

# Searching for an Ambidextrous Universe at the LHC

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OPS 140

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At the dinner table, on the pitcher's mound, and even in biochemistry, we are familiar with the difference between left-handers and right-handers. Up until 1957, physics felt that it was free of such an arbitrary distinction of handedness or parity. Surely the laws of physics did not depend on the choice of a coordinate system! However, the observation of maximal parity violation in beta decay broken this assumption for the weak decays. Since that year, the left-handed nature of the weak interaction has been a core aspect of the Standard Model, despite its increasing un-naturalness in the presence of neutrino mass. I will discuss the history of the parity symmetry and the ongoing efforts at the LHC to search for right-handed weak sector which would restore symmetry to the Standard Model.