

Wavelet analysis of Unusual spiky Events at SPS Energy

Angular spectra of the unusual spiky events produced in 32S-Ag/Br interactions at ultrarelativistic high energy are analysed by the method of continuous wavelet transform in different scale for the ring-like structures which could indicate either the production of Cherenkov gluons or the occurrence of Mach shock waves in excited nuclear matter. The analysis is based on the assumption that the presence of above mention effects would be manifested by excess of particles at some characteristic pseudorapidities. The irregularities are revealed in the wavelet pseudorapidity spectra in the scale pseudoradity region up to 0.6. These irregularities are interpreted as the preferred pseudorapidities of groups of emitted particles. As an example to illustrate the irregularities more vividly in the paper, we have chosen the event of 32S-Ag/Br interactions at 200A GeV/c with 229 charged tracks(pions).The experimental results are compared with the MC simulated and randomly generated data sets.

Authors: Mr SUBBA, Nirpat (Cooch Behar Panchanan Barma University); Prof. HALDAR, Prabir Kumar (Cooch Behar Panchanan Barma University)

Presenter: Mr SUBBA, Nirpat (Cooch Behar Panchanan Barma University)