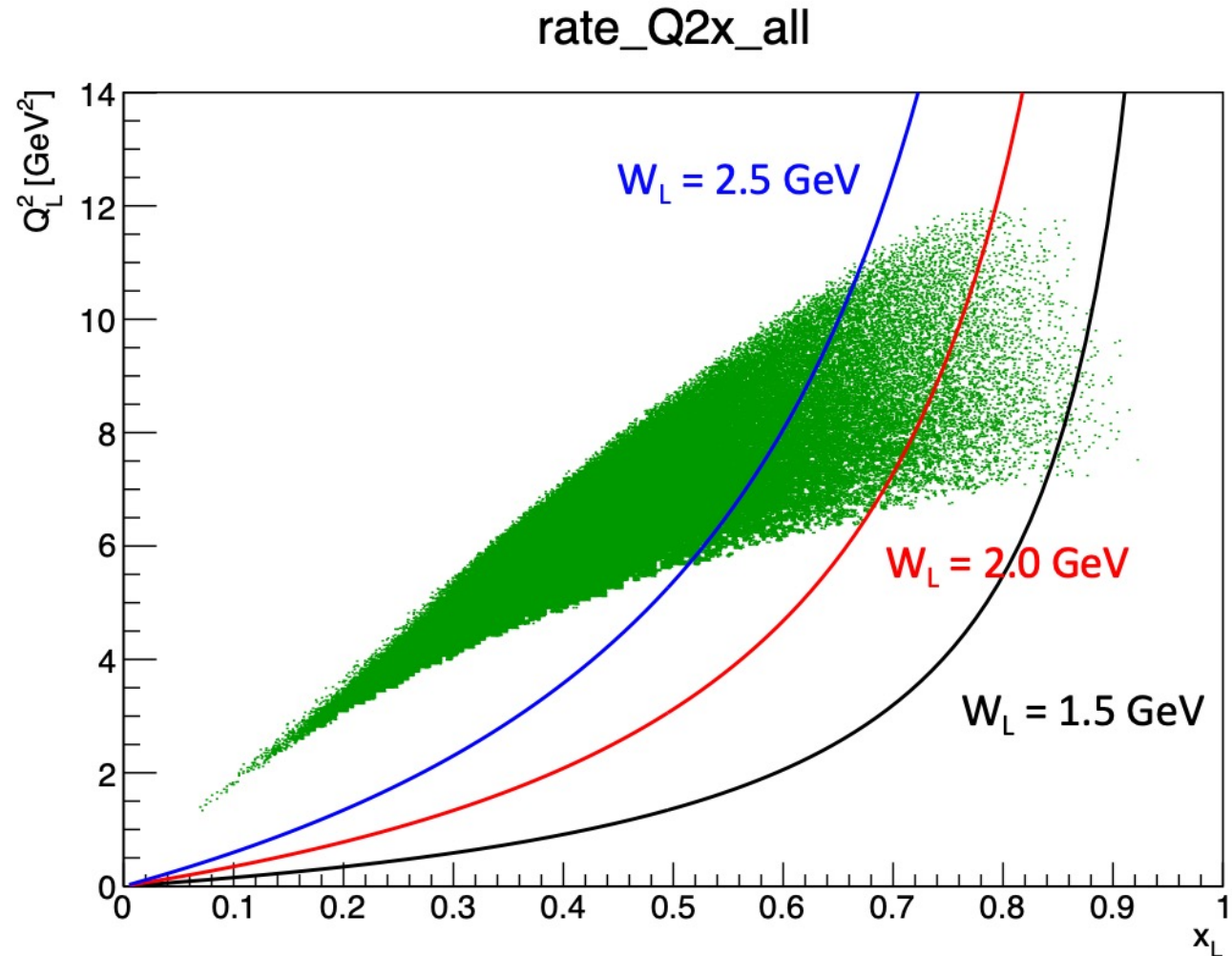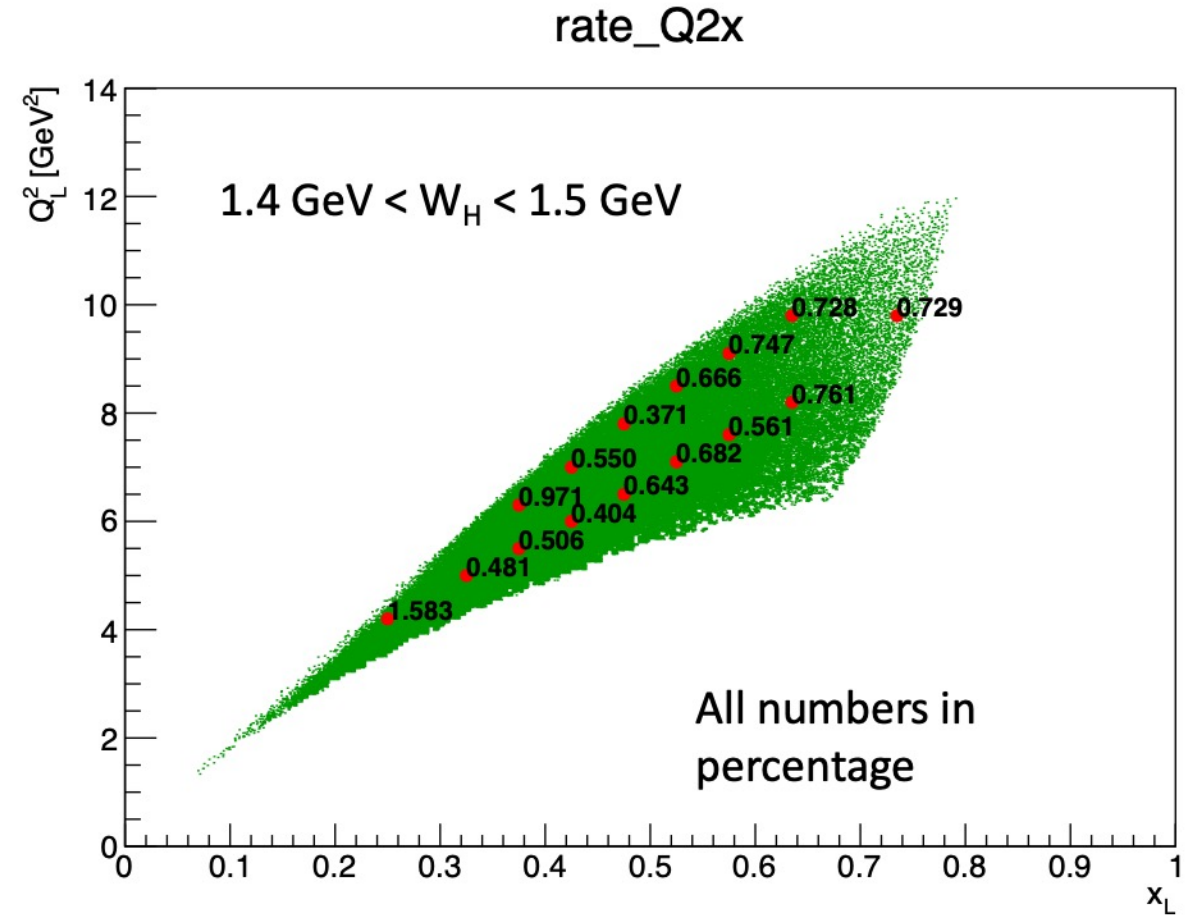