

Introduction

- analysis done with Francesco and Salvatore
- toyMC connected to `eic-smear` for both acceptance and smearing
- in `eic-smear` we use `SmearMatrixDetector_0_1_FF` with $|\eta| < 4.5$

MatrixDetector
0.1 with Far
Forward
detectors

1.1.0

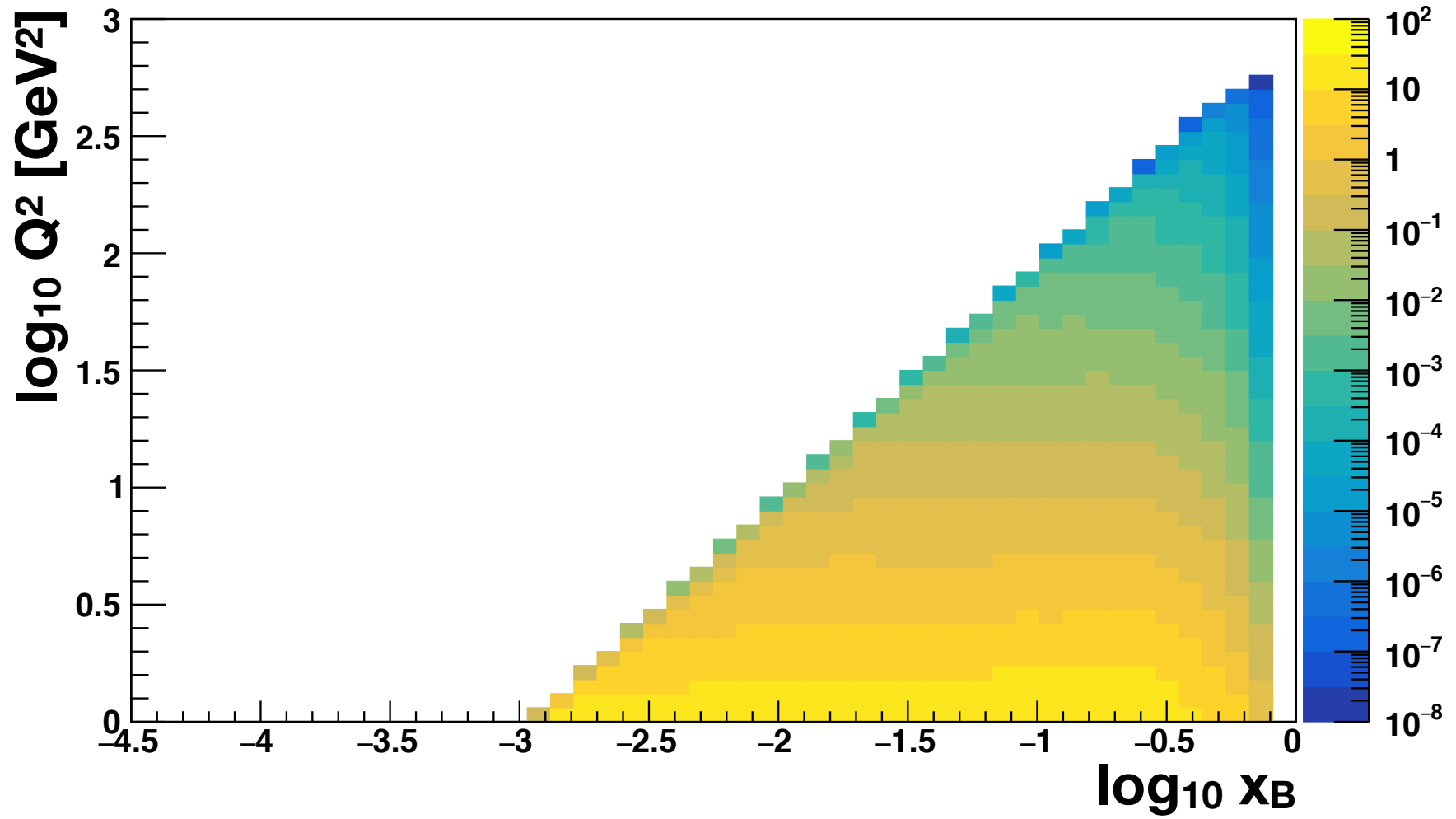
Based on the Detector Matrix from June 16 2020 with additional ZDC, B0, and Roman Pots, as found in the [Detector Forward-IR Wiki](#). The ZDC only accepts neutrons and photons by default. The Build function accepts the beam momentum per nucleon as an integer parameter. Only 275, 100, 41 (e+P), and 135 (e+D) are accepted. These are ROUGH approximations only!

