# SIDIS variable resolutions
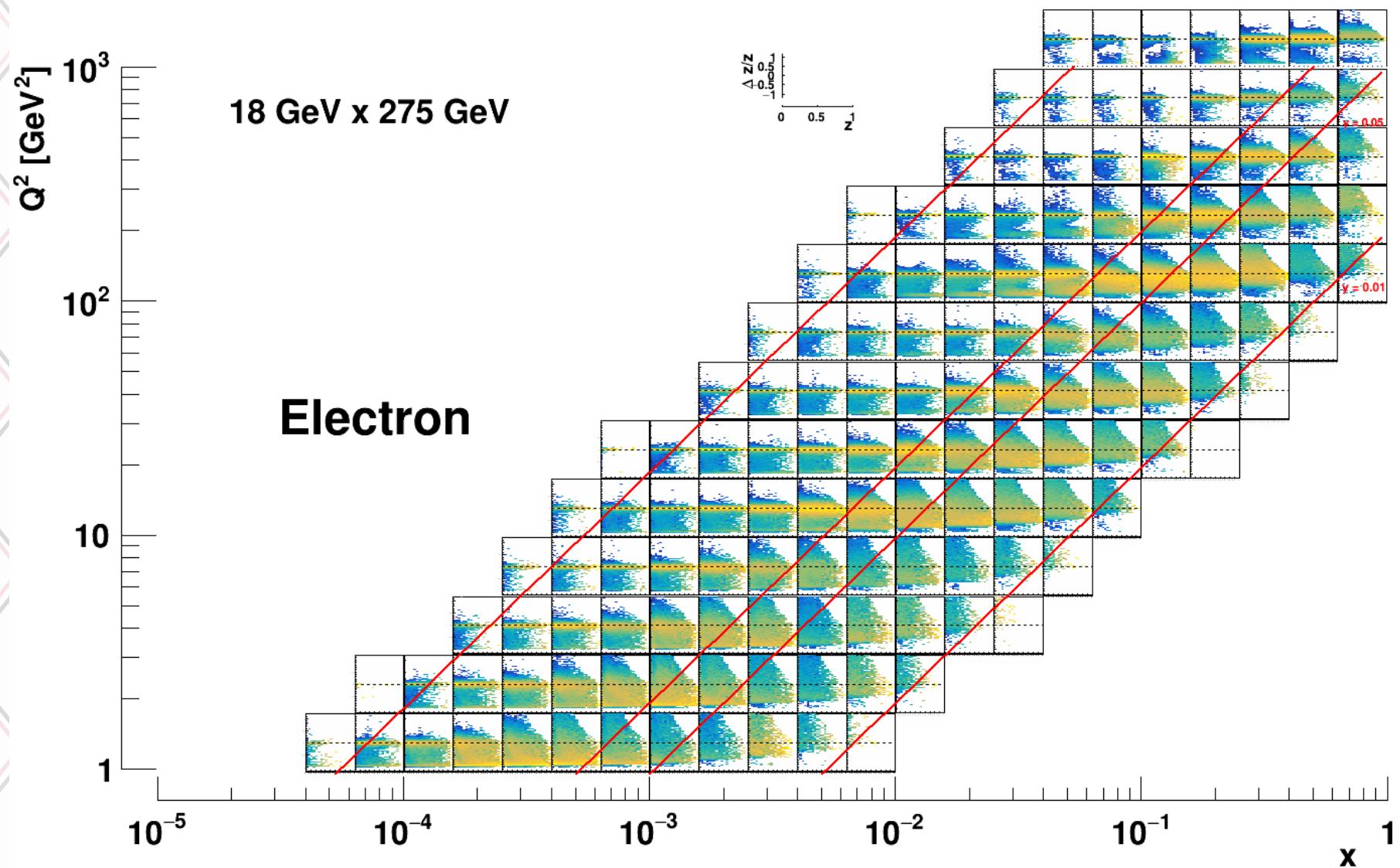
Ralf Seidl (RIKEN)
