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Pseudoscalar meson contributions to the Hadronic Light-by-Light scattering in the muon □–2

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The error budget of the theory calculation of the muon □–2 is dominated by two hadronic contributions: the Hadronic Vacuum Polarization (HVP) and the Hadronic Light-by-Light (HLbL) scattering. Reducing the error on these contributions is essential to match the future experimental precision.

In this talk, we present a lattice calculation of the three light pseudoscalar meson (π_0, η and η') transition form factors. We compare our results for the form factors with the experimental measurements. These form factors are an important input for the determination of the pseudoscalar-pole contributions to HLbL scattering in the muon □–2 ($a_{\mu,\mathrm{HLbL}}^{\mathrm{p-pole}}$). We compute $a_{\mu,\mathrm{HLbL}}^{\mathrm{p-pole}}$ and compare it to the other current estimates.

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