from <https://github.com/eic/eicsmeardetectors>

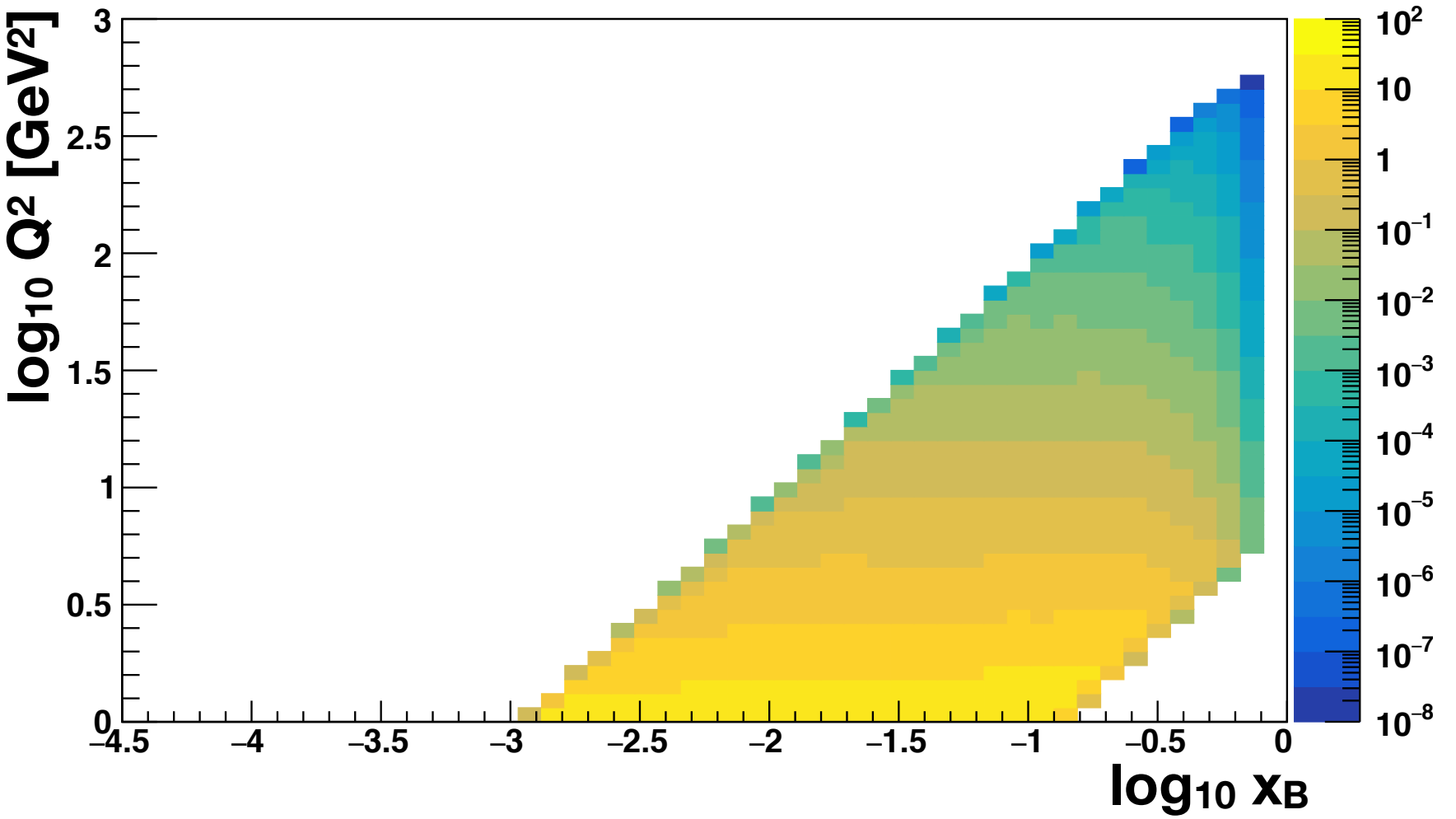
- today we check the effect of new acceptance cut ($|\eta| < 3.5$) and smearing of y
- analysis only for DVCS

