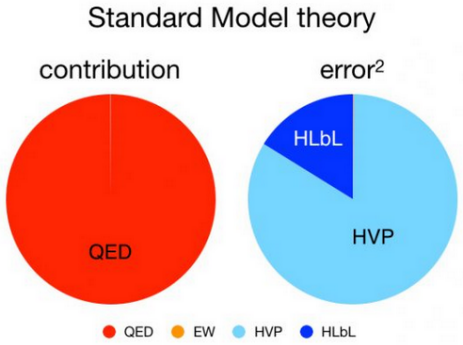
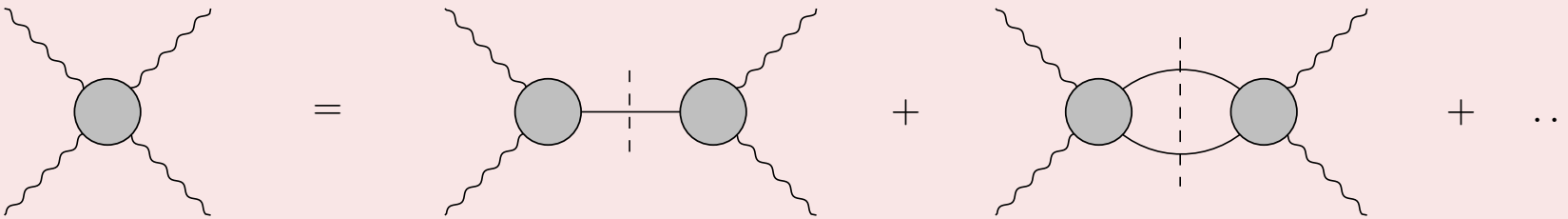
New basis for dispersive approach to hadronic light-by-light



- $a_\mu^{\text{Exp}} = 116\,592\,059(22) \times 10^{-11}$ $(0.19\ \text{ppm})$
  - Experimental goal: $\leq 0.14\,\text{ppm}$
- $a_\mu^{\text{HLbL}} = 92(18) \times 10^{-11}$

  $\rightarrow$ Error of HLbL needs to be reduced by a factor of 2

- Largest uncertainties to HLbL:
  $a_\mu^{\text{Axials}} = 6(6) \times 10^{-11}$, $a_\mu^{\text{SDCs}} = 15(10) \times 10^{-11}$
- Dispersive Approach: Reconstruct HLbL in terms of hadronic intermediate states



- Problem: kinematic singularities for axial-vector states in old tensor basis
- Solution: New basis suited for evaluation of axial-vector states
- Goal: match axial-vector states to short-distance constraints