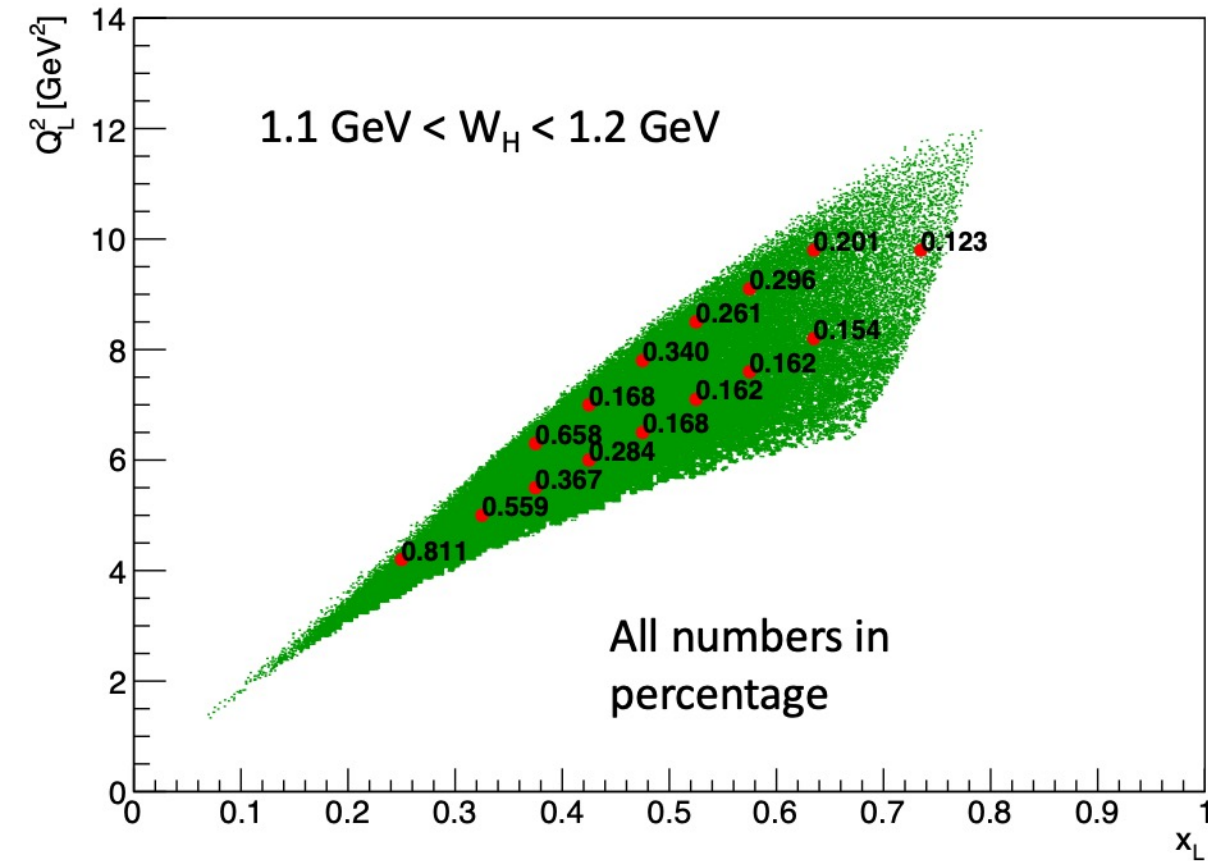# Q^2 vs x for all accepted events

