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Post-Gaussian Effective Potential of Double sine-Gordon Field

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Abstract: In the framework of the functional integral formalism, we calculate the effective potential of the double sine-Gordon (DsG) model up to the second order with an optimized expansion and the Coleman's normal-ordering prescription. Within the range of convergence, we make a comparison among the classical and the effective potential of the first and second order. The numerical analysis shows that the DsG post-Gaussian EP possesses some fine global properties and makes a substantial and a concordant quantum correction to the features of the classical potential.

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Key words: post-Gaussian effective potential, double sine-Gordon field, optimized expansion

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