

## Investigation of the topological properties of the $CP^{(N-1)}$ model

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We measured the theta-dependence of the vacuum energy density of the  $CP^{(N-1)}$  model up to  $O(\theta^6)$  for  $N = 15, 21, 26$  and  $31$  using Monte Carlo simulations.

We then extrapolated the large- $N$  limit of the topological susceptibility  $\chi$  and of the higher-order coefficients  $b_2$  and  $b_4$  and compared it with the analytic results. In particular, we compared the leading term of the  $1/N$  expansion of these observables and, for the topological susceptibility, the next-to-leading-order term too.

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