- Green distribution shows all detected events (No W cut applied)

- Ecal trigger efficiency applied

- Q^2_L, x_L and W_L calculated using the nominal beam energy (11GeV) and the energy of the scattered electron Ef at Ecal (ecp)

- Using Jixie's simulation file: nt_PVDIS_eAll_Ei_11GeV.root

- 85% beam polarization, 120 days running

rate_Q2x_all

Q^2_L [GeV^2]

W_L = 2.5 GeV

W_L = 2.0 GeV

W_L = 1.5 GeV

x_L

Example of C_{ji} coefficients

- W_H is reconstructed using the true Ei (beam energy – energy loss due to radiative effects) and the scattered electron energy at vertex
- For each (Q2, x) kinematic bin "i", C_{ij} is the ratio between misidentified resonance events ($W_H < 2.0$ GeV, $W_L > 2.0$ GeV) and selected DIS events ($W_L > 2.0$ GeV)

rate_Q2x

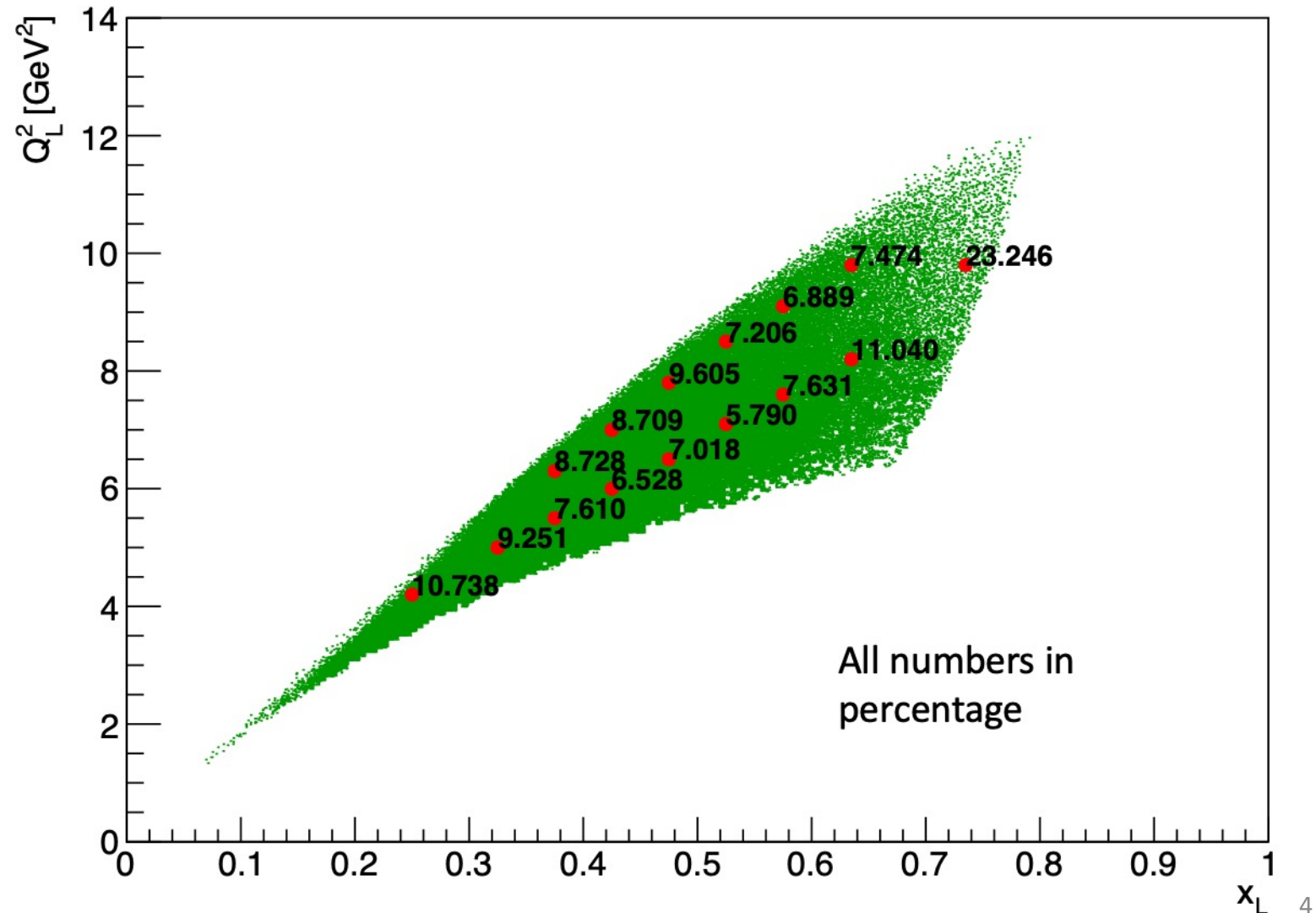rate_Q2x

Example of C_{ji} coefficients

- W_H is reconstructed using the true Ei (beam energy – energy loss due to radiative effects) and the scattered electron energy at vertex
- For each (Q2, x) kinematic bin "i", C_{ij} is the ratio between misidentified resonance events ($W_H < 2.0$ GeV, $W_L > 2.0$ GeV) and selected DIS events ($W_L > 2.0$ GeV)
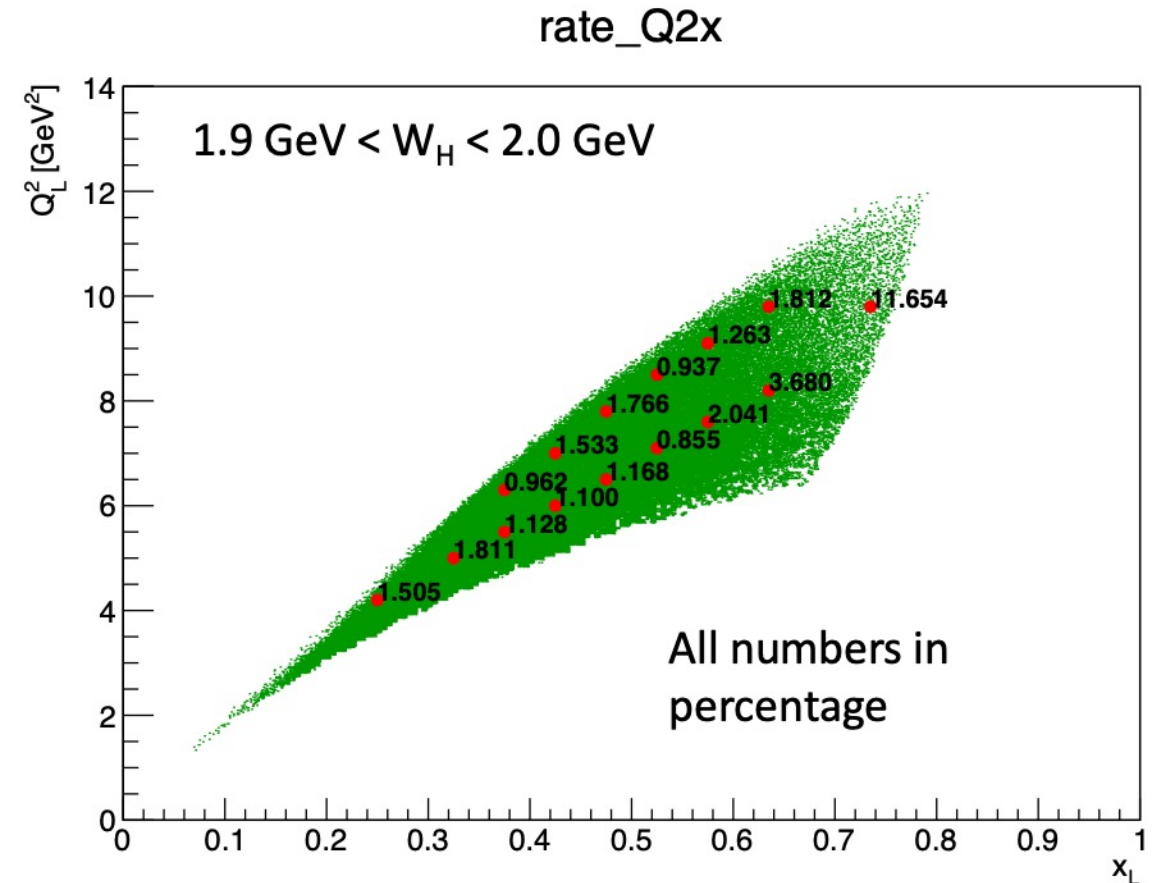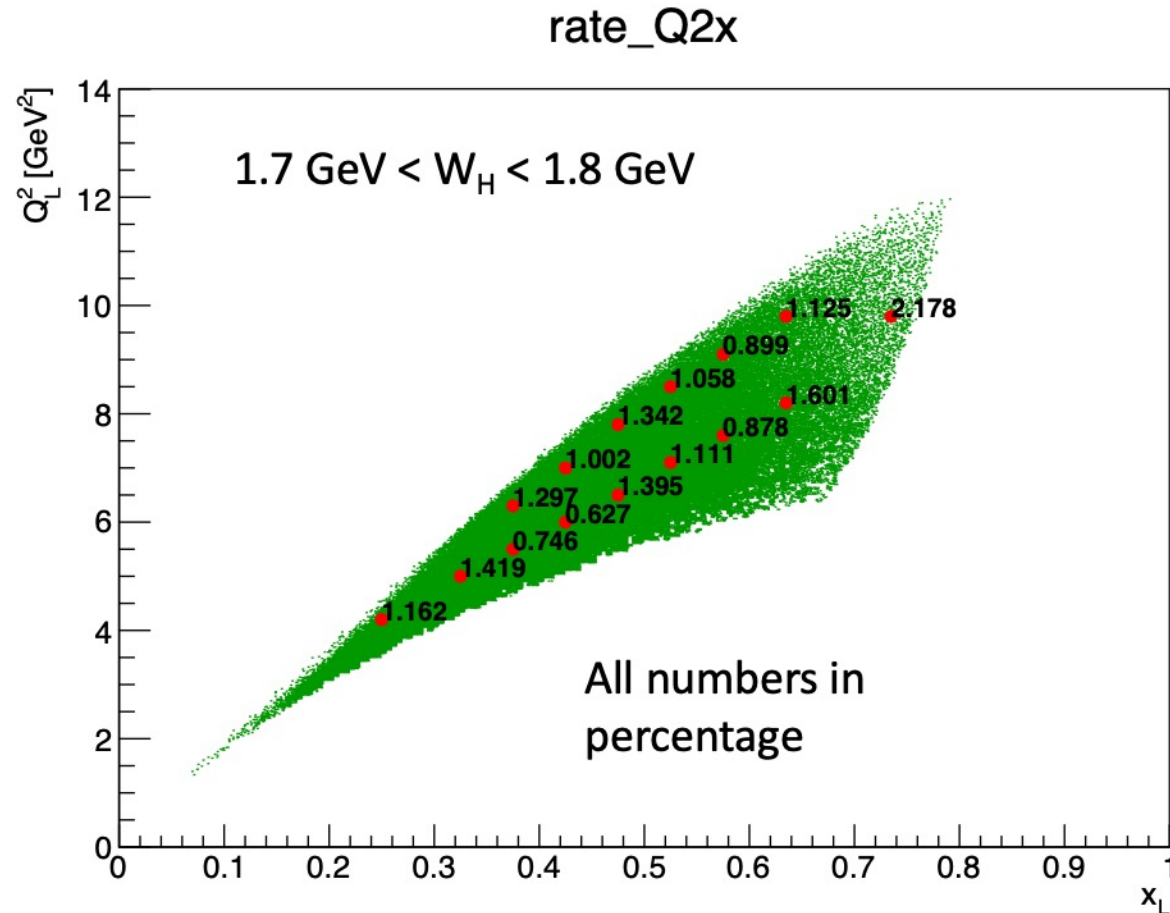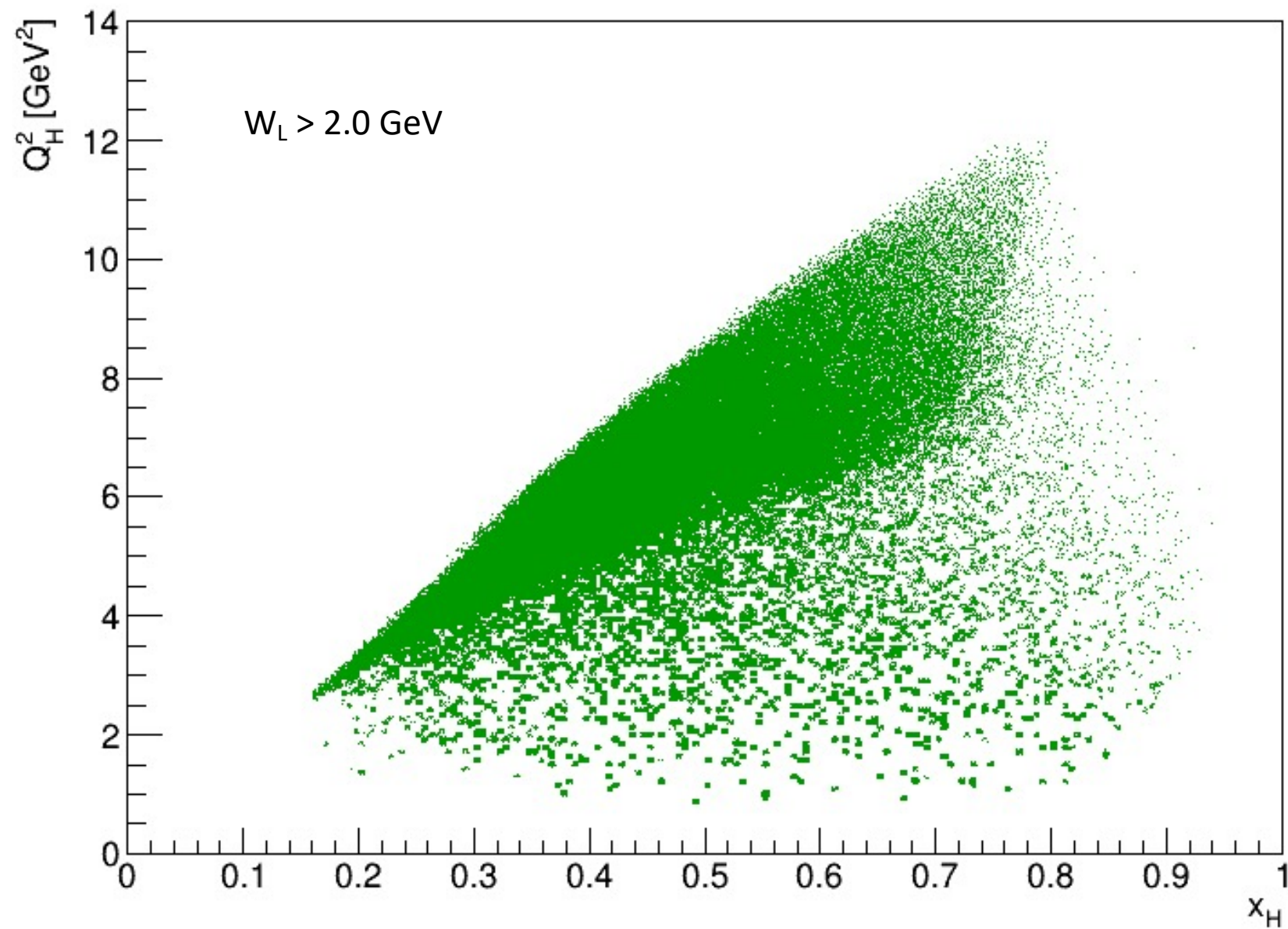
The C_i coefficients

