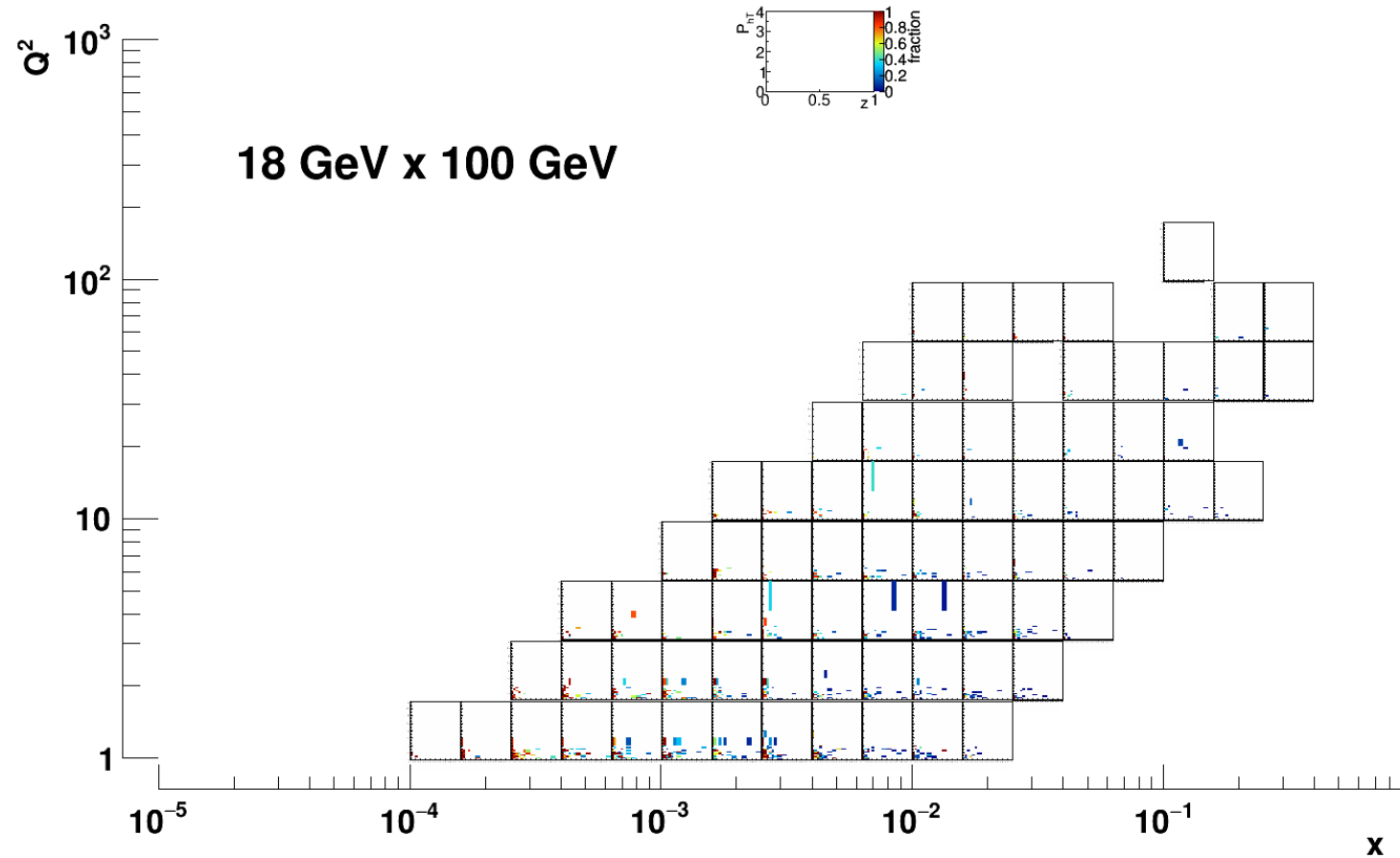# Some template figures for SIDIS

- Currently only about 1k events available from test production
- Using g4tracking_eval and true PID
- All using the electron DIS reconstruction method for now