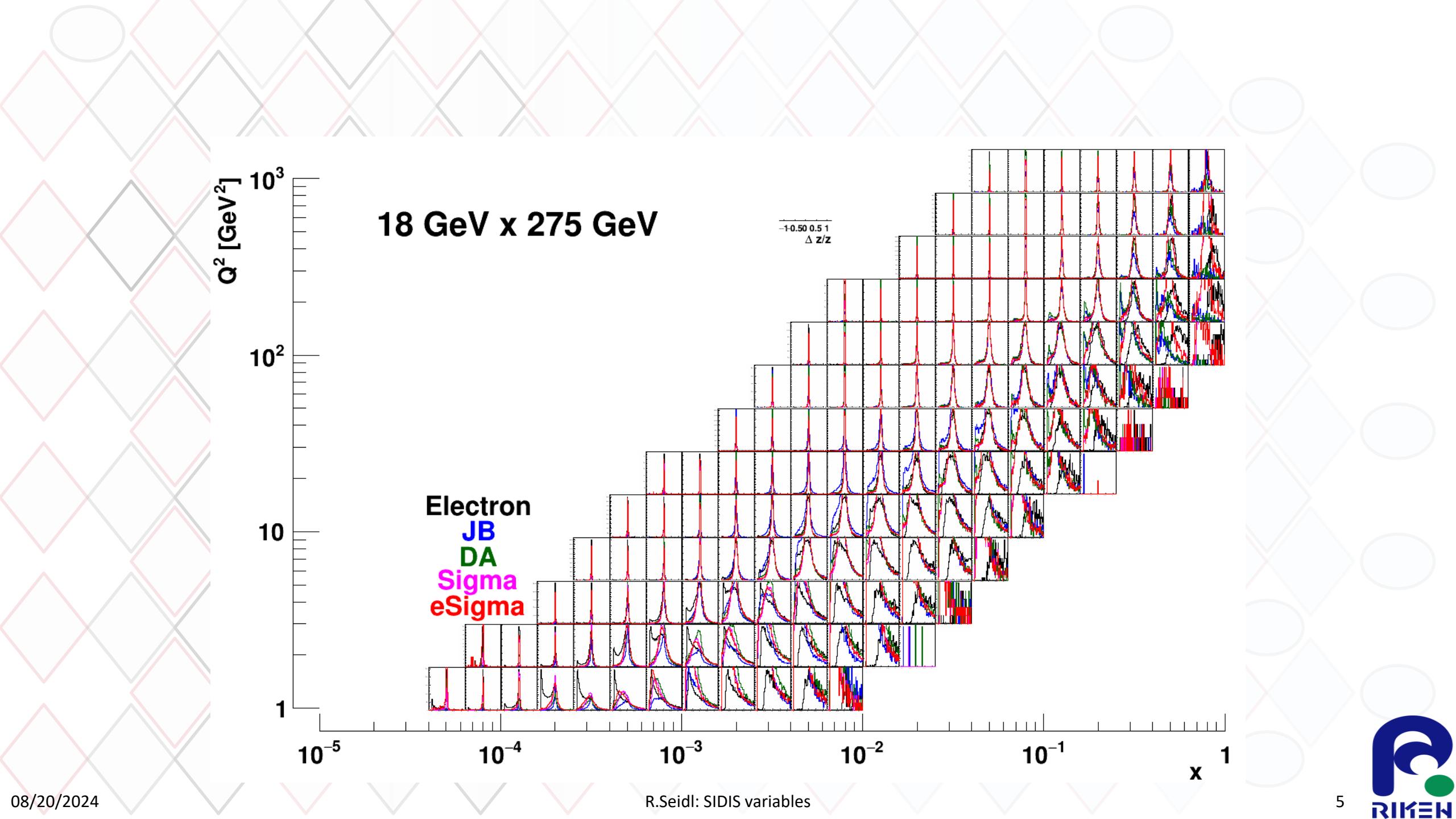
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