new acceptance: 5 x 41

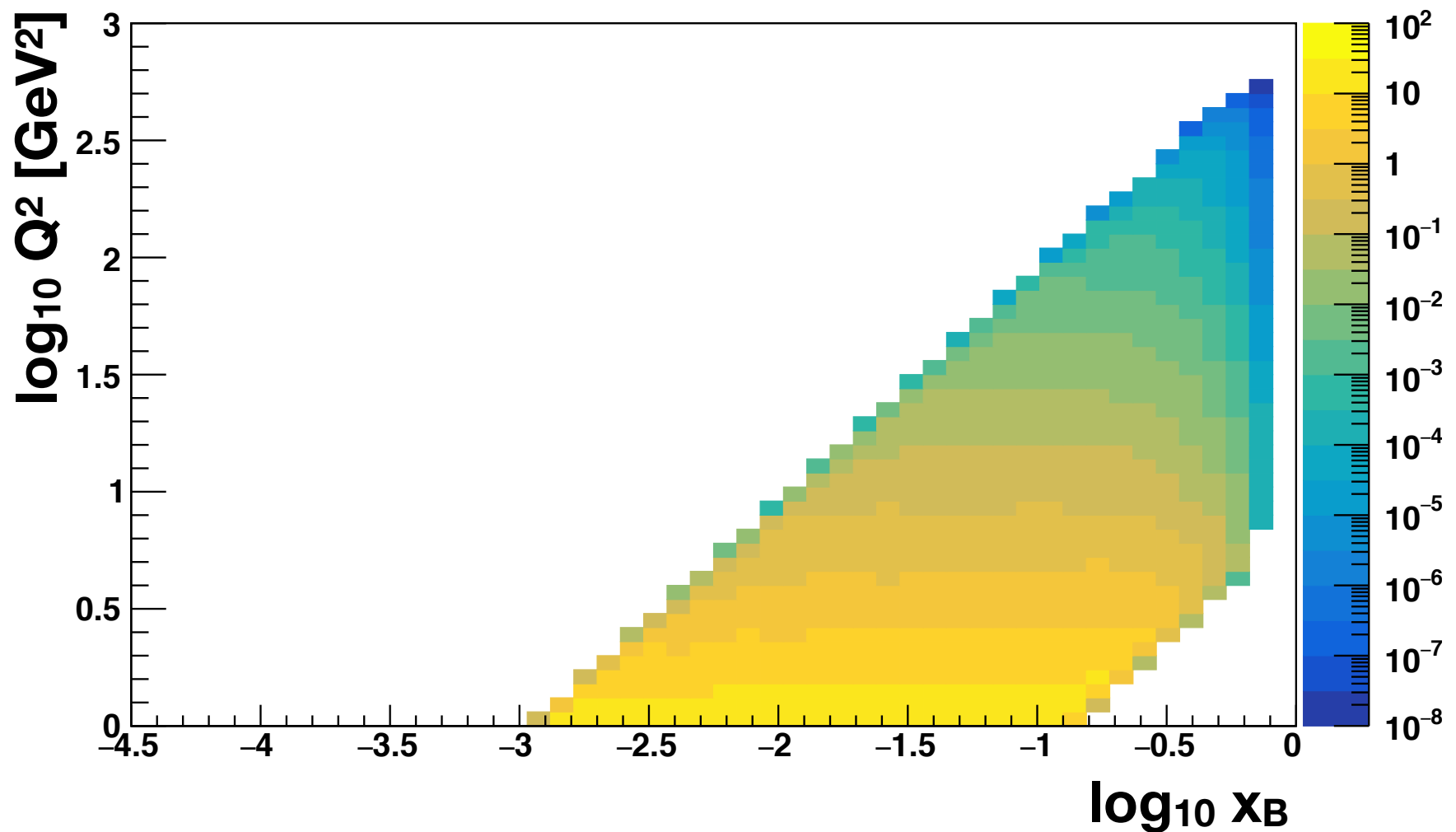
