

Competition between the rotational effect and the finite-size effect on relativistic fermions

Wednesday, March 21, 2018 3:35 PM (20 minutes)

The rotational effect on QCD is one of the central subjects in heavy-ion collision physics. In this talk, we discuss the importance of the finite-size effect in the low-energy structure of rotating fermions, which is usually absent from discussions. Taking into account this 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: Dr MAMEDA, Kazuya (Fundan University)

Presenter: Dr MAMEDA, Kazuya (Fundan University)