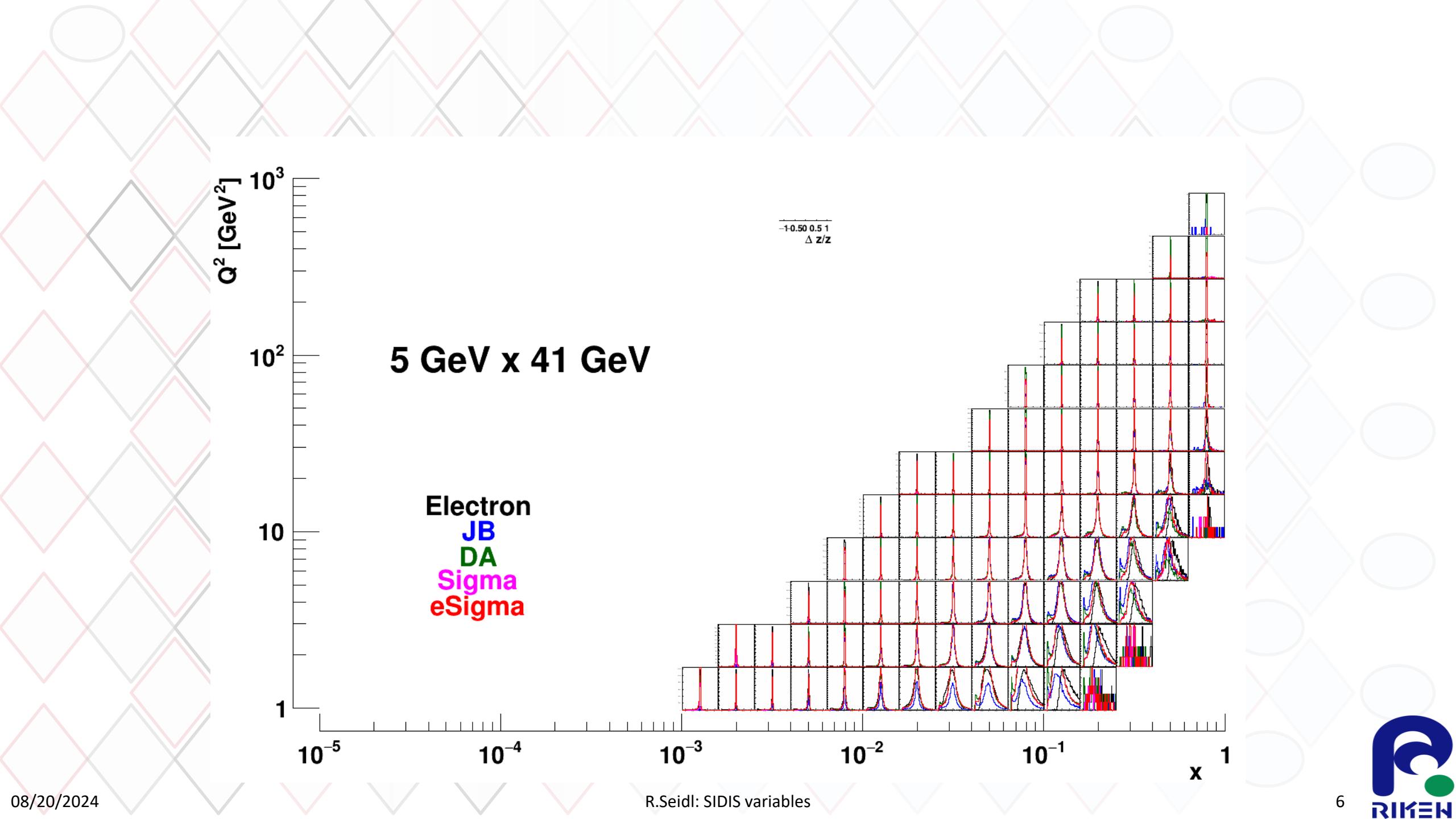
- Using 24.07 production on S3

