- GAN with 5 layers • in generator:
- lrG = 10-3•
- lrD = 10-5•
- even training ۲



Page 1

- GAN with 6 layers in generator:
- IrG = 10-5
- IrD = 10-5
- G trained 5xD reduced by one every 20 epochs



- GAN with 6 layers • in generator:
- lrG = 10-5•
- lrD = 10-5•
- G trained 5xD •



Physics distributions- 60 degree showers



DESY. | SFT Meeting | Peter McKeown 10.06.2021

What about the money plot?



Bonus slide: constrainer vs PCA on GEANT4 showers

- How does angular constrainer perform on 'reconstructing' fixed angle showers vs traditional PCA?
 - Filled histograms- PCA labeling of G4 showers
 - Dashed lines- Constrainer labeling of G4 showers
- 90 degree PCA biased towards lower angles
- 90 degree constrainer is not



Take aways and next steps

- New best angular GAN performance
- Difficult to find good angular and energy distributions
- Next steps:
- Now can benchmark correct radial performance with 90 degree showers
- On another note: Perhaps interesting to look at the 'state of the art' styleGAN- might encounter some hardware limitations....



- GAN with 5 layers in generator:
- IrG = 10-3
- IrD = 10-5
- even training



- GAN with 6 layers in generator:
- IrG = 10-5
- IrD = 10-5
- G trained 5xD reduced by one every 20 epochs



DESY. | SFT Meeting | Peter McKeown 10.06.2021