- Default DIS cuts (Q2 >1 GeV^2, W^2 >10 GeV^2, 0.01 < y < 0.95)
- Other SIDIS variables (ϕ_s,ϕ_h) also available
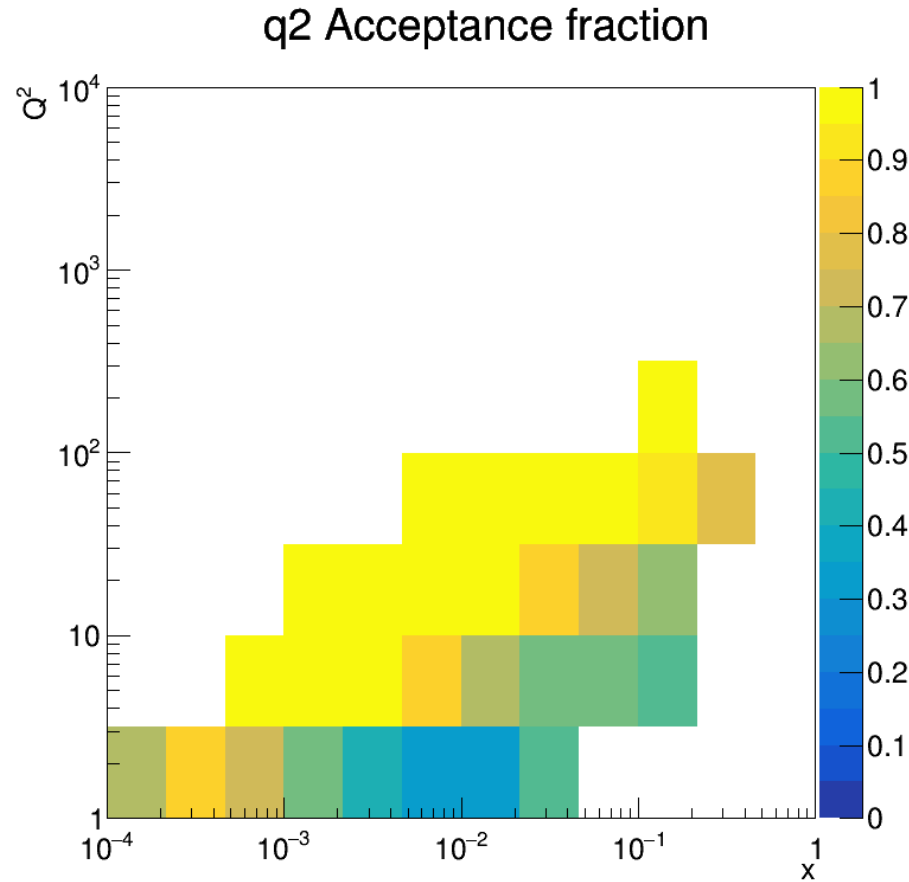
YR figure 8.29, using g4tracking_eval

