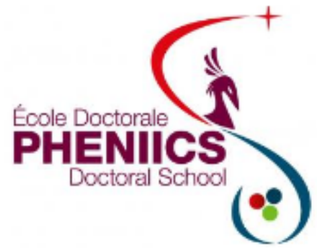
DDVCS update 4

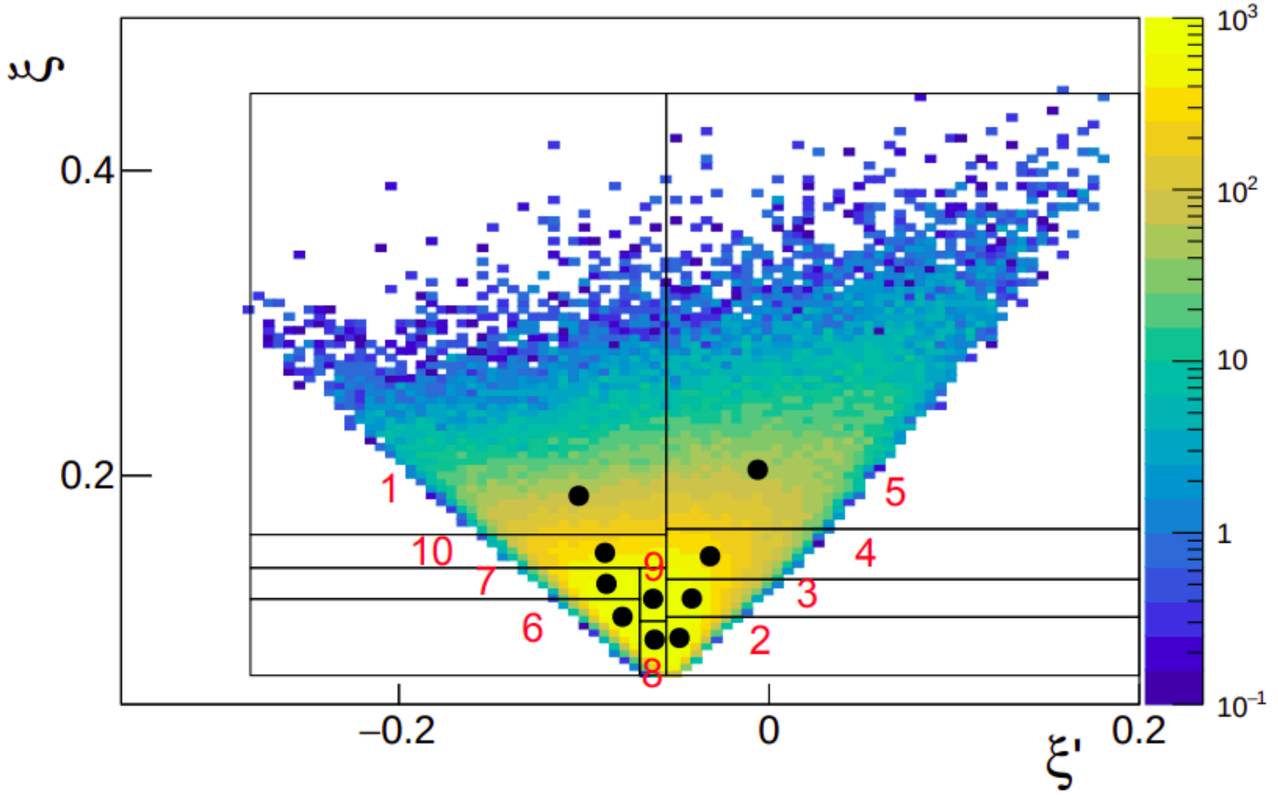


BY:

