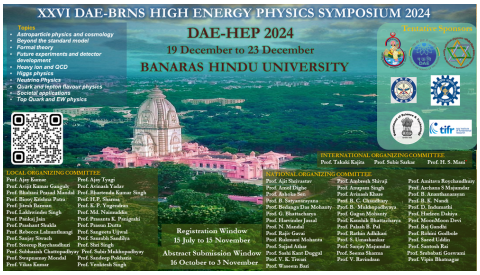

Contribution ID: **153** Type: **Oral**

Study on fluctuation of fluctuations in pp collisions at LHC energy

This study presents an analysis of the erraticity of produced particles in proton-proton (pp) interactions at a center-of-mass energy of $\sqrt{s}$ = 13 TeV. We utilized datasets generated by PYTHIA v8.3 for our analysis. We calculated several parameters related to chaotic behavior in event space fluctuations, including $_q$, $_q$, and the entropy index$\tilde{}_q$. The results indicate the presence of erratic fluctuations. Additionally, our analysis suggests a potential quark-hadron transition and a non-thermal phase transition. The results from our study are also compared with previous experimental data sets of emulsion data at CERN SPS (i.e. A GeV/c) energy and during this comparison, we have found that the values of entropy index are quite high in the case of PYTHIA generated data indicating that at CERN LHC energies the choticity is significantly larger.

Field of contribution

Phenomenology

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Track Classification: Heavy ion and QCD