- The C_i are the C_{ji} after summing over the index j, that is, they show the ratio between all misidentified resonance events (W_H < 2.0 GeV, W_L > 2.0 GeV) and the selected DIS events (W_L > 2.0 GeV)
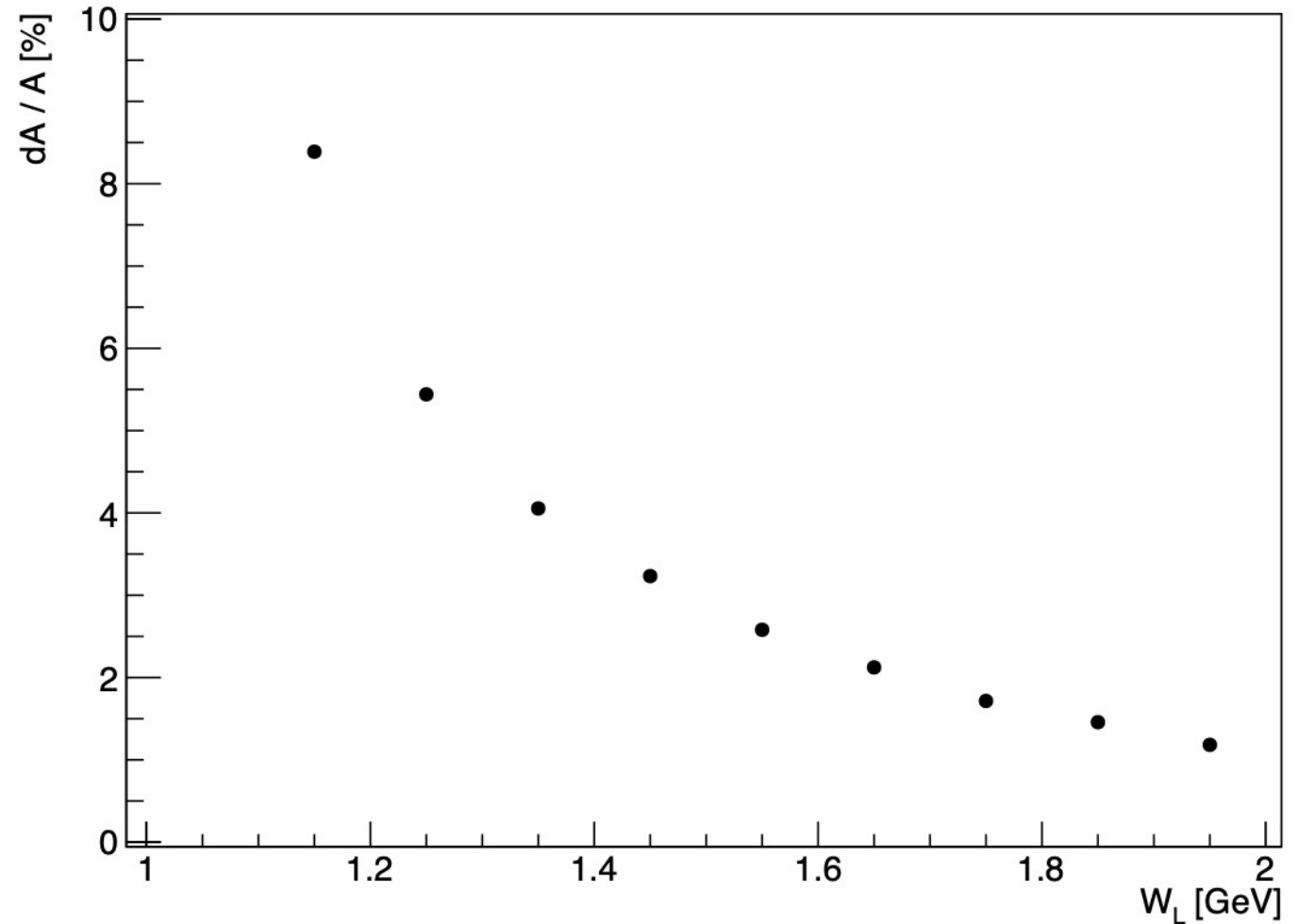
rate_Q2x

All numbers in percentage

rate_Q2x_h

$W_L > 2.0$ GeV

Q^2_H [GeV^2]

x_H

Relative uncertainty of resonance asymmetry

- Ecal trigger efficiency applied

- Q^2_L, x_L and W_L calculated using the nominal beam energy (11GeV) and the energy of the scattered electron Ef at Ecal (ecp)

