

Update on prompt-photon production

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Pythia settings

prompt photons

PromptPhoton:qg2qgamma = on
PromptPhoton:qqbar2ggamma = on
PDF:pSet = 15

BeamRemnants:primordialKThard = 1.2

PhaseSpace:mHatMin = 0.
PhaseSpace:pTHatMin = 0.

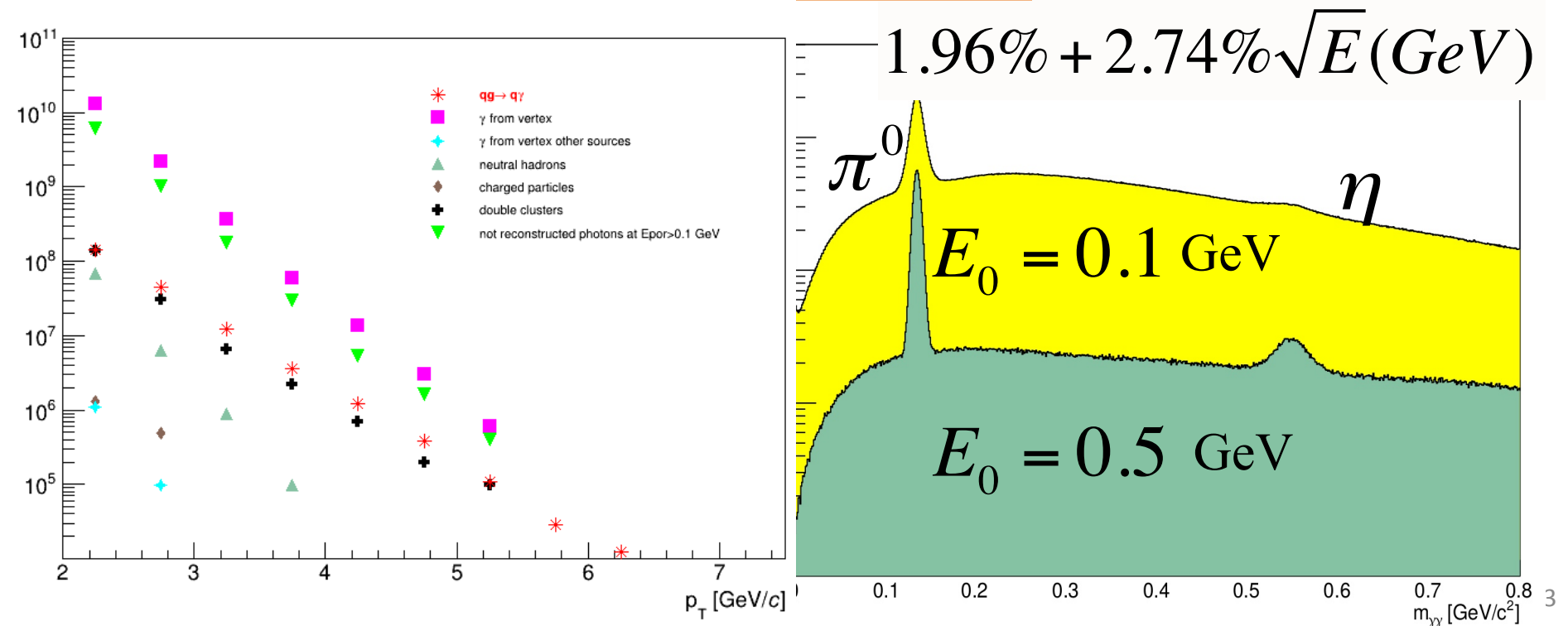
Random:setSeed = on
Random:seed = 0

minimum-bias

SoftQCD:all = on
PDF:pSet = 15
BeamRemnants:primordialKT = on
BeamRemnants:primordialKTsoft = 1.1
BeamRemnants:primordialKThard = 1.8
BeamRemnants:halfScaleForKT = 2.0
BeamRemnants:halfMassForKT = 4.0
BeamRemnants:reducedKTatHighY = 0.7
BeamRemnants:primordialKTremnant = 0.4
PhaseSpace:pTHatMinDiverge = 0.5

