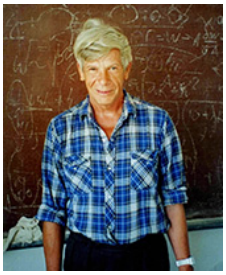

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Lattice study of dense two-color QCD

Good understanding of dense quark matter(tree-color QCD) is
crucial for lots of physical applications. For instance, it is important for different astrophysical and cosmological problems and modern heavy ion collision experiments. It is known that dense quark matter is strongly interacting system. For this reason it is difficult to obtain reliable results of its study within different phenomenological models.
Unfortunately because of the sign problem the most powerful approach to study strongly interacting systems - lattice
simulation - is not applicable at sufficiently large density. However, there are physical systems which have properties similar to tree-color QCD and they are free from the sign problem. Two-color QCD is an example of such system. In this report we are going to review the results of the studies of dense two-color QCD which were obtained within lattice
simulations. The phase transitions in this system as well as properties of dense matter will be reviewed.

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