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Critical Point through the random fluctuation walk

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The critical phenomena of strongly interacting matter are presented in the random fluctuation walk model. 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 the vicinity of CP and deconfinement phase transition.
We conclude that the size of the particle emission source is affected by the stochastic forces in thermal medium characterized by the Ginzburg-Landau parameter. The latter is defined by the correlation length of characteristic dual gauge field. The particle source size blows up when the temperature approaches the critical value as correlation length becomes large enough.
The results are the subject to the physical programs at accelerators to search the hadronic matter produced at extreme conditions.

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