Sebastian Alvarado

1. BINNING

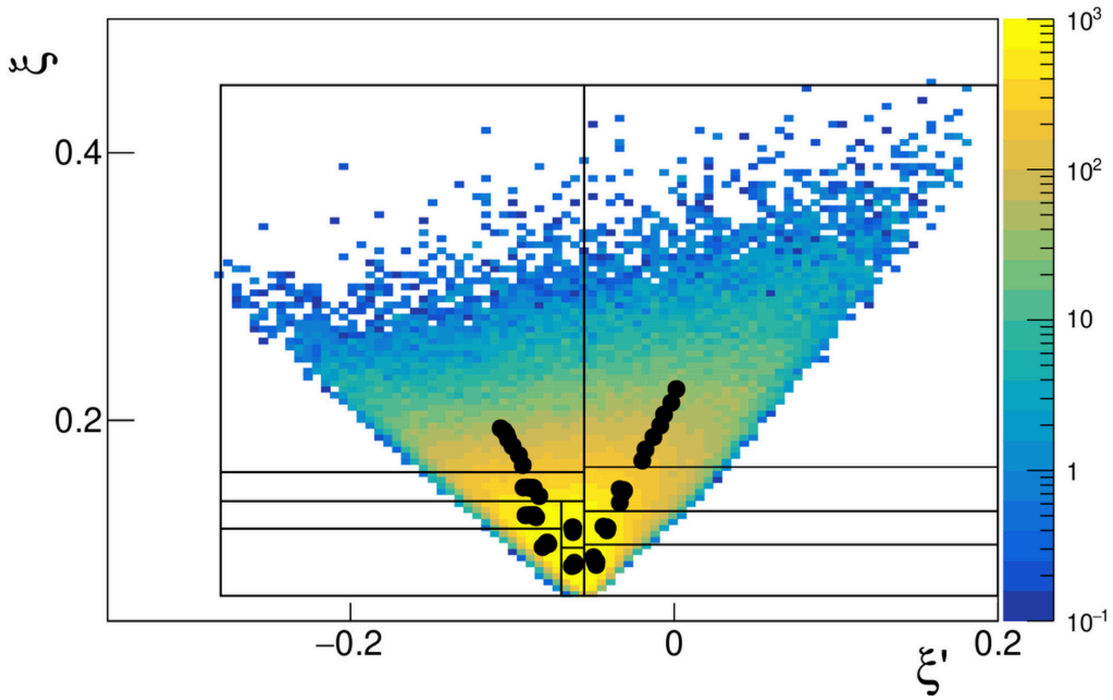
In the previous episode, we were wondering about defining more bins

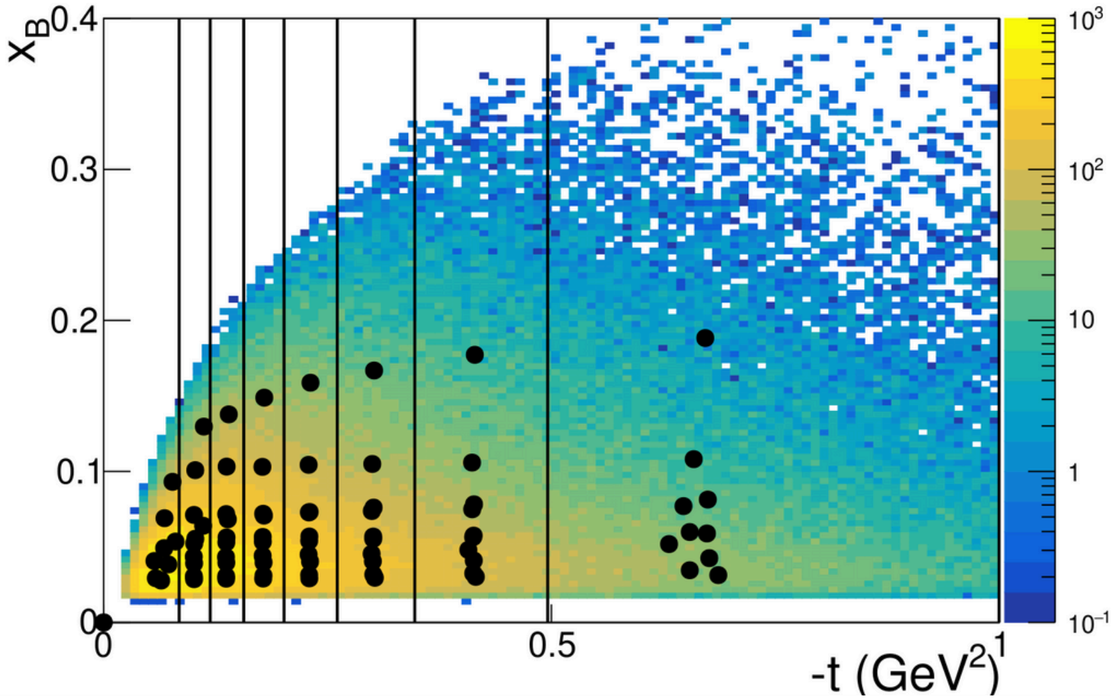


(a) 11 GeV beam.

