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The Critical Point and particle correlations under thermal stochastic influence

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The critical phenomena of strongly interacting matter are presented in the dual flux tube model at finite temperature. The phase transitions are considered in systems where the Critical Point (CP) is a distinct singular one existence of which is dictated by the dynamics of conformal symmetry breaking.
The physical approach to the effective CP is predicted through the influence fluctuations of two-particle quantum correlations to which the critical mode couples. The finite size scaling effects are used to extract location of deconfinement phase transition.
We obtain the size of the particle emission source, the transverse momenta of correlated particles affected by the stochastic forces in thermal medium characterized by the Ginzburg-Landau (GL) parameter (for the vacuum criterium) which is defined by the correlation length of characteristic dual gauge field. The size above mentioned is blows up when the temperature approaches the critical value, where GL parameter tends to infinity as correlation length becomes large enough.
The results are the subject to the physical programs at accelerators to seach the hadronic matter produced at extreme conditions.

Author: Dr KOZLOV, Gennady (JINR)

Presenter: Dr KOZLOV, Gennady (JINR)

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