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Chiral anomalies of the Standard Model and their tests¹

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Chiral anomalies are fundamental aspects of relativistic quantum field theory. Their origin is quantum mechanical and are the result of the quantum vacuum fluctuations of Fermion fields (leptons and quarks). Their test is therefore of fundamental importance as it serves to confirm the paradigm of the Standard Model as a quantum field theory. This talk will present the fundamentals of anomalies and will discuss the relevant tests, in particular tests that involve the pseudo scalar mesons π^0 and η which have been investigated in experiments at Jefferson Lab. A discussion of possible future tests will also be presented.

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