1. BINNING

So I did



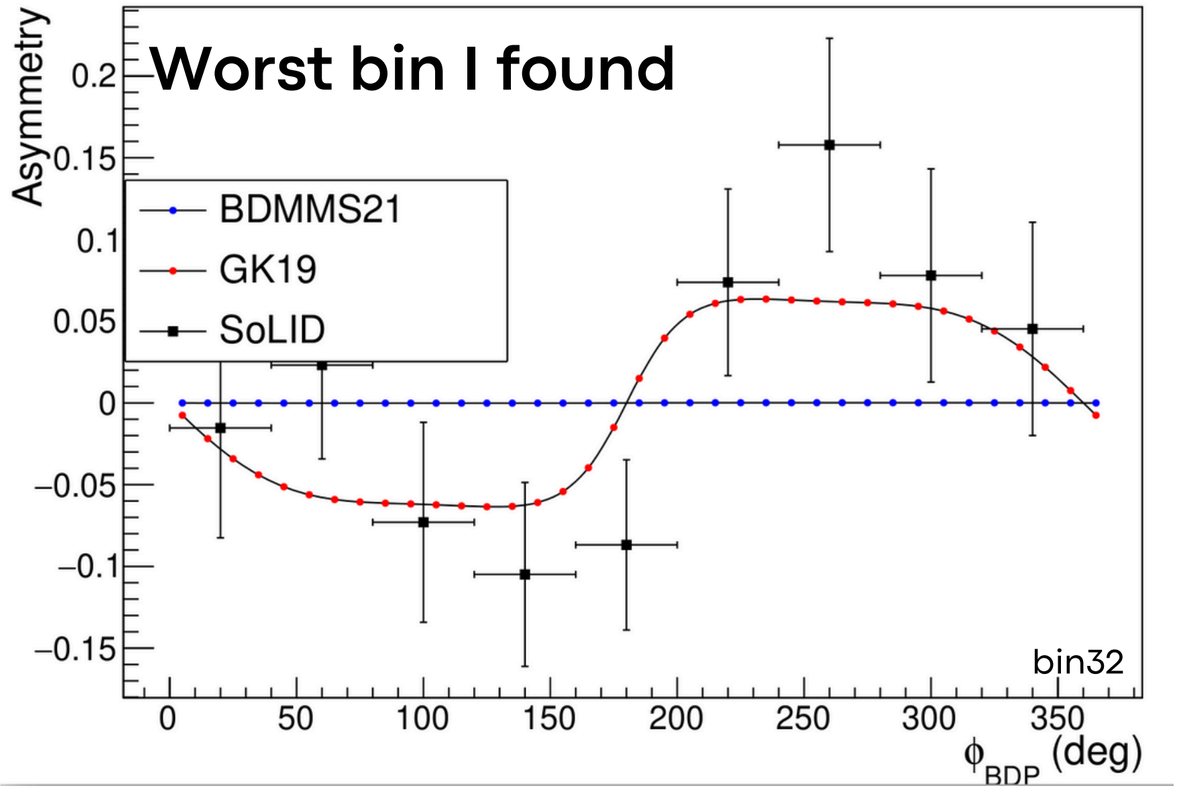


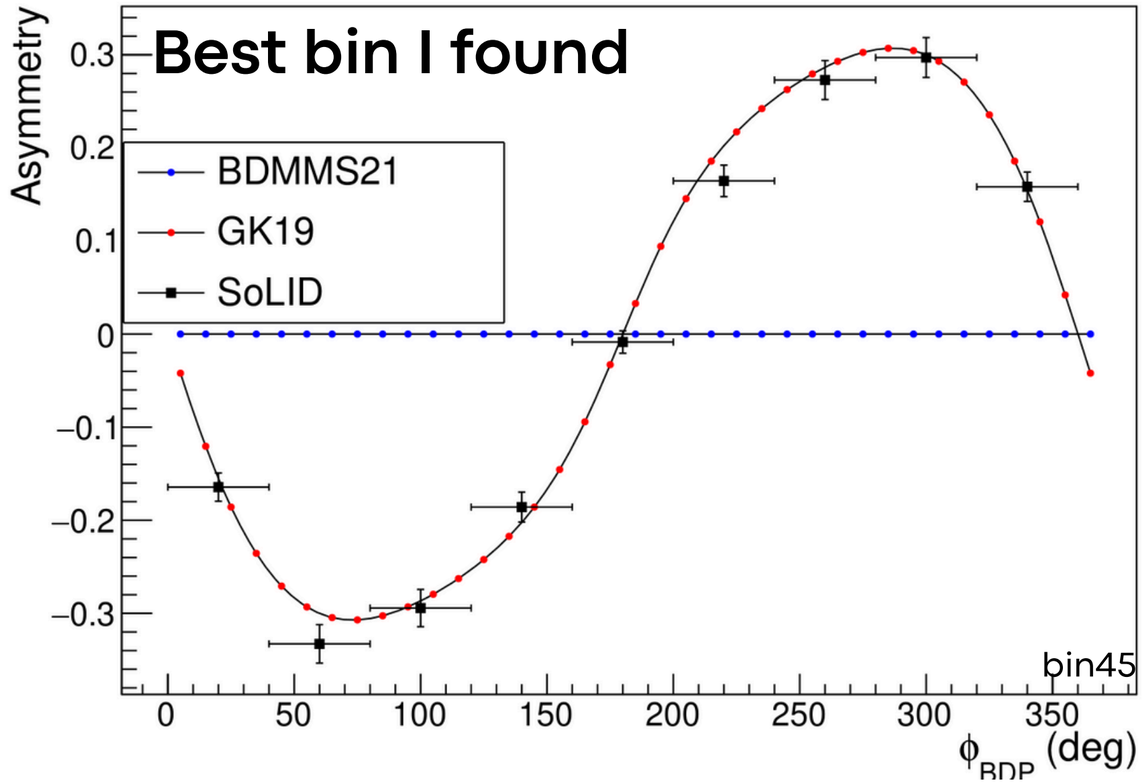
I defined 8 bins in t

- Points are located on the mean kinematics of the bins
