Contribution ID : **55** Type : **not specified**

Rotational effect versus finite-size effect on chiral phase transition

четверг, 12 ноября 2020 г. 11:00 (30)

The rotational (or vortical) effect is one of the central topics in quark-hadron systems, such as heavy-ion collision and neutron stars. For the relativistic rotating matter, the most important fact would be that the thermodynamic limit is ill-defined because of the causality constraint. In this talk, we discuss how the finiteness of system-size affects the low-energy structure of rotating fermions. Taking into account the finite-size effect, we show that while the rotational effect cannot solely become physically visible, other external sources (temperature, density, background fields etc.) enable rotation to affect thermodynamic systems. As an example, we also demonstrate that the interplay between magnetic field and rotation changes the breaking structure of chiral symmetry; due to the rotational effect, chiral symmetry is restored as magnetic field increases, which we call the rotational magnetic inhibition.

Primary author(s) : Dr MAMEDA, Kazuya (RIKEN)

Presenter(s) : Dr MAMEDA, Kazuya (RIKEN)

Session Classification : Session 7: Effects of rotation in QCD phase diagram (NOTE! Early starting time)

Track Classification : Effects of rotation in QCD phase diagram