PhaseSpace:mHatMin = 0.
PhaseSpace:pTHatMin = 0.
Random:setSeed = on

$$\sigma \sim N_{\text{direct}} = N_{\text{single } \gamma} - 2 \times N_{\pi^0} \times k \quad \mathbf{dk/k = 2 \%}$$



$\sigma_{\text{MB}} = 23.5 \text{ mb}$;
 $\sigma_{29} = 1.2 \times 10^{-3} \text{ mb}$;
 $L = 10 \times 10^{32} \text{ s}^{-1}$

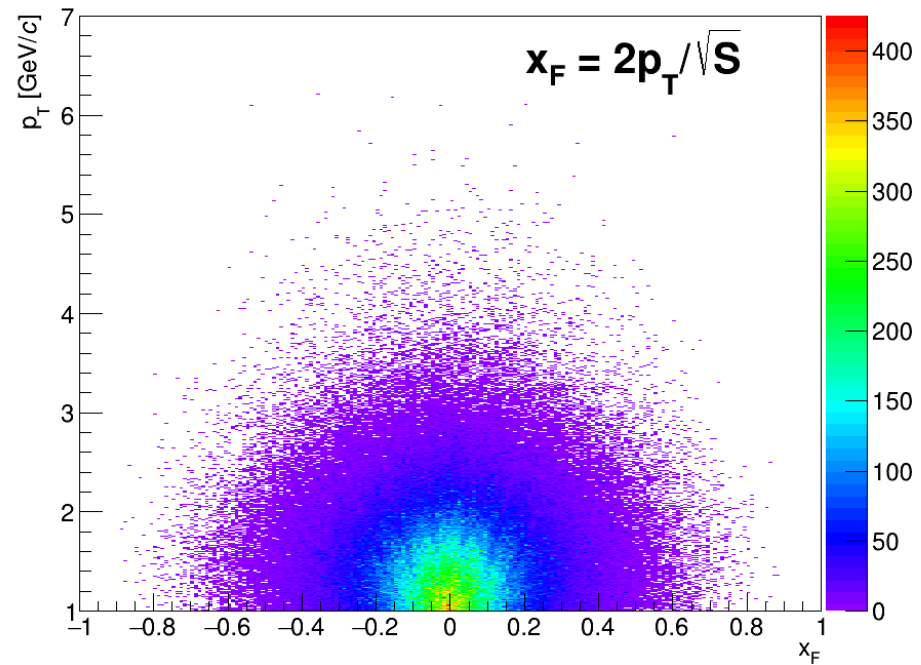
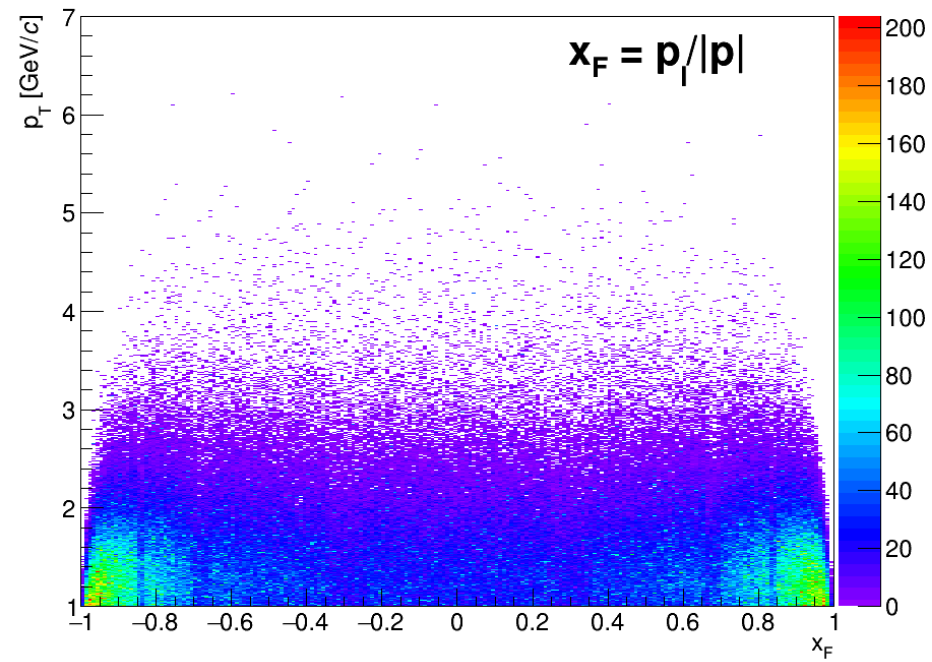
$$E d^3 \sigma / dp^3 = C(1 - x_D)^m / (p_T/p_0)^{2n}$$

