

# Combination of highly correlated measurements of the muon precession frequency in magnetic field for the FNAL measurement of the muon magnetic anomaly

*Thursday 18 July 2024 11:15 (15 minutes)*

We describe the procedures that were developed to verify the consistency and combine multiple independent analyses of the muon precession measurement by the FNAL-E989 collaboration. These procedures were applied to the first (2021) and second (2023) results published by the collaboration. To properly verify the consistency of different analyses up to 20 ppb, correlations have been modeled and estimated, in several cases exploiting bootstrap techniques. A combination procedure has been designed to combine highly correlated measurements to obtain a robust final result with a small (sub-ppm) but nevertheless conservative uncertainty.

## I read the instructions above

Yes

## Alternate track

1. Strong Interactions and Hadron Physics

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