- DIS/NC/…/pythia8NCDIS in 4 Q2 bins

- DIS kinematics from production "InclusiveKinematics[Electron,JB,DA,Sigma,eSigma] (based on tracking only for electron)

- q vector still used from reconstructed electron "ScatteredElectron" as q vector not available in current simulations → need to calculate kinematics myself or to be added to reconstruction

R.Seidl: SIDIS variables

Z smearing

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18 GeV x 275 GeV

Electron

Q^2 [GeV^2]

x

18 GeV x 275 GeV

Q^2 [GeV^2]

Electron
JB
DA
Sigma
eSigma

Δ z/z

x

R.Seidl: SIDIS variables

5 GeV x 41 GeV

Electron
JB
DA
Sigma
eSigma

Q^2 [GeV^2]

$\Delta z/z$

x

18 GeV x 275 GeV

Electron
JB
DA
Sigma
eSigma

Q^2 [GeV^2]

x

5 GeV x 41 GeV

Electron
JB
DA
Sigma
eSigma

Q^2 [GeV^2]

x
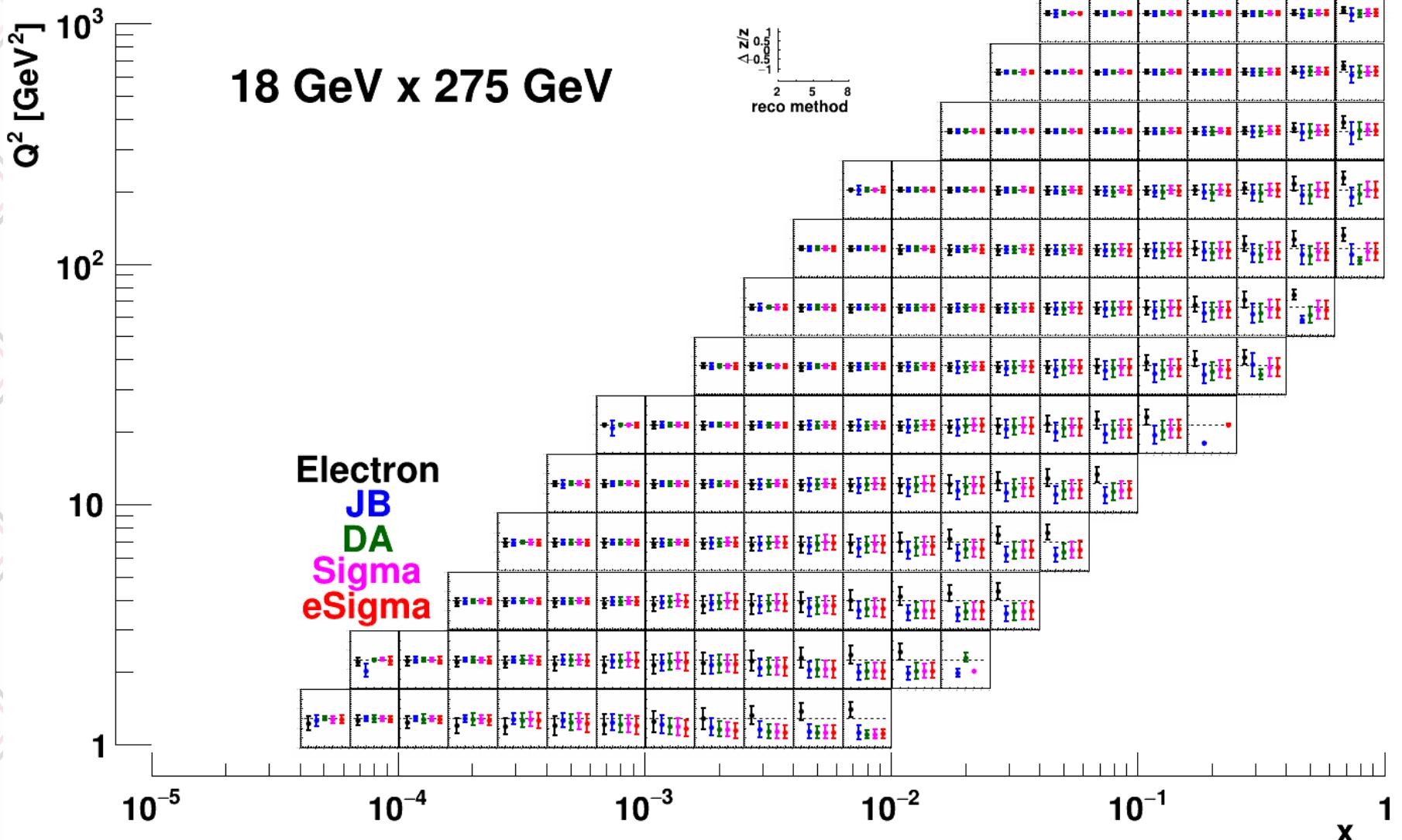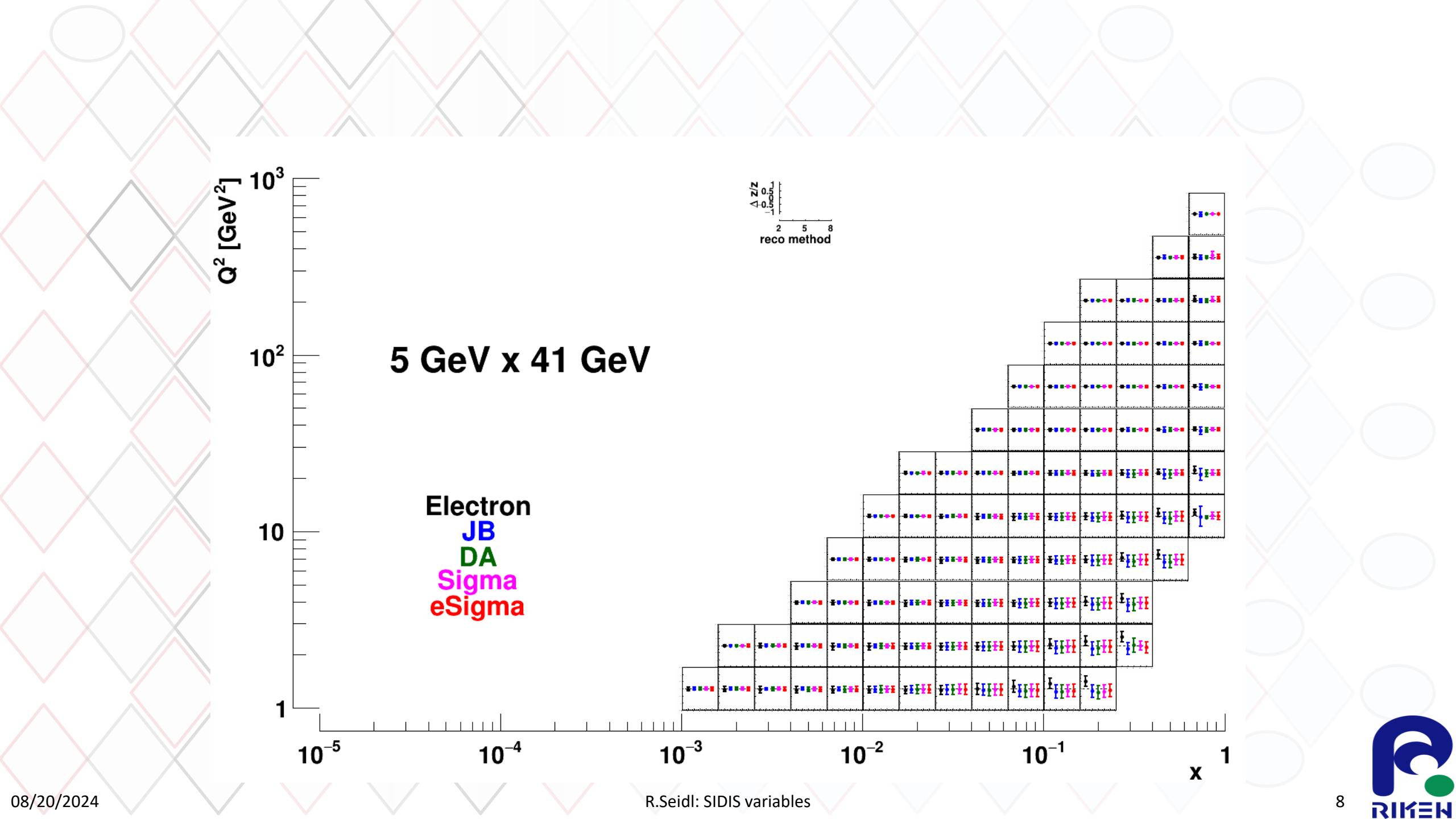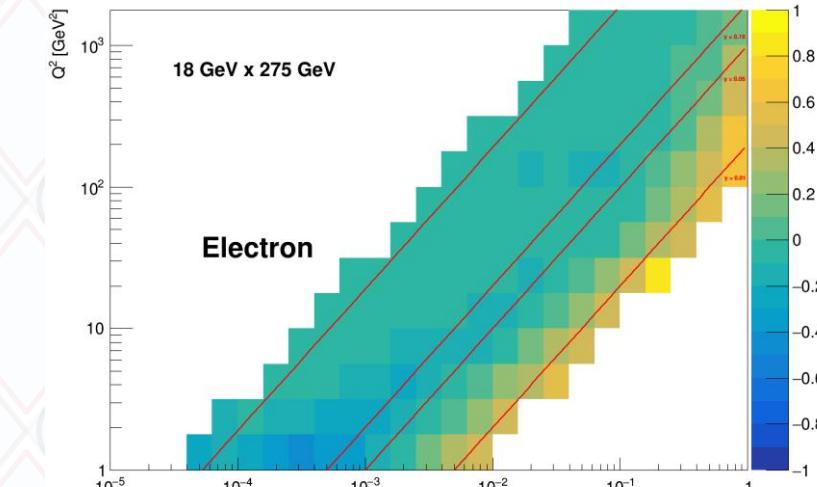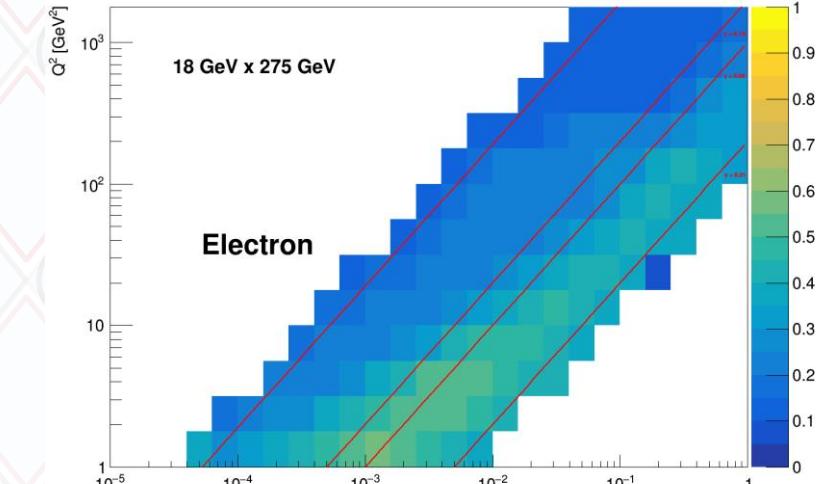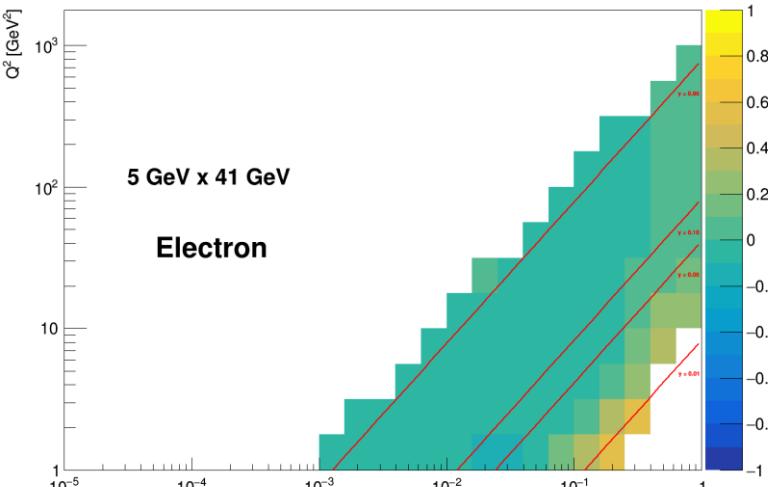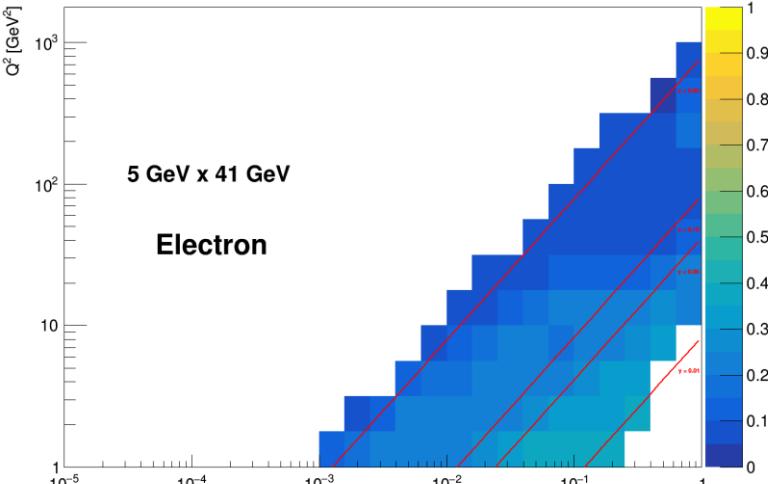