- 80 bins in total

1. BINNING

Using such bins, the expected quality for BSAs is



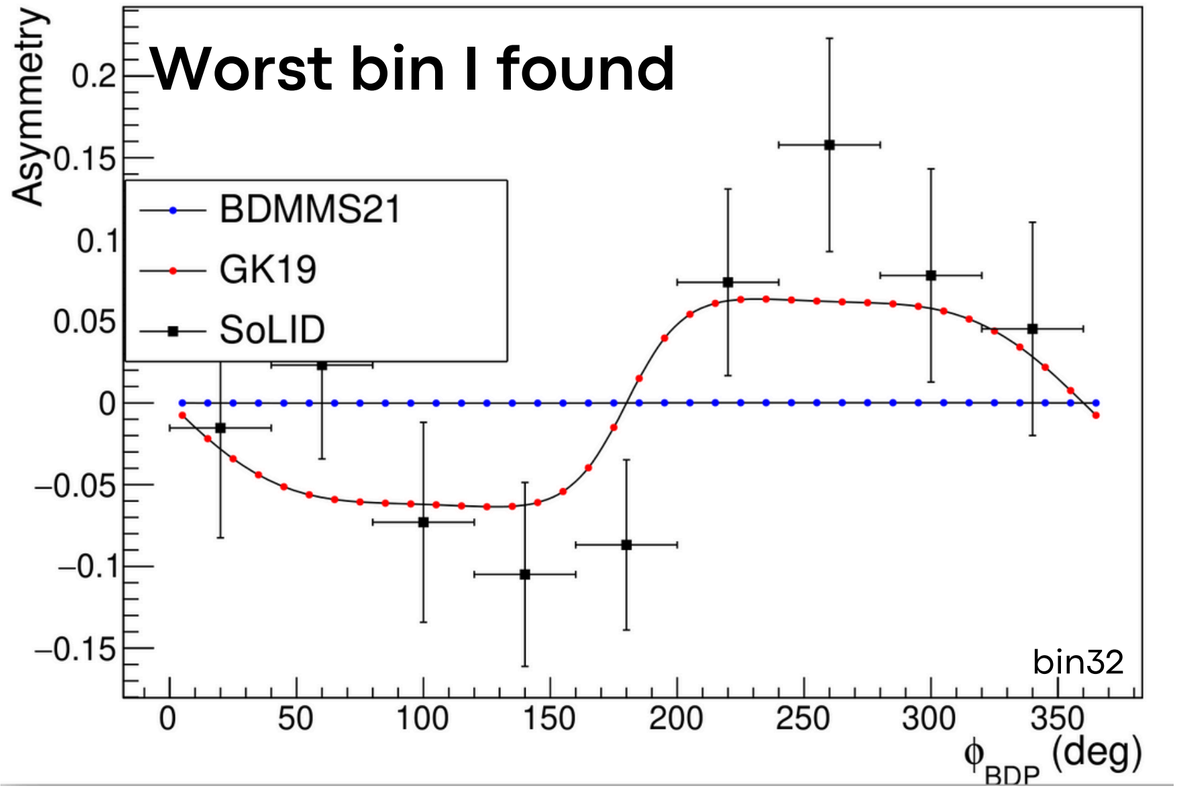


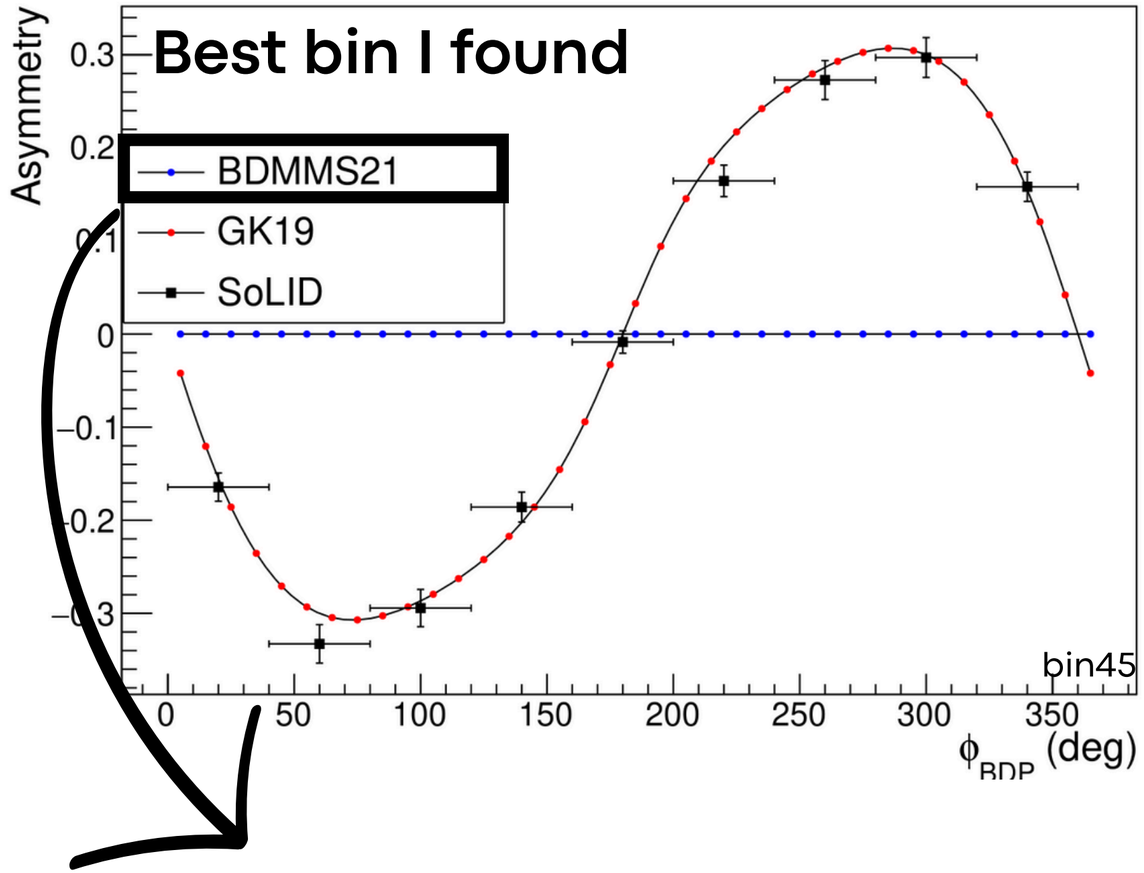
I defined 8 bins in t

- Points are located on the mean kinematics of the bins

1. BINNING

Using such bins, the expected quality for BSAs is





You may wonder what is this?

