

QCD Topology to High Temperatures via Reweighting

Thursday, 28 June 2018 15:30 (30)

Lattice QCD is the only feasible way to study topological effects of QCD above T_c . Especially at high temperatures, the topological susceptibility has important implications for the properties of axion dark matter. However, at high temperatures there arise difficulties in the lattice calculation, namely poor sampling of non-zero topological sectors. We discuss these problems and present a new technique to circumvent them, namely a combination of gradient flow and reweighting in terms of the topological charge. We also present first results of the topological susceptibility up to about $4 T_c$ in the quenched approximation.

Primary author(s) : Mr JAHN, Peter Thomas (TU Darmstadt)

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

Presenter(s) : Mr JAHN, Peter Thomas (TU Darmstadt)

Session Classification : Parallel