- Using Jixie's simulation file: nt_PVDIS_eAll_Ei_11GeV.root
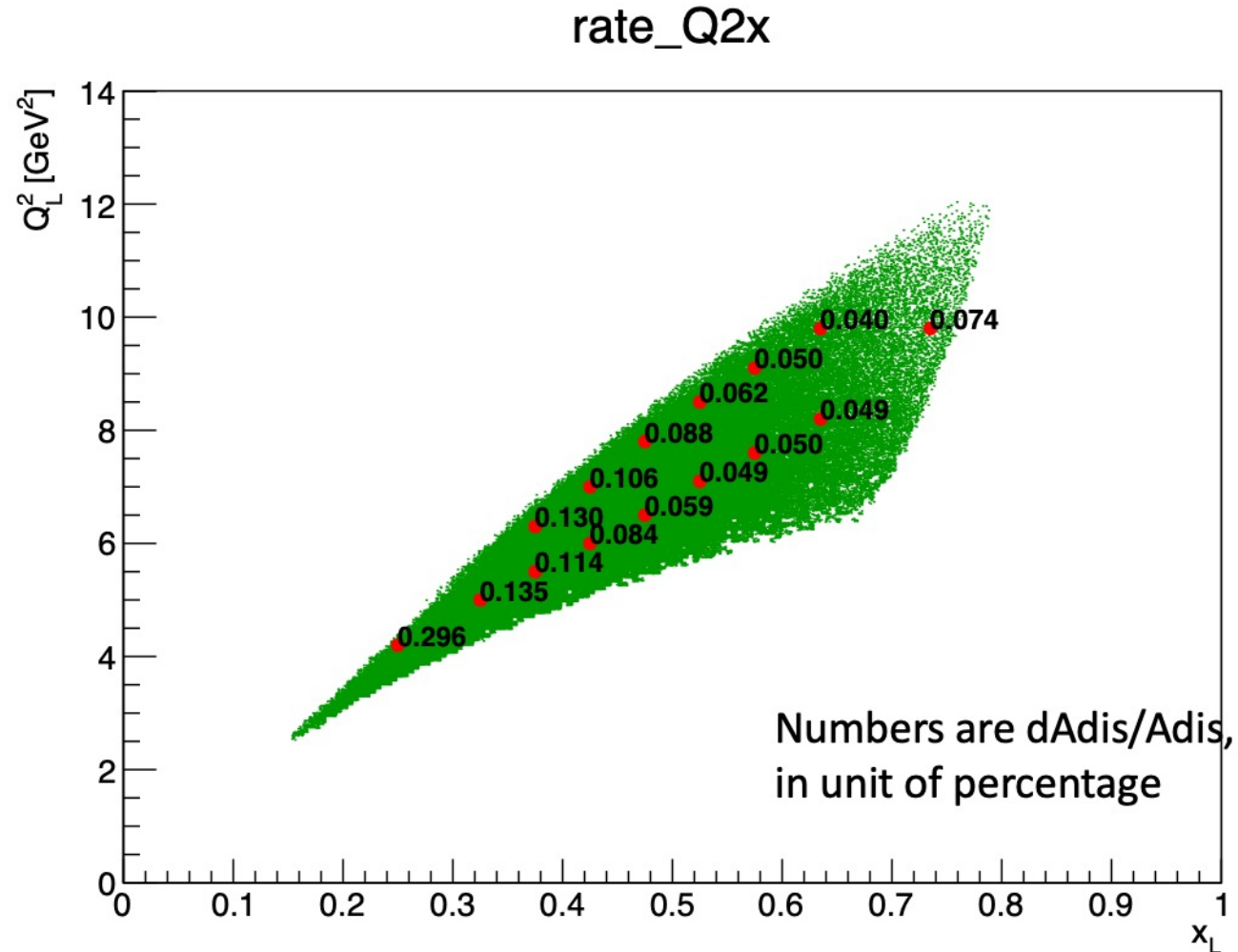
- 85% beam polarization, 120 days running

Graph

dAdis

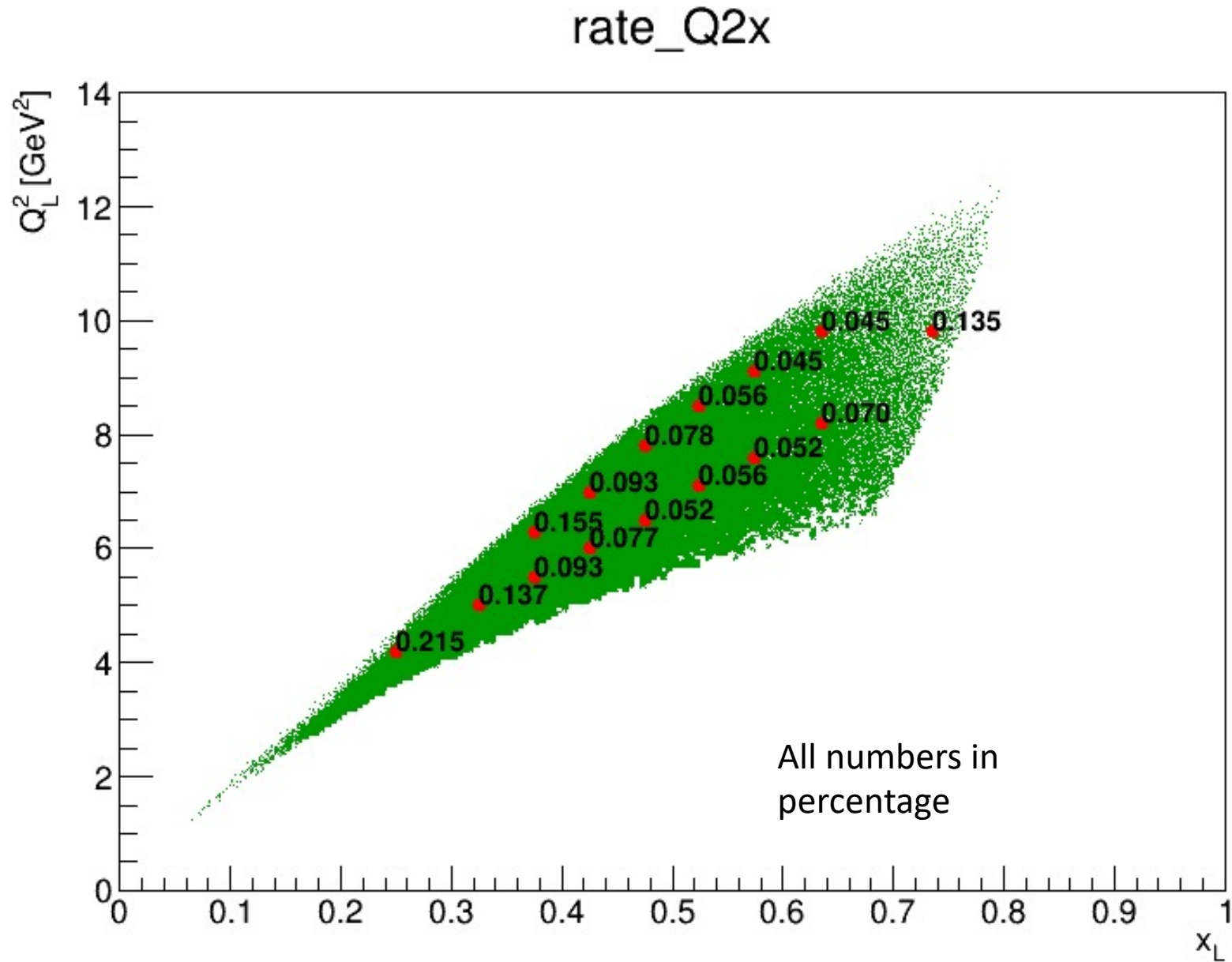- dAdis are the uncertainty for each kinematic bin, due to the radiative effect of the resonance events

