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### **Pseudoscalar pole contribution to the hadronic light-by-light piece of $a_\mu$**

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We studied the transition form factor involved in pseudoscalar meson ( $\pi, \eta, \eta'$ ) decays into two virtual photons by means of a chiral-invariant Lagrangian, considering the lowest-lying multiplet of vector and pseudoscalar resonances. Accounting for  $U(3)$  breaking effects, we give the most general corrections of order  $m_P^2$  to the form factor. Most parameters are fixed requiring short-distance constraints. The remaining ones are fitted to experimental measurements of the form factors in the space-like ( $q^2 < 0$ ) region of photon momenta. We, thus, obtain the P-pole contribution to the hadronic light-by-light scattering of the muon  $g-2$  with an improved certainty:  $(8.47 \pm 0.16) \times 10^{-10}$ . This is obtained neglecting BaBar data for the  $\pi^0$  Transition Form Factor which, in our analysis, is in conflict with the remaining experimental inputs.

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