with

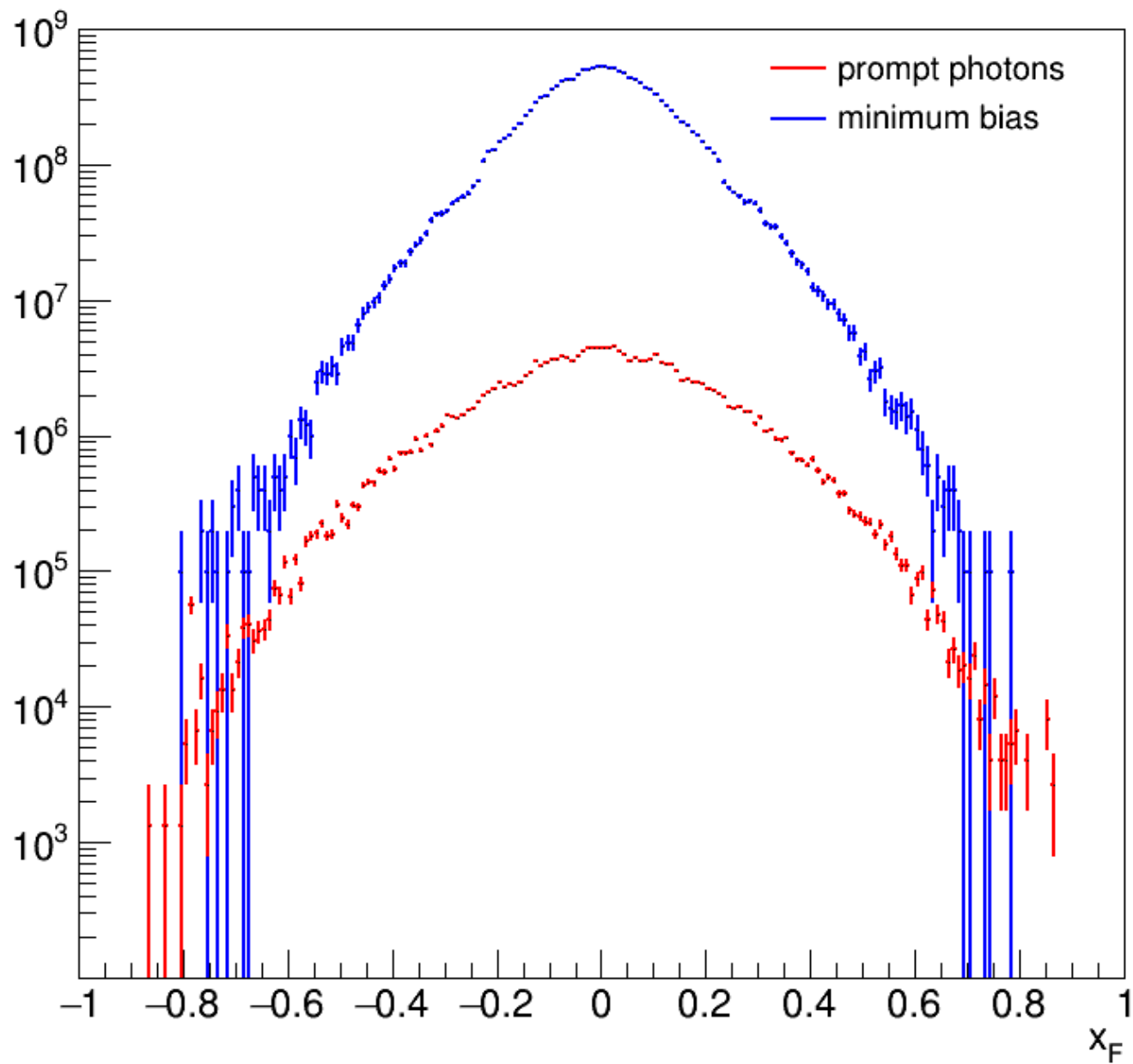
$$x_D = (x_T^2 + (x_F - x_0)^2)^{1/2}$$

$$X_T = 2 p_T / \sqrt{s} \quad \text{and} \quad p_0 = 1 \text{ GeV}/c$$

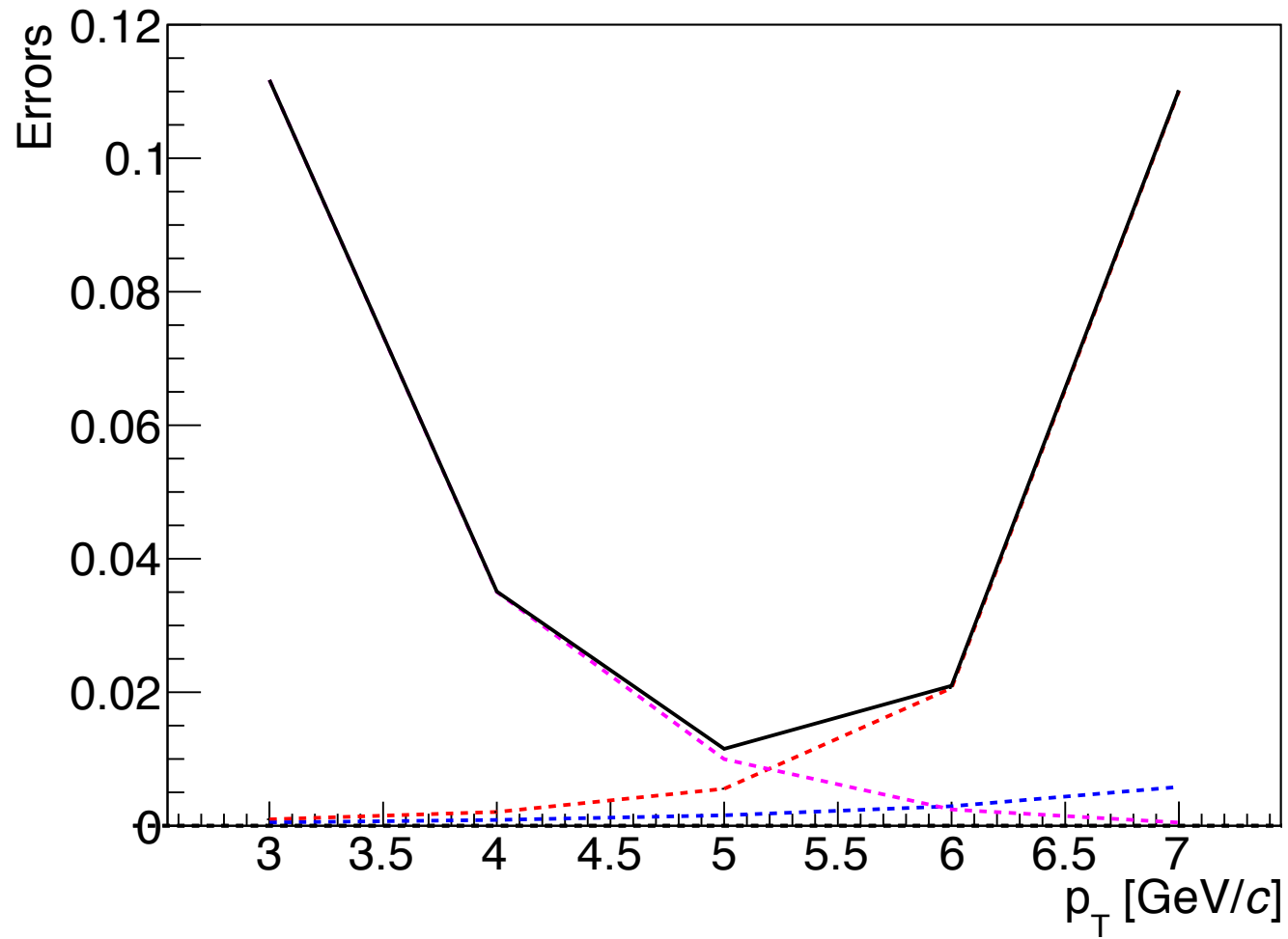
xF defenition



