

Chiral Vortical Effect for Rarita-Schwinger Fields and Chiral Anomaly

Wednesday 13 October 2021 16:30 (15 minutes)

We consider the theory of Rarita-Schwinger field interacting with a field with spin $1/2$, in the case of finite temperature, chemical potential and vorticity, and calculate the chiral vortical effect for spin $3/2$. We have demonstrated the role of interaction with the spin $1/2$ field, the contribution of the terms with which to CVE is 6. Since the contribution from the Rarita-Schwinger field is -1 , the overall coefficient in CVE is $6-1=5$, which corresponds to the recent prediction of a gauge chiral anomaly for spin $3/2$.

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Session Classification: Theoretical Physics

Track Classification: Theoretical Physics