



Contribution ID: 27

Type: **Plenary Presentation**

Data-driven determinations of light-quark-connected and strange-plus-disconnected window contributions to a_μ

Tuesday 5 December 2023 10:50 (25 minutes)

As part of an ongoing effort to understand the source of the discrepancy between data-driven and lattice determinations of the HVP contribution to a_μ , the anomalous magnetic moment of the muon, we perform data-driven determinations of the light-quark-connected and strange-plus-disconnected contributions to a number of “window” contributions to a_μ , including the RBC/UKQCD intermediate window contribution, and compare these to recent lattice determinations of the same quantities, where available. We find a large discrepancy with 8 recent high-precision lattice determinations of the RBC/UKQCD intermediate window quantity. We also discuss the potential impact of recent CMD-3 2-pion cross-section measurements, which differ significantly from those of earlier experiments, on the observed discrepancies between lattice determinations and our data-driven results.

Name of collaboration or list of co-authors

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Session Classification: Tuesday before lunch