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Update on the hadronic vacuum polarisation contributions to muon $g-2$ and $\alpha(m_Z^2)$

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Using new hadronic cross section data for more than 10 exclusive channels mainly from Babar in the energy range up to 2 GeV and also from VEPP-2000, the hadronic contributions to the muon magnetic anomaly and to the running of the electromagnetic coupling constant at the Z-boson mass are updated. The new data complement the previously available information on exclusive channels allowing to alleviate the need for estimation of missing channels based on isospin symmetry. The updated muon $g-2$ is 20% more precise than our previous evaluation in 2010 and it deviates from the direct measurement by about 3.6 standard deviations.

Experimental Collaboration

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