

Topological Susceptibility to High Temperatures via Reweighting

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At high temperatures, the topological susceptibility of QCD becomes relevant for the properties of axion dark matter. However, the strong suppression of non-zero topological sectors causes ordinary sampling techniques to fail, since fluctuations of the topological charge can only be measured reliably if enough tunneling events between sectors occur. We present a new method to circumvent this problem based on a combination of gradient flow and reweighting techniques. Moreover, we quote continuum extrapolated results for the topological susceptibility in the quenched approximation at $2.5 T_c$ and $4.1 T_c$.

Primary author: Mr JAHN, P. Thomas (TU Darmstadt)

Co-authors: Dr ROBAINA, Daniel (TU Darmstadt); Prof. MOORE, Guy D. (TU Darmstadt)

Presenter: Mr JAHN, P. Thomas (TU Darmstadt)

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