluctuations in the Rapidity Gaps in pp collisions at LHC energies

## Content :

Event-by-event fluctuations in the rapidity gaps of the produced photons in the pp collisions at LHC energies are studied using the methodology proposed in [1]. The gaps in the rapidity of the neighbouring particles produced in the multiparticle production processes carry information about the events which have been studied using the moments( $G_q$ ). The moments calculated for the rapidity gap distribution carry information about the spatial pattern of the produced particles in the events. Fluctuations in the spatial patterns from event to event are quantified by the entropy like measure, which characterizes the erraticity in the events, known as erraticity parameter( $S_q$ ). Results from the analysis of simulation data for pp collisions at LHC energies, for the erraticity measure, its sensitivity to the multiplicity, statistics and the centre of mass energy will be presented.

## Reference

1. R.C. Hwa and Qinghui Zhang, Physical Review D 62, 014003 (2000).

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Session classification : --not yet classified--

Track classification : --not yet classified--

Type : --not specified--