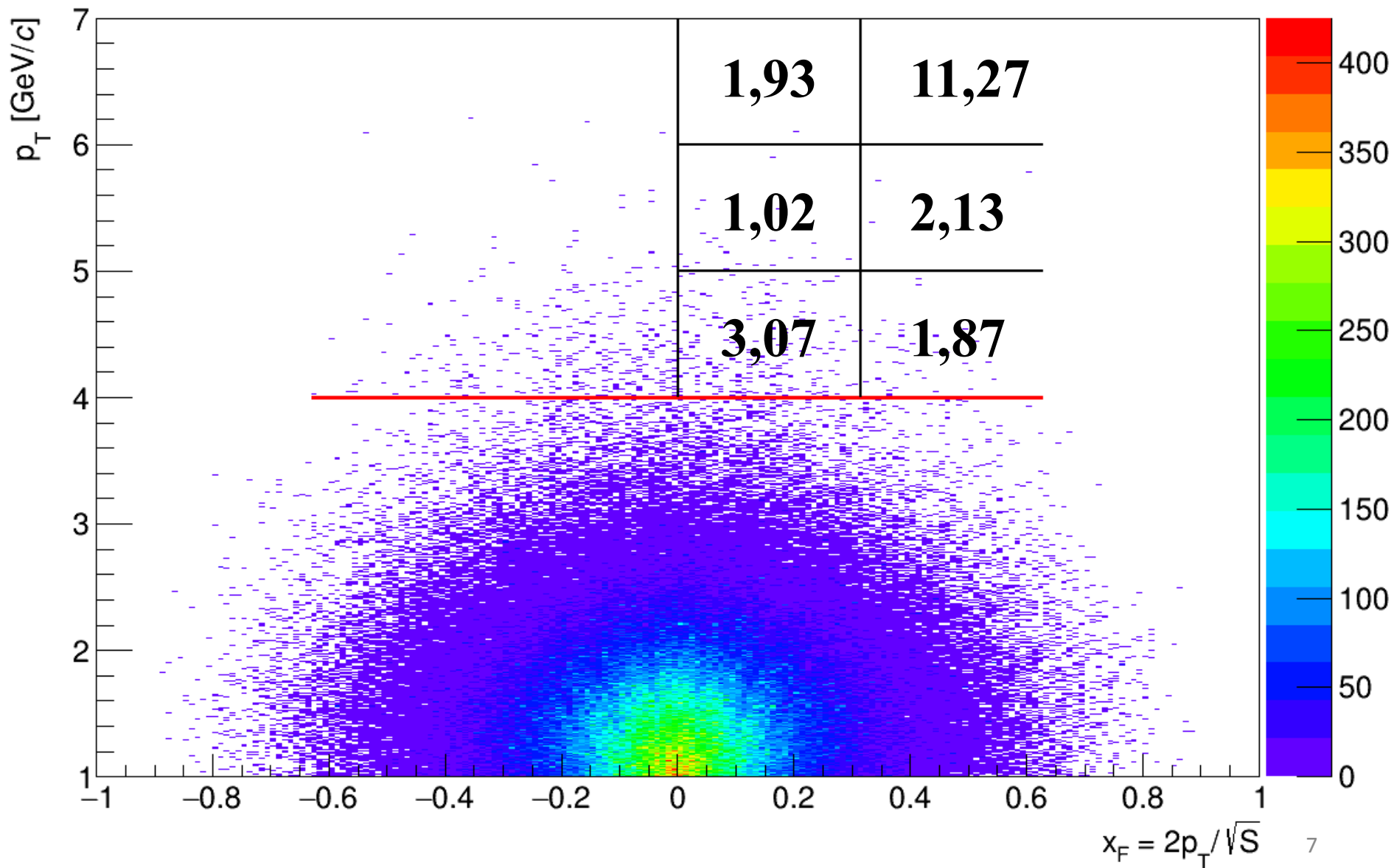
Signal



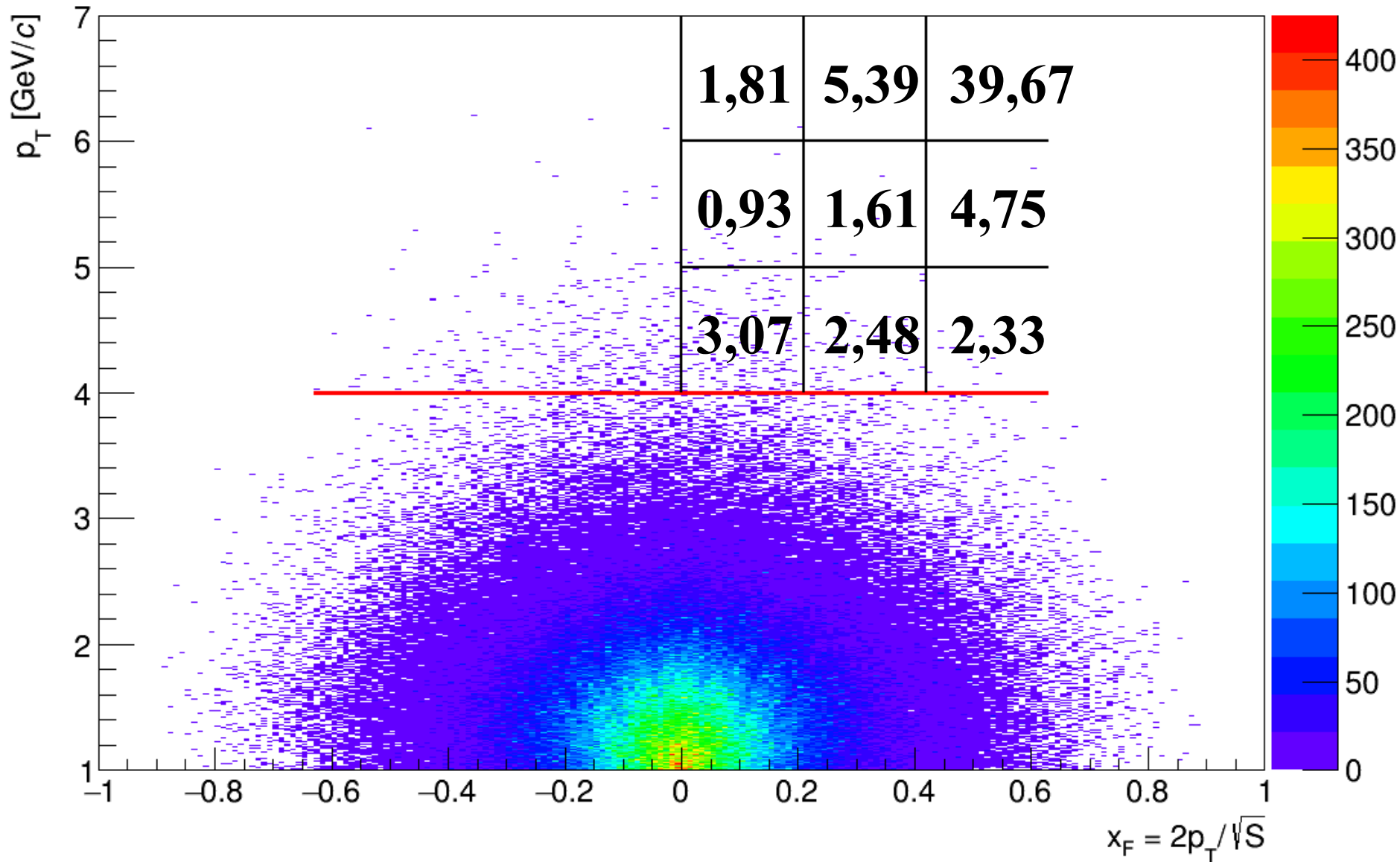