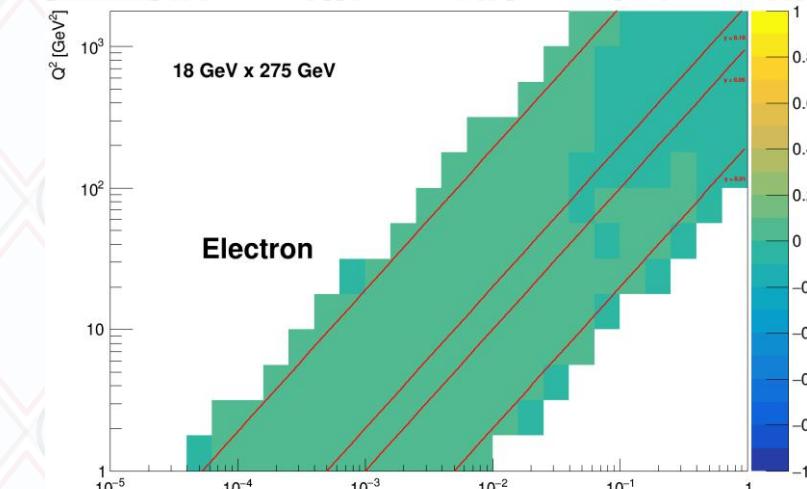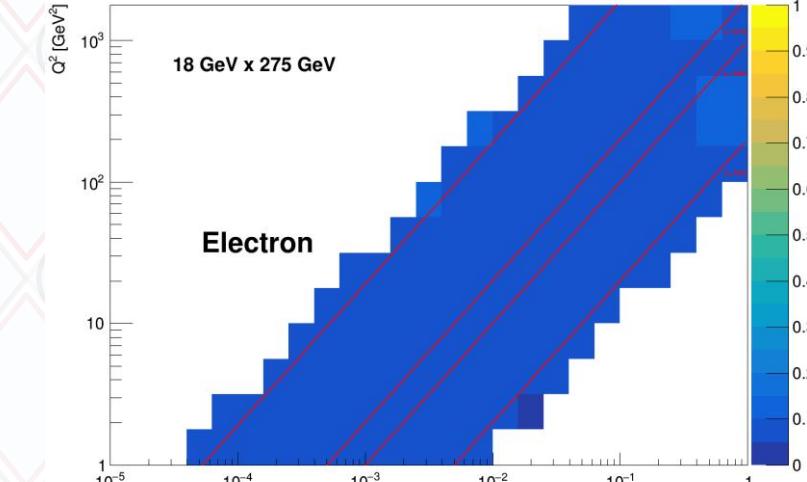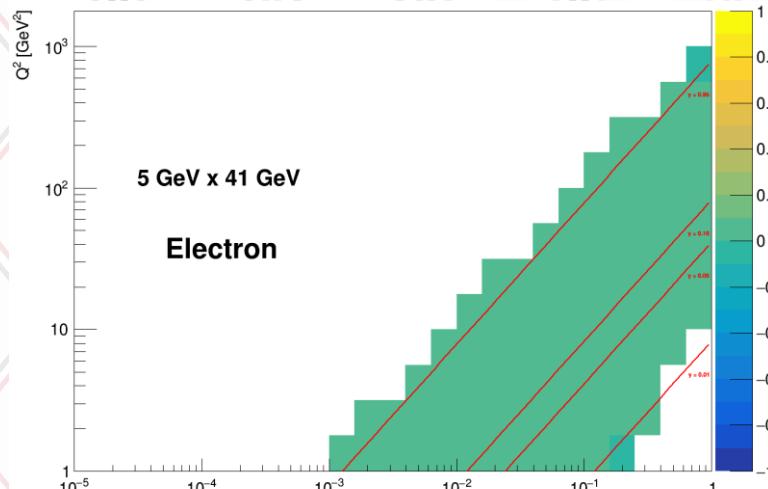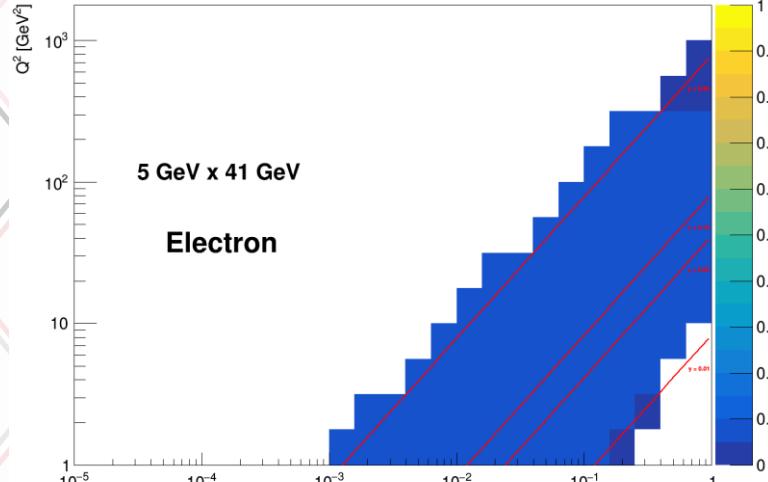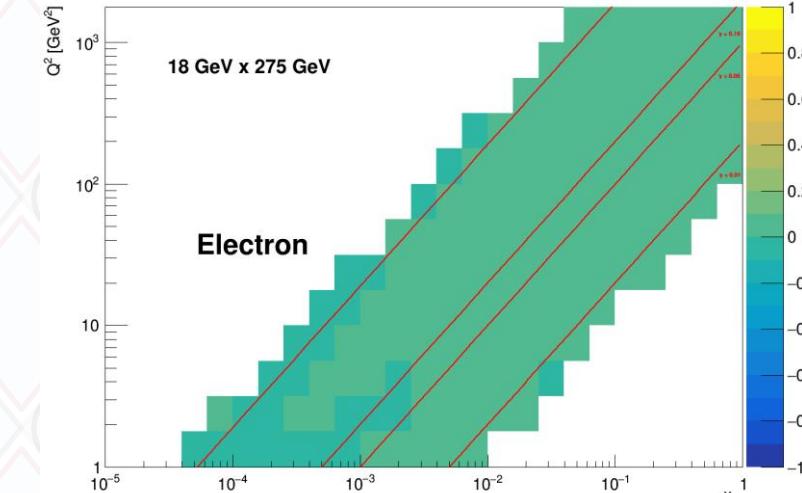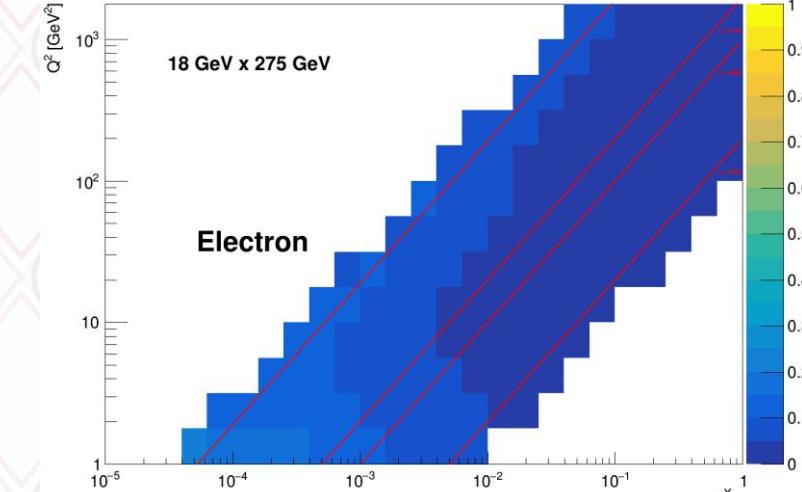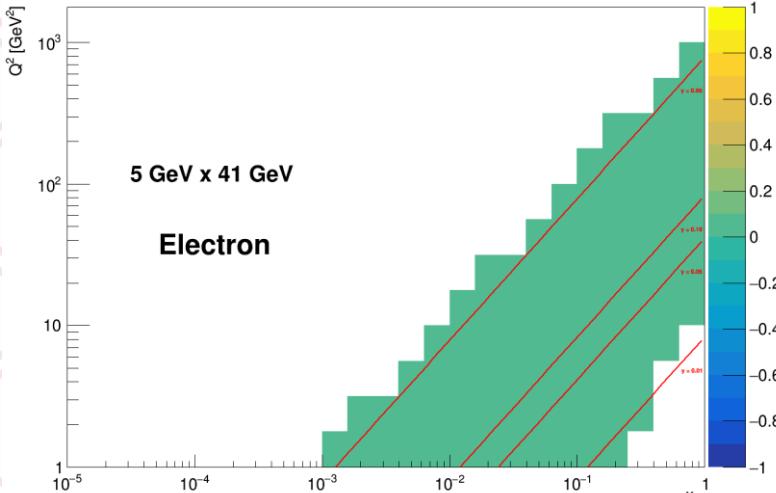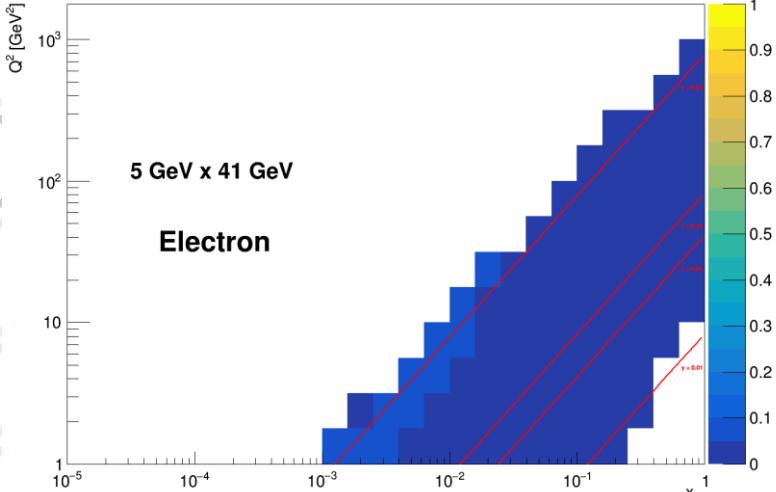
Mean Resolutions and RMS for z in

Pt resolutions

R.Seidl: SIDIS variables

R.Seidl: SIDIS variables

Next steps

- Revisit the q vector calculation for the other DIS reconstruction methods

- Revisit the previous TMD work (unpol, Sivers, Collins) and make example figures for TDR (AUTs for example bins, and HERA-style AUT plot?)

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