

# Compare Django and txgrids

Hanjie Liu, 04/28/2020

## For Deep Inelastic Scattering (DIS) QCD process:

**Djangoh:** LO matrix elements + parton shower

**txgrids:** interpolated grids of structure functions from DGLAP at NLO

← more rigorous in physics

Djangoh settings:

e beam energy: 18 GeV

p beam energy : 275 GeV

kinematic cut:

- $0.0001 < x < 1$
- $0.001 < y < 0.95$
- $1 < Q^2 < 10^5$
- $W > 3.16$

events: 100000

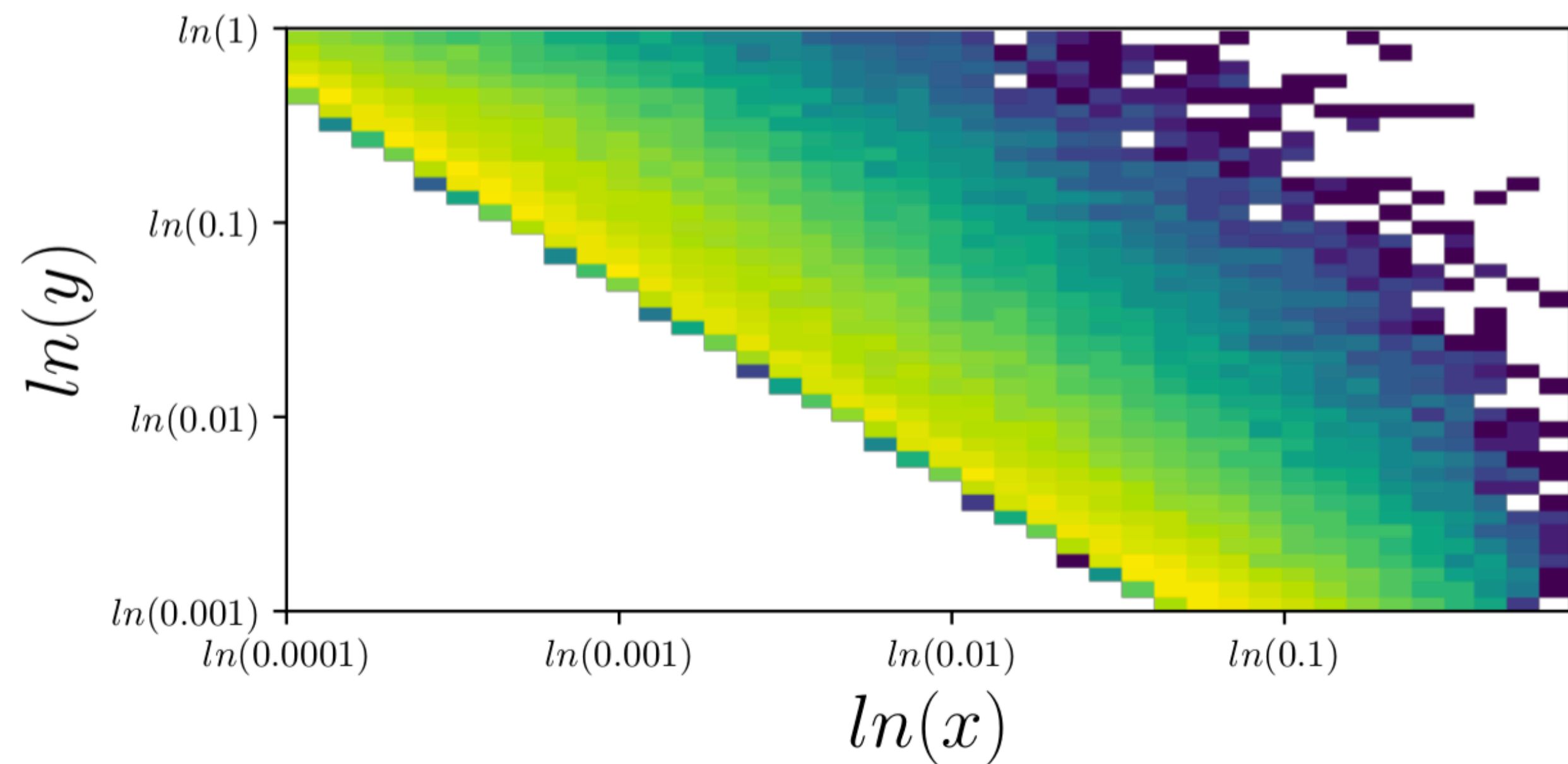
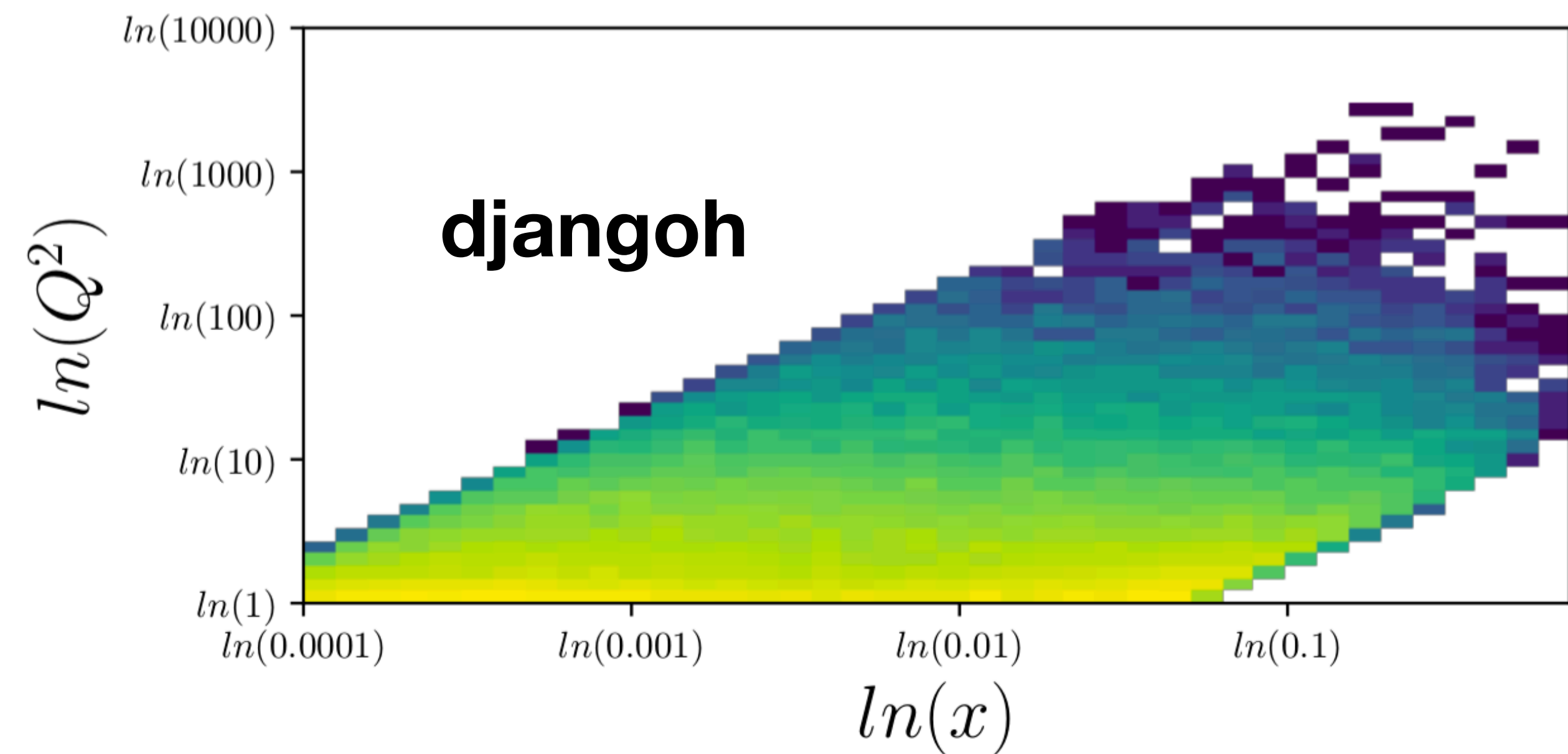
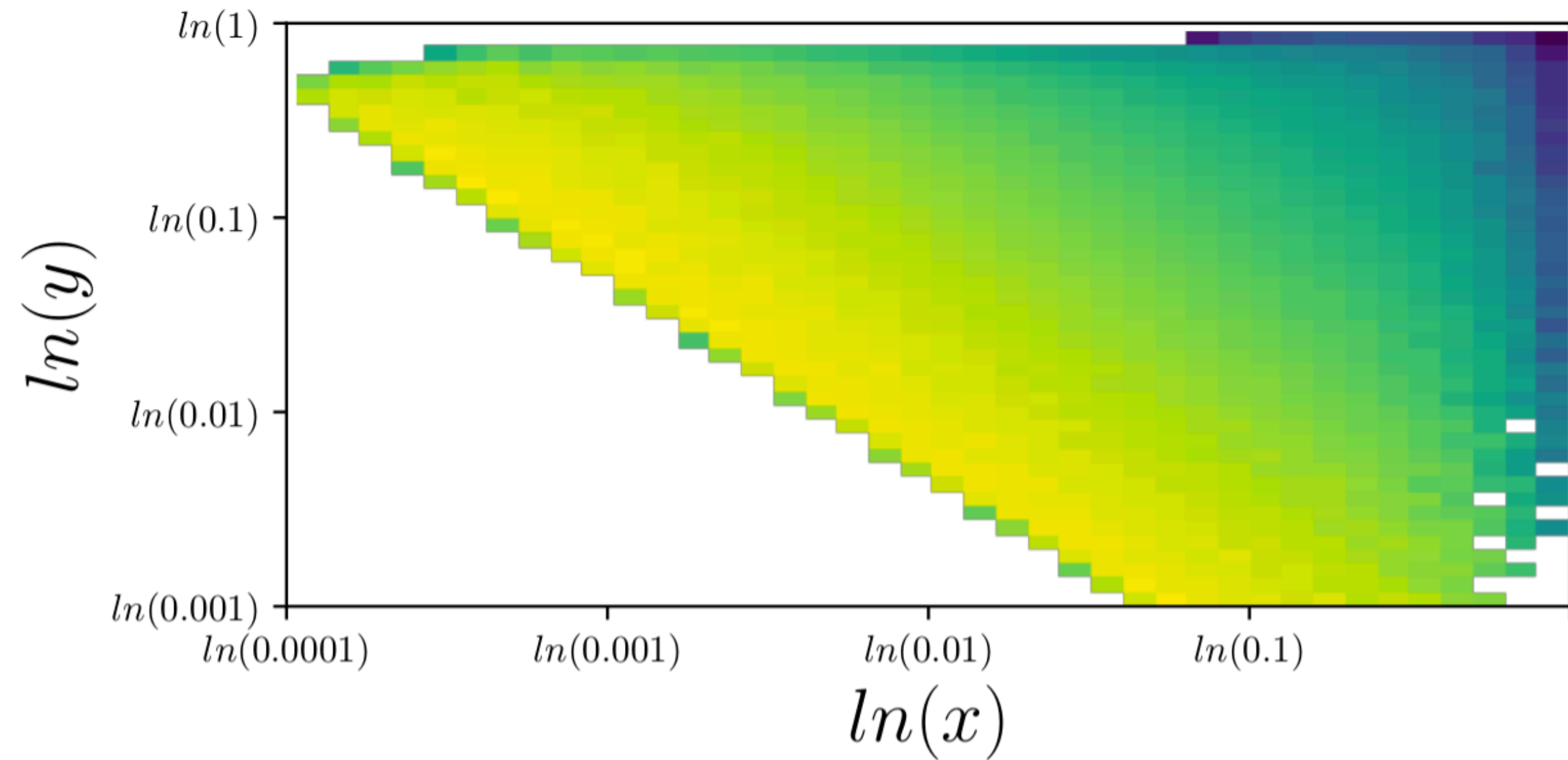
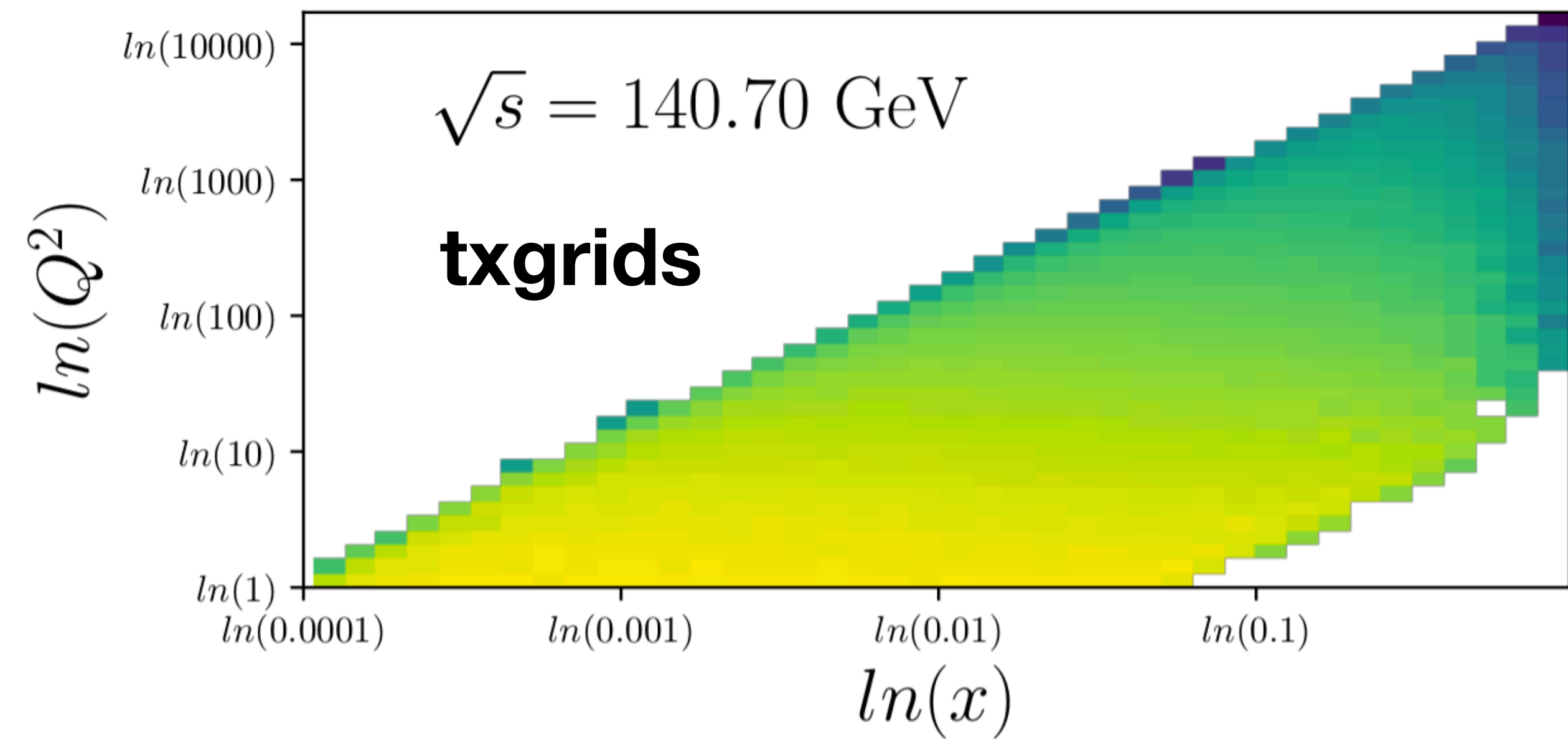
txgrids settings:

$\sqrt{s} = 140.7$  GeV

kinematic cut:

- $0.0001 < x < 1$
- $0.001 < y < 0.95$
- $1 < Q^2 < 10^5$
- $W^2 > 10$

events: 100000



trueQ2 vs. trueX

trueY vs. trueX