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## **Fate of axial $U(1)$ symmetry at two flavor chiral limit of QCD in finite temperature**

*Monday, 21 May 2018 09:45 (45 minutes)*

Axial  $U(1)$  symmetry is broken by anomaly in QCD. In finite temperature, contribution to the order parameter of this symmetry from topologically non-trivial vacua may be suppressed and the symmetry could be effectively restored. This has been tested in lattice QCD simulations. But, the situation is still elusive. The fate of the axial  $U(1)$  symmetry is important in axion cosmology, universality class of the phase transition, and remotely related to the order of the QCD phase transition. An overview will be given on the current status of this topic.

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