



Contribution ID: 273

Type: Talk

Numerical simulation of fractional topological charge in $SU(N)$ gauge theory coupled with \mathbb{Z}_N 2-form gauge fields

Thursday, 1 August 2024 11:50 (20 minutes)

In recent years, the low-energy physics of gauge theories has been explored through the concept of generalized symmetries, which extends the notion of the traditional symmetry. In this talk, by using a lattice QCD code set, LatticeQCD.jl, we carry out numerical simulations of lattice $SU(N)$ gauge theory coupled with \mathbb{Z}_N 2-form gauge fields. Such couplings provide a completely local description of the 't Hooft twisted boundary condition. We explicitly demonstrate the fractional topological charge, a key element in observing anomaly of generalized symmetry.

Primary author: ABE, Motokazu (Kyushu University)

Co-author: Dr MORIKAWA, Okuto (RIKEN)

Presenter: ABE, Motokazu (Kyushu University)

Session Classification: Theoretical developments

Track Classification: Theoretical Developments