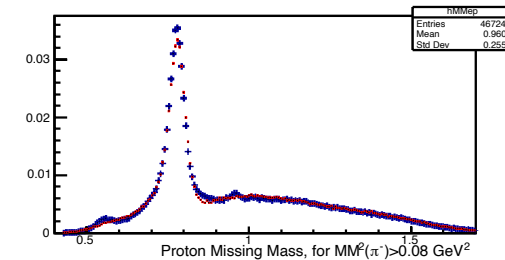
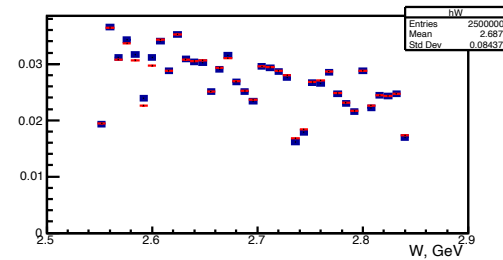
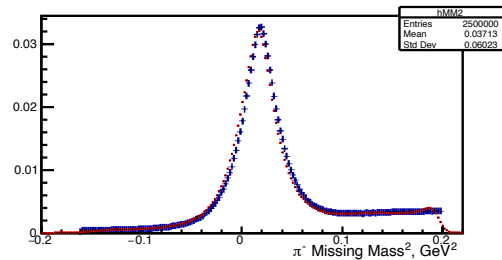
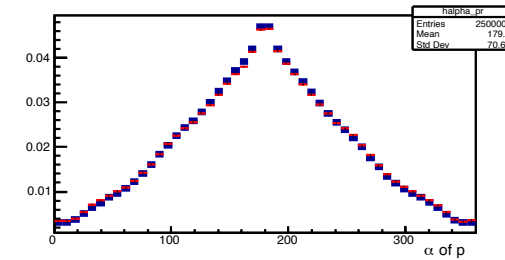
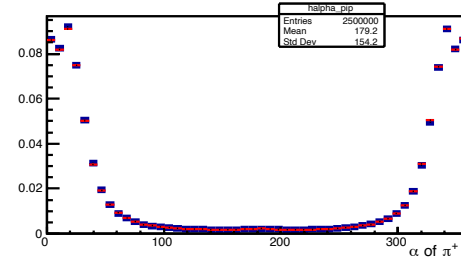
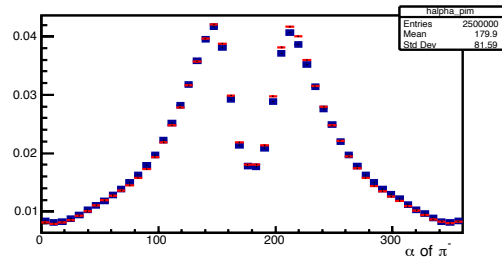
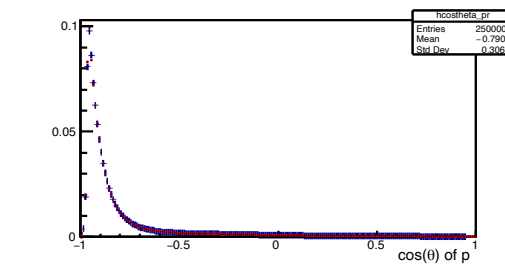
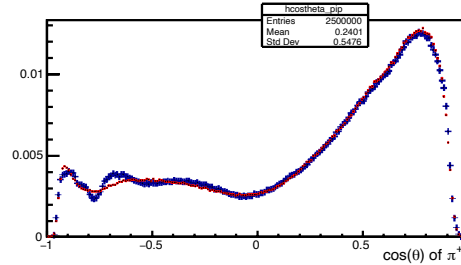
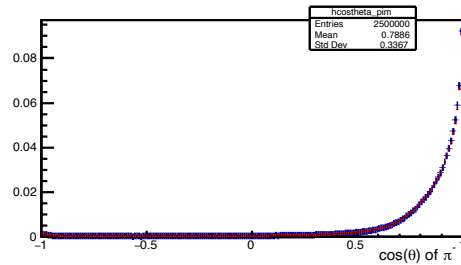
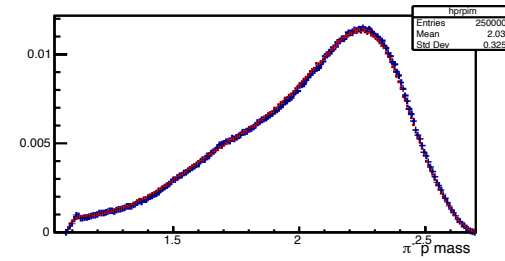
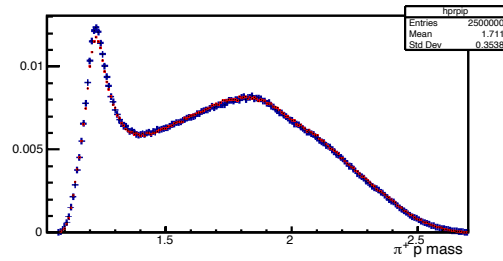
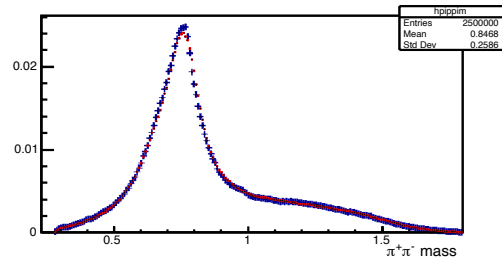