Simple avg bin deviations in x/Q^2 binning
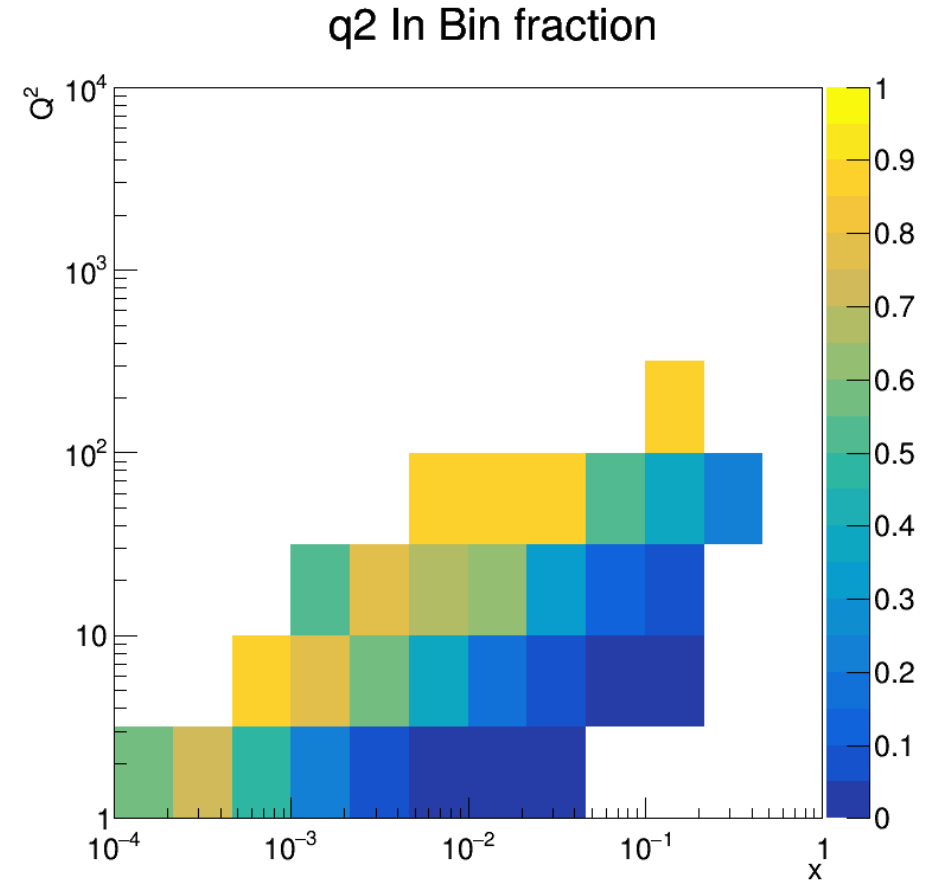

