

Multiplicity, transverse momentum and forward energy fluctuations from the NA61/SHINE experiment CERN

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Preliminary results for multiplicity, transverse momentum and forward energy fluctuations are presented for Be+Be and Ar+Sc collisions at 13A, 19A, 30A, 40A, 75A and 150A GeV/c beam momentum. The data were obtained by the NA61/SHINE detector at the CERN SPS. Centrality selection and forward energy measurement are based on the nucleon spectator energy in the forward hemisphere determined by the Projectile spectator detector. The scaled variance ω of the multiplicity distribution and the strongly intensive quantities Δ , Σ and Ω of multiplicity, transverse momentum and forward energy fluctuations were calculated for all, negatively and positively charged hadrons. The presented comparison of ω and Ω quantities shows, in particular, complete elimination of volume fluctuations for the most central collisions. A comparison with p+p results from NA61/SHINE, Pb+Pb data of NA49 and EPOS 1.99 simulations is shown.

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