Muon Anomalous Magnetic Moment

Simon Eidelman
Budker Institute of Nuclear Physics
Novosibirsk, Russia

Outline

1. Introduction
2. a_μ in Standard Model
3. Low Energy $e^+e^- \to hadrons$ and a_μ
4. τ Lepton Decays and CVC
5. Experiment vs. Theory
6. Future of a_μ
7. Conclusions

1 Introduction

1.1 Brief History

Various aspects in [1]
Last experiment [2]

1.2 a_μ and New Physics

Review in [3]

2 a_μ in Standard Model

2.1 QED terms in a_μ

Various aspects in [4]
Review in [1]
Recent review [5]

2.2 Electroweak terms in a_μ

Earlier results in [6]
Recent calculation [7]

2.3 Hadronic terms in a_μ

Various calculations in [4, 8, 9, 10]
Last calculation of the light-by-light terms [11]

3 Low Energy $e^+e^- \to hadrons$ and a_μ

Precise results below 1.4 GeV [12]
Precise results from 2 to 5 GeV [13]

4 τ Lepton Decays and CVC

Detailed calculations in [9]

5 Experiment vs. Theory

See, e.g., [9]

6 Future of a_μ

Idea of radiative return (ISR) [14]
ISR at BaBar [15]
ISR at KLOE [16]

7 Conclusions

Current status and plans in [17]

References

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