q2 relative deviation

x relative deviation
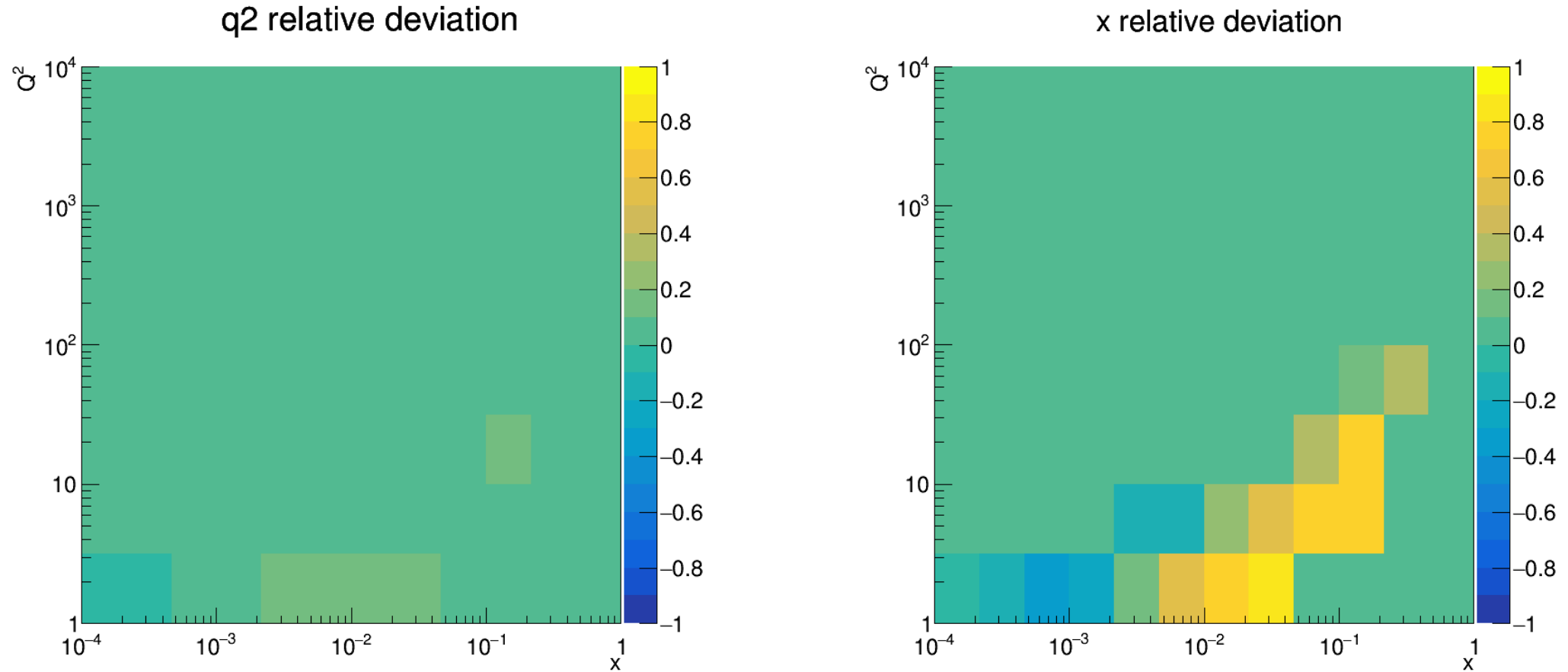
Large deviations of DIS kinematics at low y where electron method has