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Pseudoscalar transition form factors and the hadronic light-by-light contribution to the muon $g-2$

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We present preliminary results toward the extraction of the transition form factors $\mathcal{F}_{p \rightarrow \gamma^* \gamma^*}$ ($p = \pi^0, \eta, \eta'$) using lattice QCD with staggered fermions on $N_f = 2 + 1 + 1$ gauge ensembles generated by the Budapest-Marseille-Wuppertal collaboration. These form factors are essential ingredients for the computation of the light pseudoscalar pole contributions to the hadronic light-by-light scattering in the muon $g - 2$. In the first part of this talk we focus on the π^0 and compare it to previous results; in the second part we report the status of the analysis for the η, η' .

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