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Form factor measurements at BESIII for an improved Standard Model prediction of the muon g-2

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The anomalous magnetic moment of the muon, $(g-2)_\mu$, allows for one of the most precise tests of the Standard Model of particle physics. We report on recent results by the BESIII collaboration of exclusive hadronic cross section channels, such as the 2pi, 3pi, and 4pi final states. These measurements are of utmost importance for an improved calculation of the hadronic vacuum polarization contribution of $(g-2)_\mu$, which currenty is limiting the overall Standard Model prediction of this quantity. BESIII has furthermore also intiatated a programme of spacelike transition form factor measurements, which can be used for a determination of the hadronic light-by-light contribution of $(g-2)_\mu$ in a data-driven approach. These are results are of relevance in view of the new and direct measurements of $(g-2)_\mu$ as foreseen at Fermilab/USA and J-PARC/Japan.

Primary author: DESTEFANIS, Marco (Turin)

Presenter: Dr DESTEFANIS, Marco (Università degli Studi di Torino and INFN)

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