difficulties → try to improve with JB/double angle/mixed methods
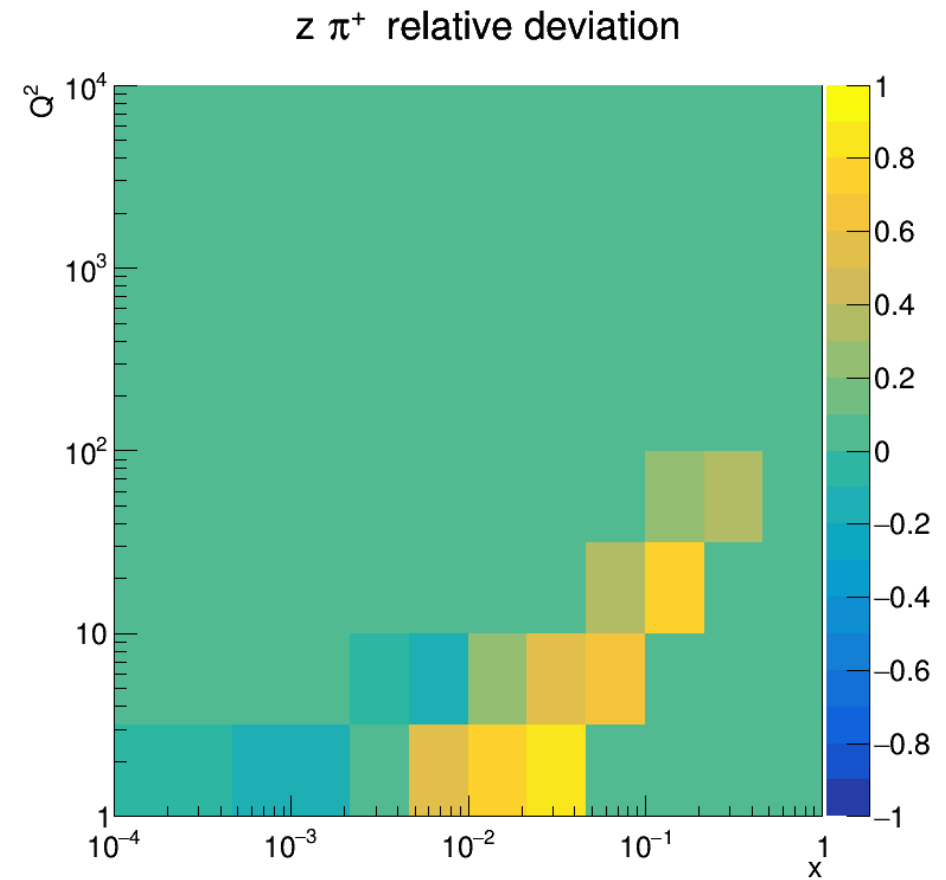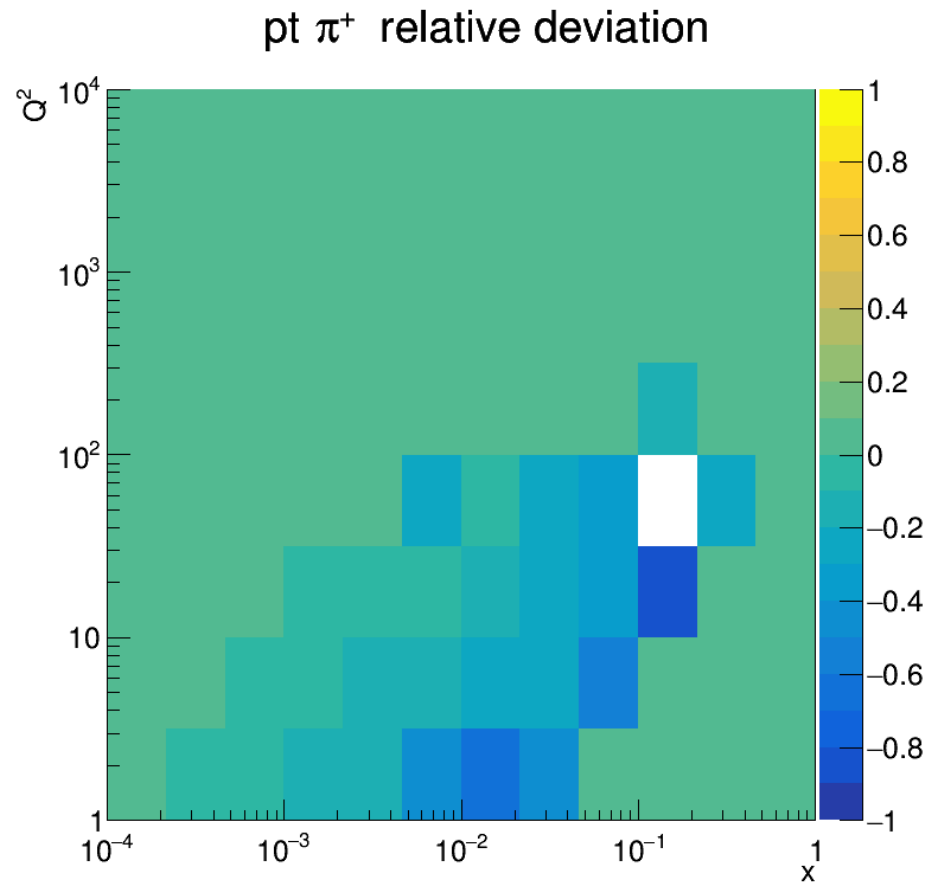
Acceptance fraction