Validation of 2 pion cross section extraction

Evgeny Isupov (Moscow State U.) and A(I)DAPT group

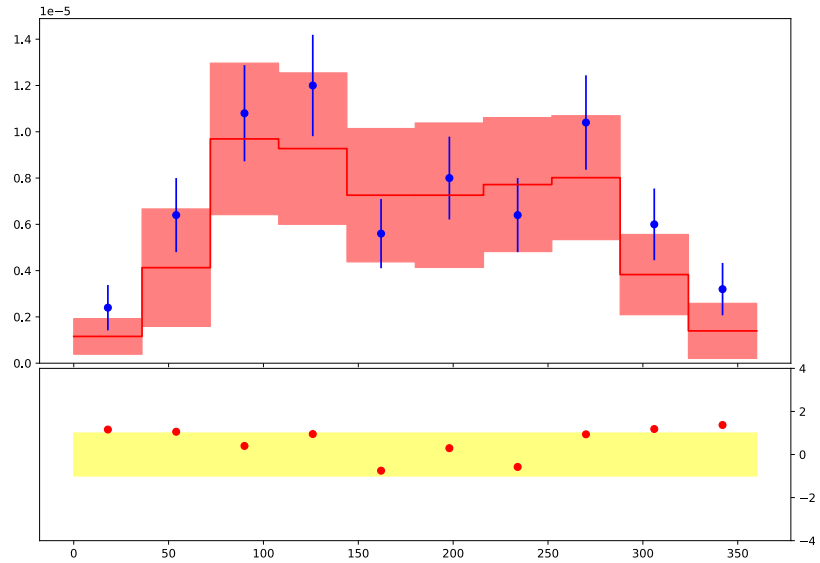
GAN reproduction of 1D distributions



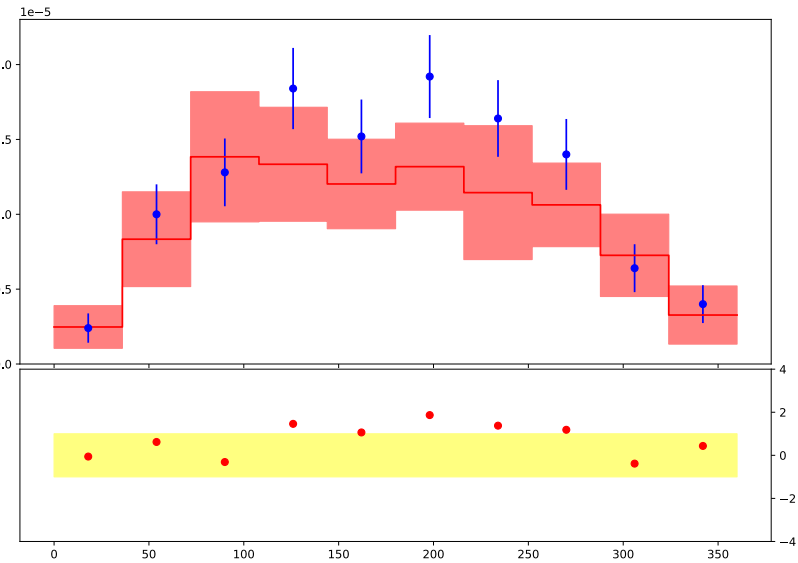
Blue – Experiment
Red – GAN

$-0.04 < M\pi^2(\pi^-) < 0.06 \text{ GeV}^2$, $2.55 < W < 2.6 \text{ GeV}$, $0.74 < M\pi^+\pi^- < 0.87 \text{ GeV}$, $1.21 < M\rho\pi^+ < 1.35 \text{ GeV}$, red – GAN

