

02 R MEASUREMENTS AND IMPLICATIONS FOR THEORY

Measurement of the pion form factor for $M_{\pi\pi}^2$ between 0.1 and 0.85 GeV² with the KLOE detector

Stefan E. Müller (KLOE collaboration)

Institut für Kernphysik, Johannes Gutenberg-Universität, Johann-Joachim-Becher-Weg 45, 55128 Mainz, Germany

收稿日期 2010-1-25 修回日期 网络版发布日期 2010-5-5 接受日期 2010-5-5

摘要

The KLOE experiment at the ϕ -factory DAΦNE has measured the pion form factor in the range between $0.1 < M_{\pi\pi}^2 < 0.85$ GeV² using events taken at $\sqrt{s} = 1$ GeV with a photon emitted at large polar angles in the initial state. This measurement extends the $M_{\pi\pi}^2$ region covered by KLOE ISR measurements of the pion form factor down to the two pion production threshold. The value obtained in this measurement of the dipion contribution to the muon anomalous magnetic moment of $\Delta a_{\mu}^{\pi\pi} = (478.5 \pm 2.0_{\text{stat}} \pm 4.8_{\text{syst}} \pm 2.9_{\text{theo}}) \times 10^{-10}$ further confirms the discrepancy between the Standard Model evaluation for a_{μ} and the experimental value measured by the (g-2) collaboration at BNL.

关键词 [hadronic cross section, initial state radiation, pion form factor, muon anomaly](#)

分类号

DOI:

通讯作者:

Stefan E. M muellers@kph.uni-mainz.de

作者个人主页:

Stefan E. Müller (KLOE collaboration)

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