Contribution ID: **85** Type: **not specified**

Properties of QCD with nonzero chiral chemical potential

Thursday, 1 September 2016 17:20 (20 minutes)

This report is devoted to the study of the QCD phase diagram with nonzero chiral chemical potential within lattice simulation. In particular, it is studied the question how nonzero chiral chemical potential influences the transitions: confinement/deconfinement and breaking/restoration of chiral symmetry. The results of the calculation can be explained by the phenomenon which we called chiral catalysis. This phenomenon is based on the fact that the chiral chemical potential plays a role of the catalyst of dynamical chiral symmetry breaking.

Summary

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Session Classification: Section A

Track Classification: Section A: Vacuum Structure and Confinement