1. SHADOW GPD

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Deconvolution problem of deeply virtual Compton scattering

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BDMMS21 is the Shadow GPD model implemented on PARTONS

APPENDIX A: AN EXAMPLE OF LO SHADOW DOUBLE DISTRIBUTIONS

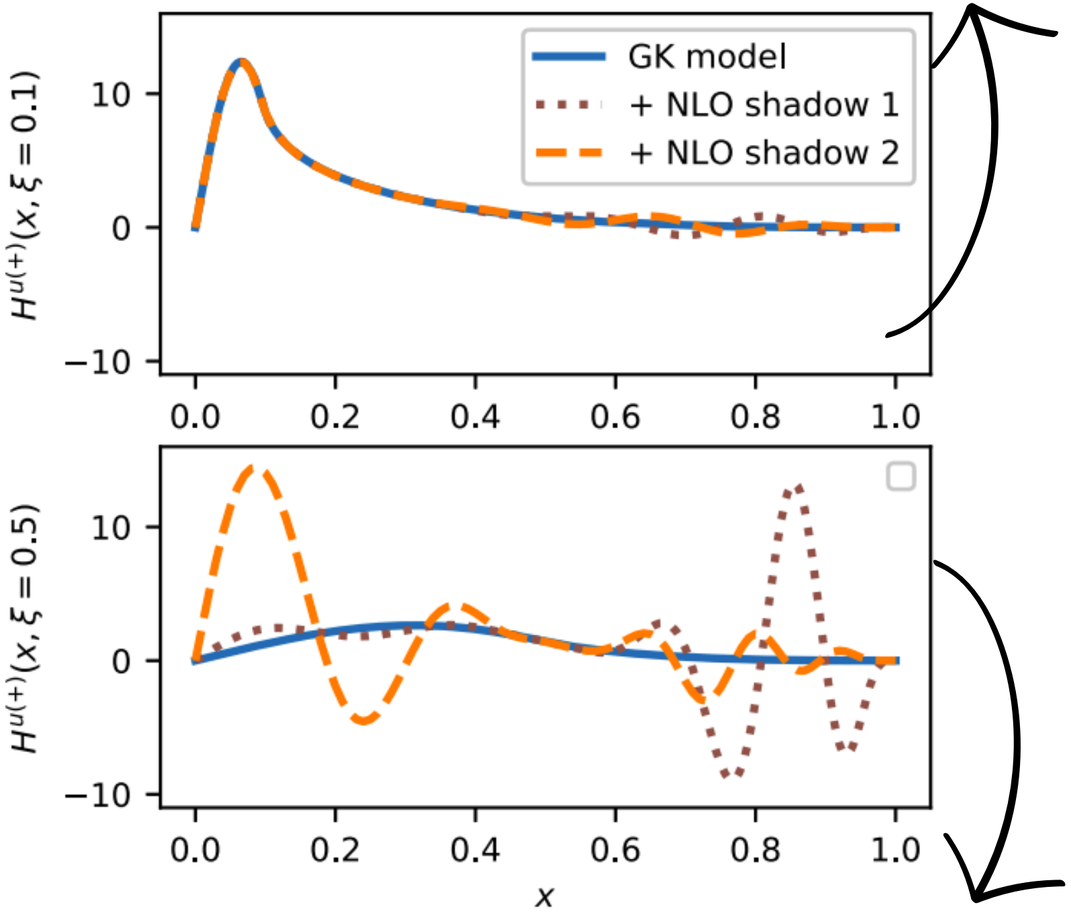
An infinite family of LO shadow DDs is made of the following polynomials of odd order $N \geq 9$:

$$F_N^{q(+)}(\beta,\alpha) = \beta^{N-8}\left[\alpha^8 - \frac{28}{9}\alpha^6\left(\frac{N^2-3N+20}{(N+1)N} + \beta^2\right) + \frac{10}{3}\alpha^4\left(\frac{N^2-7N+40}{(N+1)N} + \frac{2(N^2-3N+44)}{3(N+1)N}\beta^2 + \beta^4\right) - \frac{4}{3}\alpha^2\left(\frac{N^2-11N+60}{(N+1)N} - \frac{N-8}{N}\beta^2 - \frac{N^2-3N-28}{(N+1)N}\beta^4 + \beta^6\right) + \frac{1}{9}(1-\beta^2)^2\left(\frac{N^2-15N+80}{(N+1)N} - \frac{2(N-8)}{N}\beta^2 + \beta^4\right)\right]. \quad \text{(A1)}$$

APPENDIX B: OPEN SOURCE CODE

The analytic form of the shadow GPDs displayed in Fig. 1 is available in the PARTONS framework [40] as the module `GPDBDMMS21`. The code of this framework is open source and can be found online at https://drf-gitlab.cea.fr/ partons/core/partons on version 3 of the GPL (GPLv3).

Our measurements are in the "small" ξ region. No major effect is expected



The model should provide a significant contribution for "large" ξ

Thanks