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## Recent results from the search for the critical point of strongly interacting matter at the CERN SPS

The exploration of the phase diagram of strongly interacting matter particularly the search for a critical endpoint, is one of the most challenging tasks in present heavy ion physics. The existence of the critical point is expected to result in large event-by-event fluctuations of many observables of produced particles, provided the freeze-out occurs close to its location in the phase diagram.

The NA49 experiment studied event-by-event fluctuations of multiplicity, transverse momentum, azimuthal angle and charge of particles in the final state as well as intermittency in low-mass dipion and in proton production.

In this talk new NA61/Shine results on event-by-event fluctuations of hadron multiplicities, the average transverse momentum and chemical composition of the final state in p+p interactions at the CERN SPS will be shown. The results will be compared with the fluctuations measured in nucleus-nucleus collisions collected by NA49 and predictions from string hadronic models. In particular, the results and advantages of new strongly intensive measures of fluctuations will be discussed.

Further on a first look by NA61/Shine at fluctuations in Be+Be interactions will be presented. Finally the status and plans of data taking in the NA61/Shine ion program will be summarized.

### Summary

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