rate_Q2x
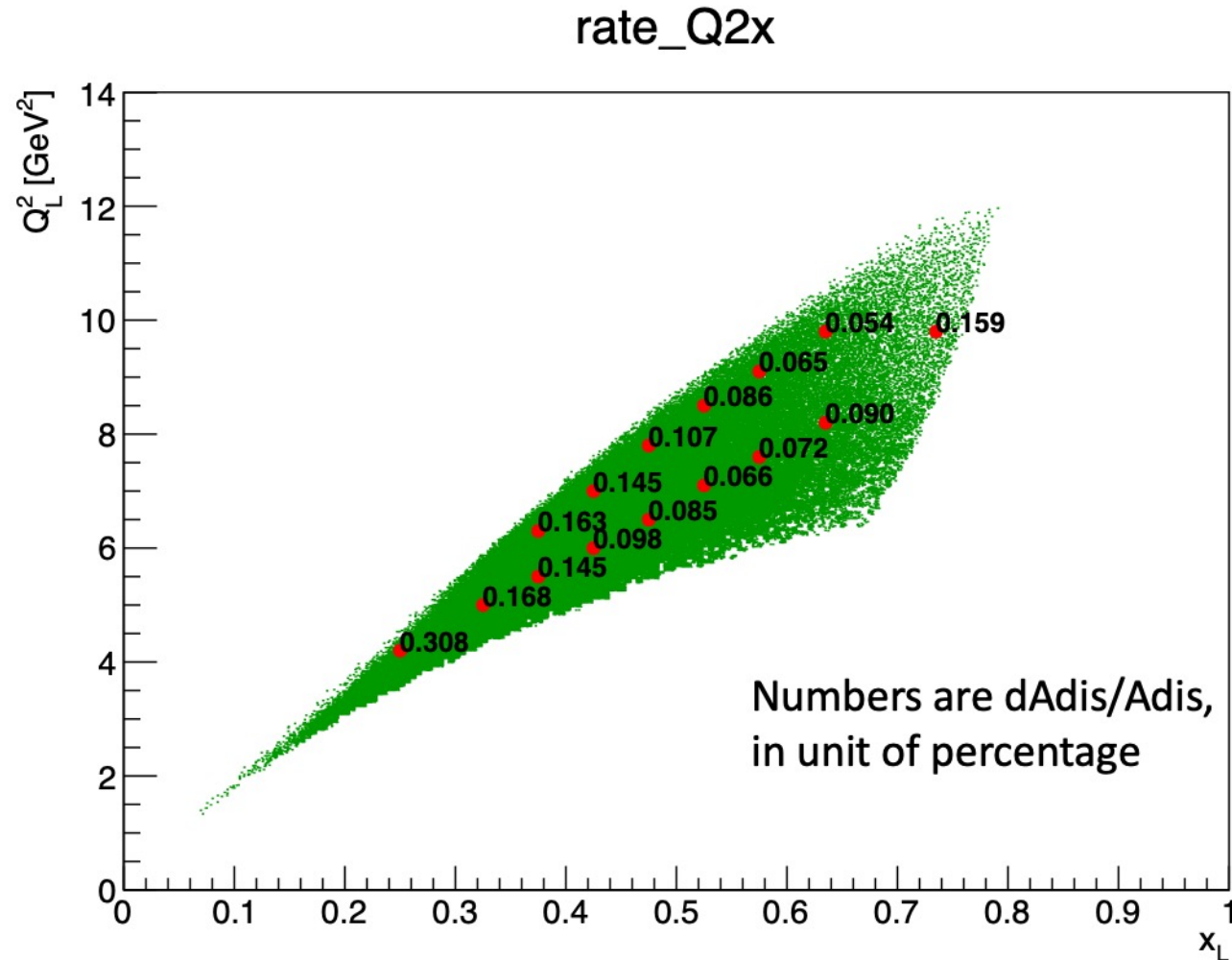
dAdis

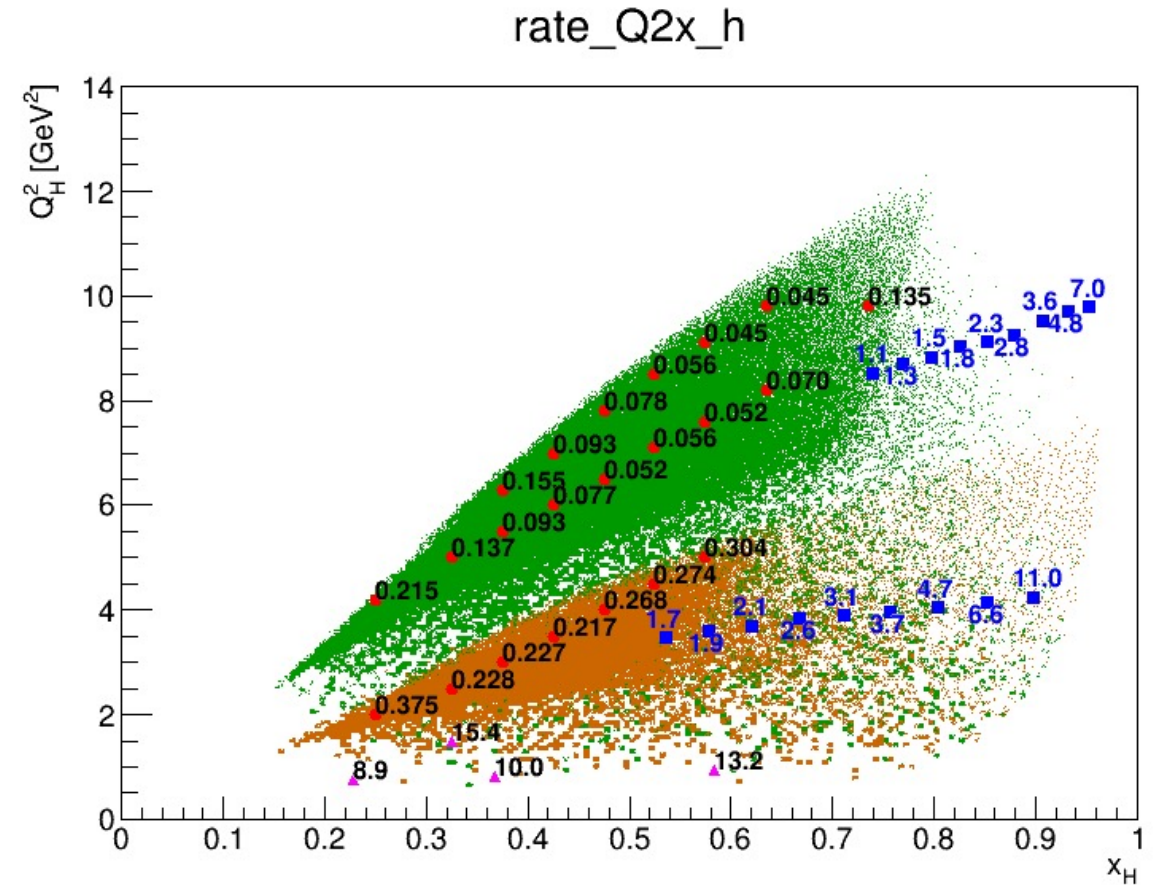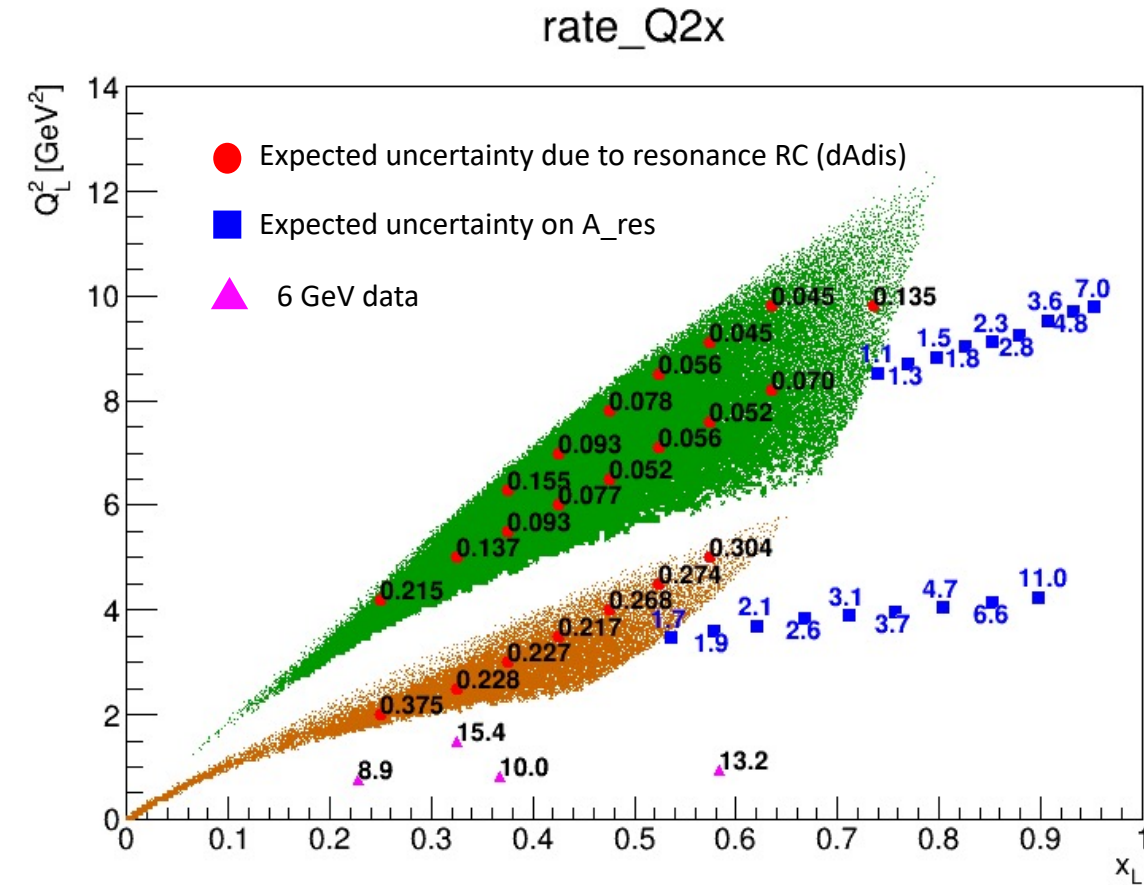- This plot is obtained by using "p" instead of ecp when calculating Q^2_L and x_L

rate_Q2x

Resonance RC uncertainty using F1F2 21

rate_Q2x

All numbers in percentage

Resonance RC uncertainty using F1F2 21

- Using F1F2 21
- 120 days of running with 11 GeV, 10 days of running with 6.6 GeV
- All numbers in percentage

6.6 GeV expected Adis uncertainty (10 days)

rate_Q2x