



# 19th International Conference on QCD in Extreme Conditions (XQCD 2023)

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## Helicity conservation in relativistic perfect fluids

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We show that in isentropic relativistic fluids the total helicity of a perfect electromagnetic fluid is conserved. The helicity conservation law can be reshaped in the form of a chiral anomaly equation.

For systems made up by massless fermions, we study how the helicity conservation law is modified in the presence of a chiral imbalance, when one has also to consider the effects of the chiral anomaly equation. We discuss on possible consequences of our findings in several systems.

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