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Complex Langevin in low-dimensional QCD: the good and the not-so-good

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We present our latest results on the application of the Complex Langevin method in one- and two-dimensional QCD. Although the method is stable, it unfortunately converges to an incorrect result when applied as such. After applying additional gauge cooling steps, the results agree with the known analytical results in the one-dimensional case. However, in the two-dimensional case the disagreement subsists, even with gauge cooling, when the sign problem is sufficiently large.

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