q2 Acceptance fraction

Fraction of reco events reconstructed (in true x/Q2 bins)

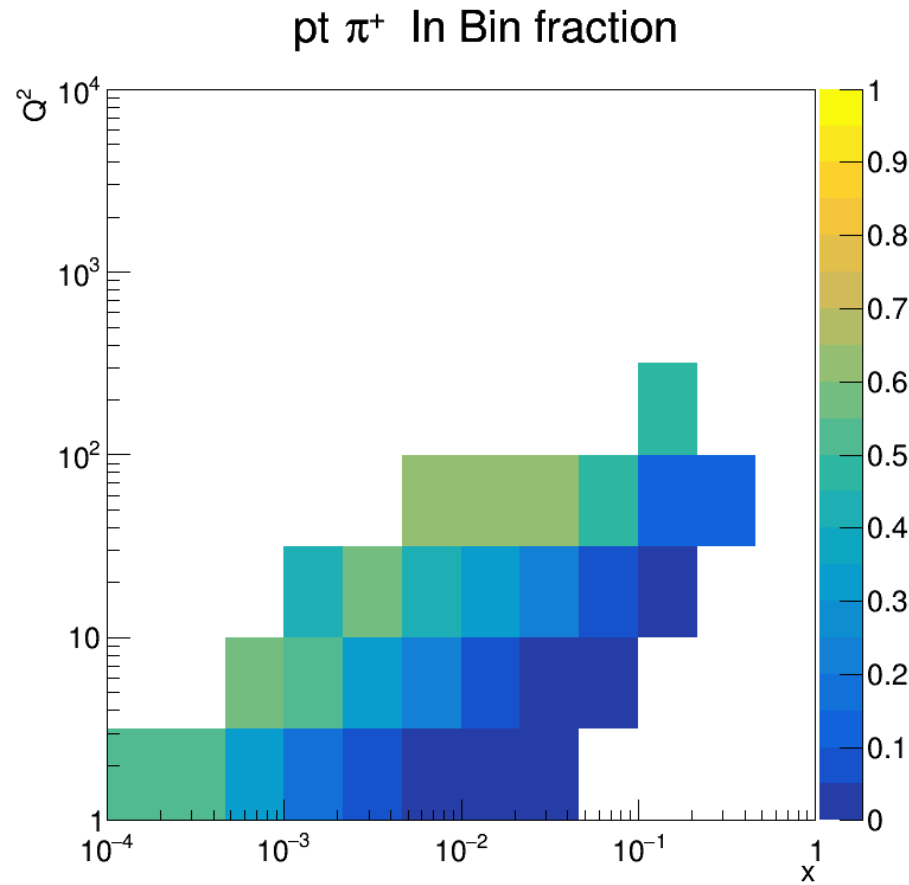q2 In Bin fraction

Fraction of reco events remaining in true x/Q2 bins with correct bin assignment

relative P$_T$, z deviation

pt π^+ relative deviation

z π^+ relative deviation

Also largest z smearing at low y due to DIS kinematics

Correct bin Acceptance fractions

pt π^+ In Bin fraction

z π^+ In Bin fraction
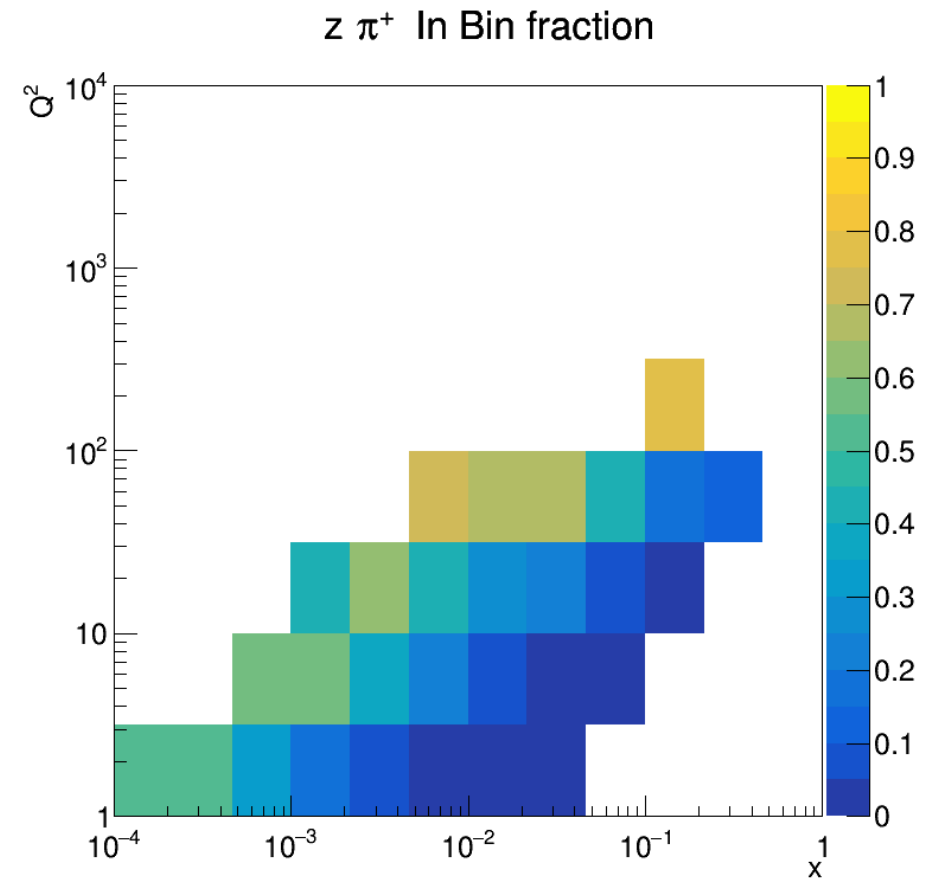
Simple SIDIS resolutions in one x/Q2 bin vs z

$\Delta P_T / P_T$ vs z π^+

$\Delta z / z$ vs z π^+

$0.00025 < x < 0.00040; \quad 1.0 < Q^2 < 1.8$