

RESULTS OF A NEW MUON DECAY MEASUREMENT BY TWIST*

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with the TWIST Collaboration

The TWIST experiment at TRIUMF measures with high precision the momentum and decay angle of the positrons from muon decay. The Michel parameters ρ , δ , and $P_\mu\xi$, which describe the distribution of decay positrons in energy and angle, are measured by studying the shape of high-statistics decay spectra, and these parameters have implications on the form of the weak interaction. TWIST has just completed a new measurement of the parameters rho and delta, on its way to its ultimate goal of an order of magnitude improvement over pre-TWIST limits. The experiment will be described, and results of the most recent analysis will be presented, with a discussion of the substantially reduced statistical and systematic uncertainties.

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