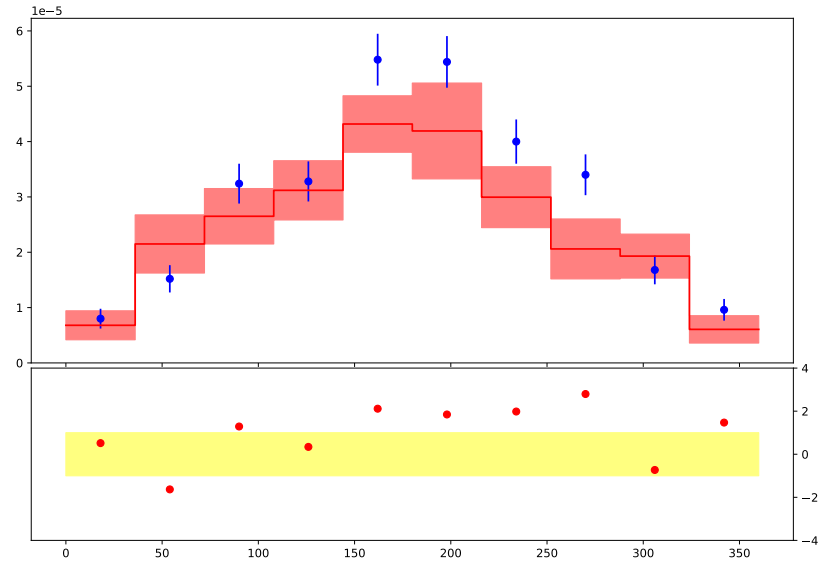
$0.5 < \cos(\Theta) < 0.6$



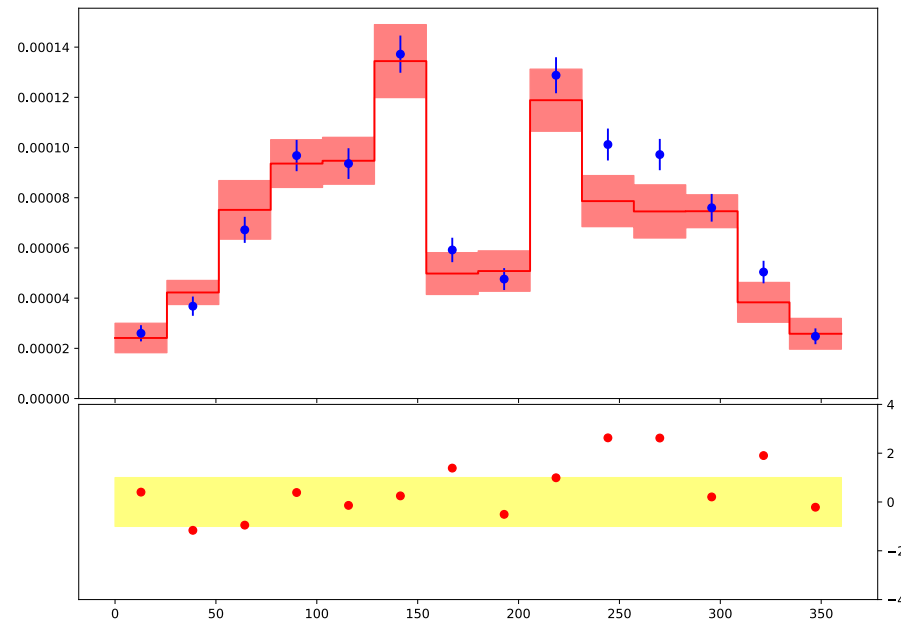
$0.6 < \cos(\Theta) < 0.7$



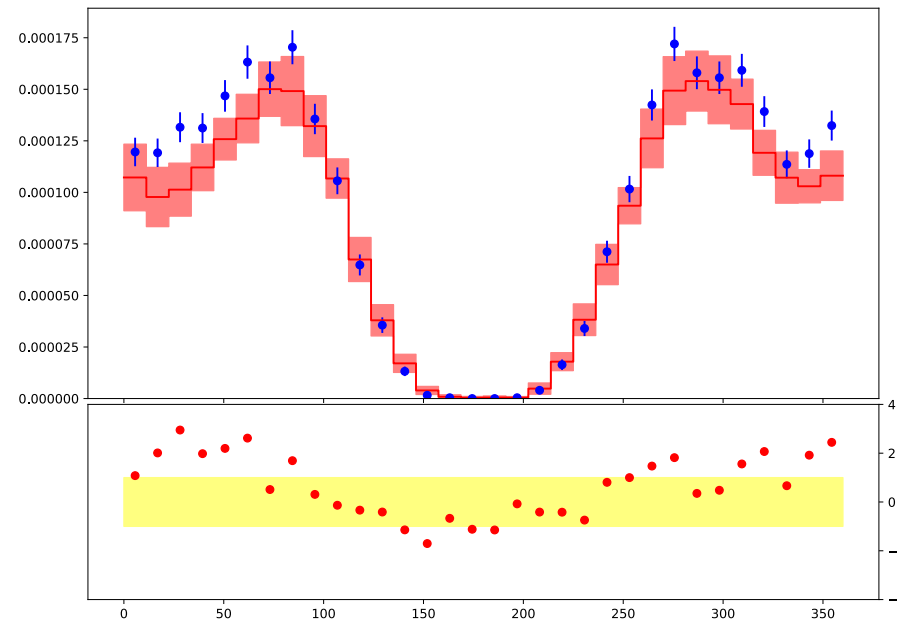
$0.7 < \cos(\Theta) < 0.8$



$0.8 < \cos(\Theta) < 0.9$



$0.9 < \cos(\Theta) < 1.0$



$$\frac{\mu_{\text{CLAS}} - \mu_{\text{GAN}}}{\sqrt{\delta_{\text{CLAS}}^2 + \delta_{\text{GAN}}^2}}$$

GAN = 2.5M

20 replicas

red band = 1.77σ

yellow = -1..1

DATA = 2.5M

Outlook

- GAN offers unique opportunity to reconstruct 5d event yield in 2π photoproduction from CLAS data
- 1d distributions are perfectly reproduced!
- 5d distributions have some discrepancies – we work on understanding why