A Determination of the Second Mellin Moment of the Pion LCDA using the HOPE Method

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Abstract: The heavy quark operator product expansion (HOPE) method allows one to extract information about light-cone matrix elements via a numerical study of a modified current-current correlator. When applied to the calculation of the pion light cone distribution amplitude (LCDA), it allows (in principle) the full x-dependence of the LCDA to be determined. In practice, finite statistics and momenta mean that only a finite number of moments may be extracted. In this talk, I will discuss the theoretical details of the HOPE method, including a determination of the required Wilson coefficients and show how boosting the hadronic state leads to enhanced sensitivity to the moments. I will also present results for the second Mellin moment and briefly discuss progress in the study of higher moments with this approach.