Errors



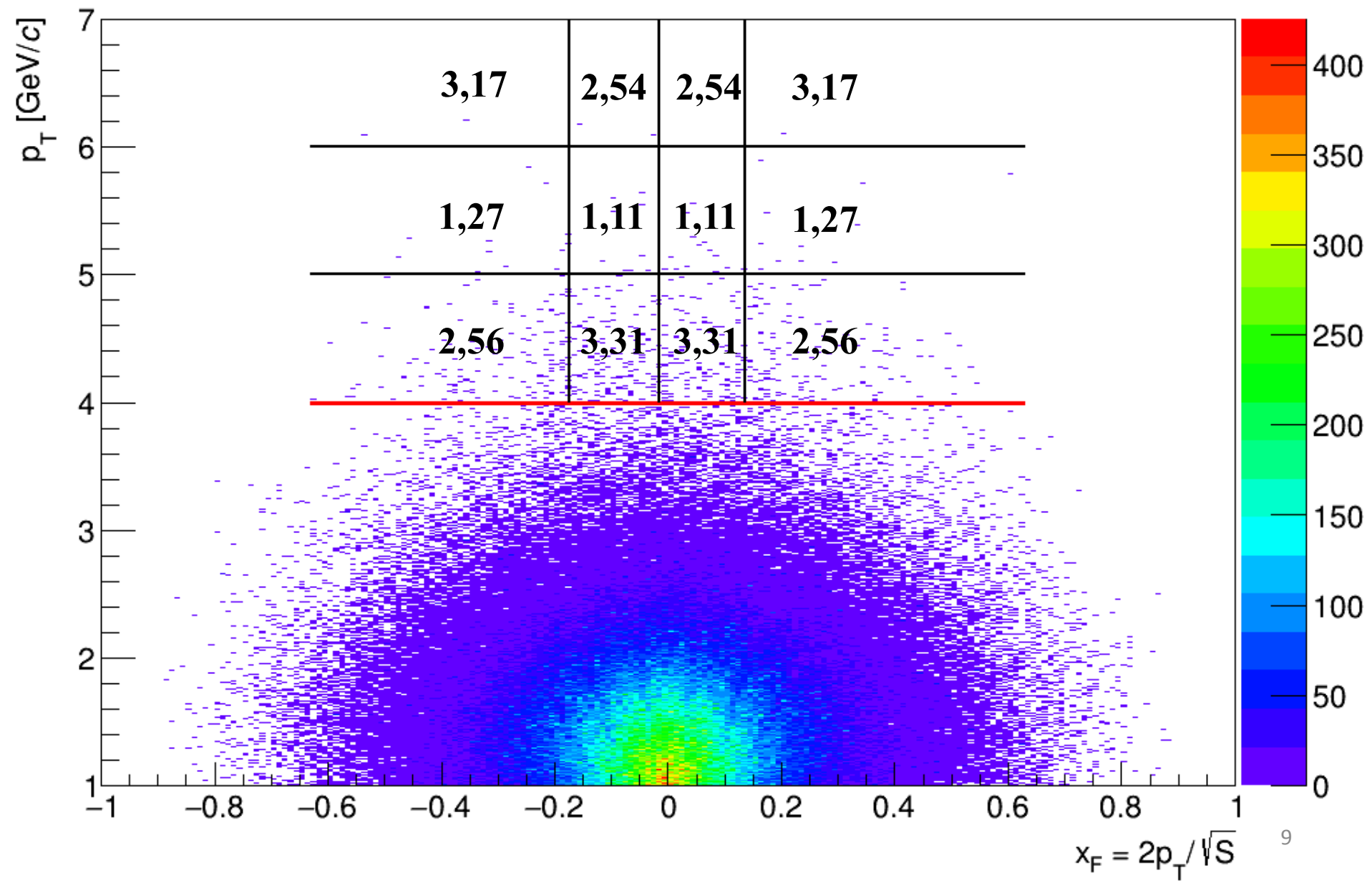
Accuracy (%)



