

New quantum effects in relativistic magnetohydrodynamics

Wednesday 8 February 2017 08:30 (20 minutes)

Chiral anomaly induces a new kind of macroscopic quantum behavior in relativistic magnetohydrodynamics, including the chiral magnetic effect. In this talk we will present two new quantum effects present in fluids that contain chiral fermions:

1) the turbulent inverse cascade driven by the chiral anomaly; 2) quantized chiral magnetic current induced by the reconnections of magnetic flux. The implications for the evolution of the quark-gluon plasma produced in heavy ion collisions will be discussed.

Preferred Track

New Theoretical Developments

Collaboration

Not applicable

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Track Classification: New Theoretical Developments