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## Lattice QCD calculation of the pion distribution amplitude with domain wall fermions at physical pion mass

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We present a direct lattice QCD calculation of the  $x$ -dependence of the pion distribution amplitude (DA), which is performed using the quasi-DA in large momentum effective theory on a domain-wall fermion ensemble at physical quark masses and spacing  $a \approx 0.084$  fm. The bare quasi-DA matrix elements are renormalized in the hybrid scheme and matched to  $\overline{\text{MS}}$  with a subtraction of the leading renormalon in the Wilson-line mass. For the first time, we include threshold resummation in the perturbative matching onto the light-cone DA, which resums the large logarithms in the soft gluon limit at next-to-next-to-leading log. The resummed results show controlled scale-variation uncertainty within the range of momentum fraction  $x \in [0.25, 0.75]$  at the largest pion momentum  $P_z \approx 1.85$  GeV. In addition, we apply the same analysis to quasi-DAs from a highly-improved-staggered-quark ensemble at physical pion mass and  $a = 0.076$  fm. By comparison we find with  $2\sigma$  confidence level that the DA obtained from chiral fermions is flatter and lower near  $x = 0.5$ .

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