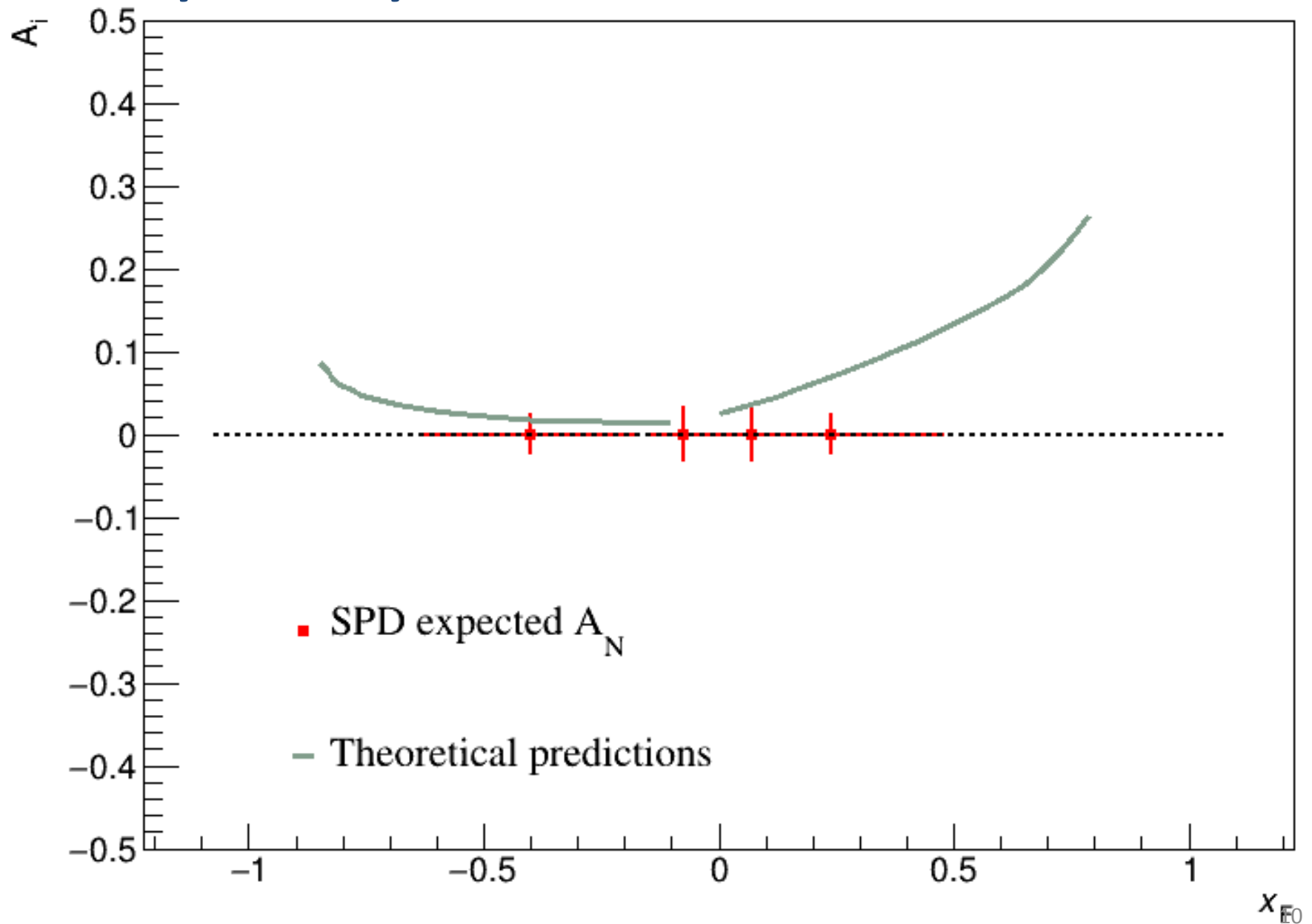
Accuracy (%)



Accuracy (%)



Assymetry



Backup

Accuracy (%)

