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Full potential approach to frustrated antiferromagnets

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We revisit the critical behavior of classical frustrated systems using the nonperturbative renormalization group (NPRG) equation. Our study is performed within the local potential approximation of this equation to which is added the flow of the field renormalization. Our flow equations are functional to avoid possible artifacts coming from field expansions which consists in keeping only a limited number of coupling constants. The function $N_c(d)$ separating the regions of first and second order in the (d, N) plane is computed for d between 4 and 2.5. Our results are compared with both the fixed dimension perturbative approach and the results obtained within the conformal bootstrap approach.

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