generated



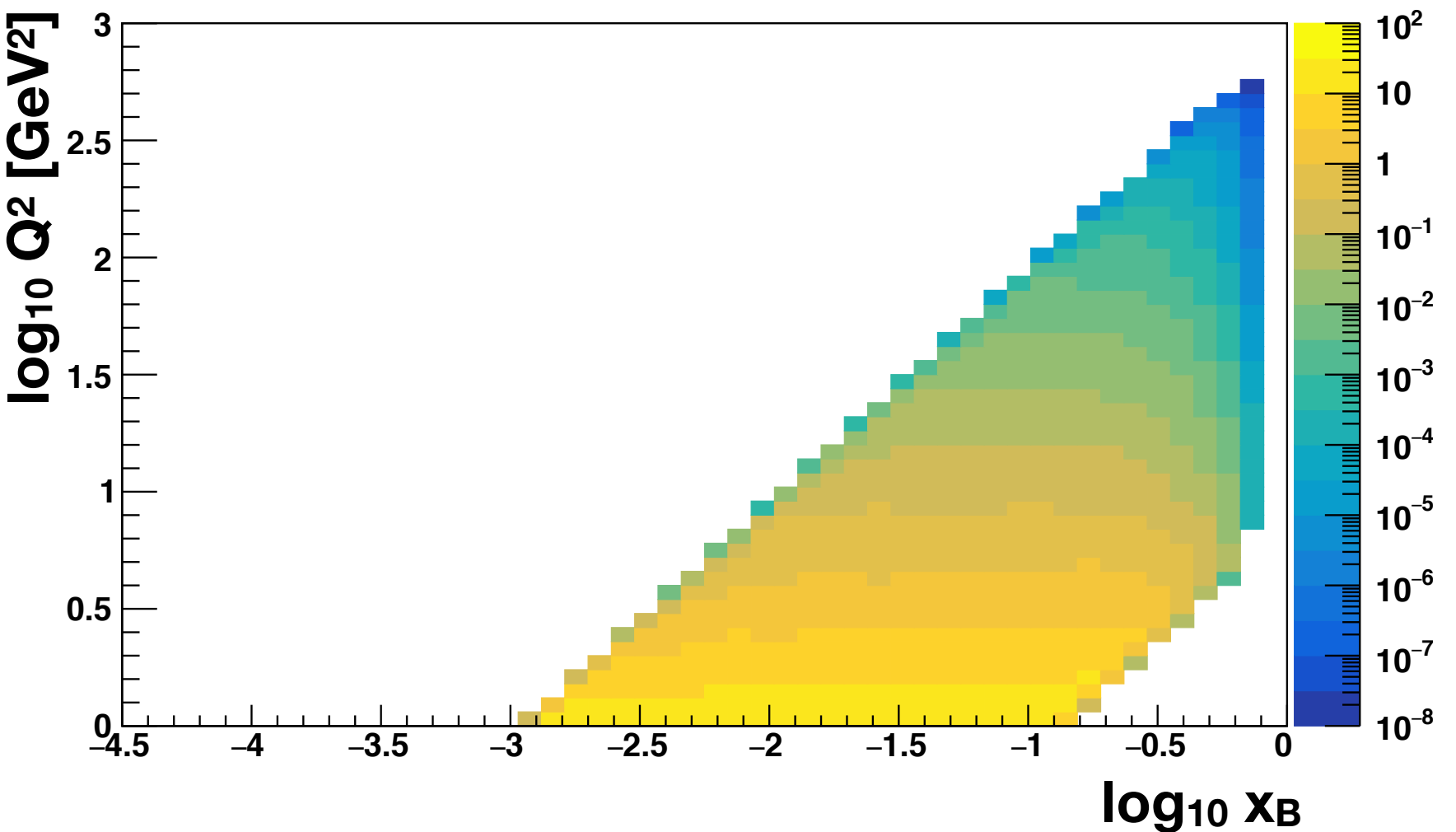
$y > 0.01$



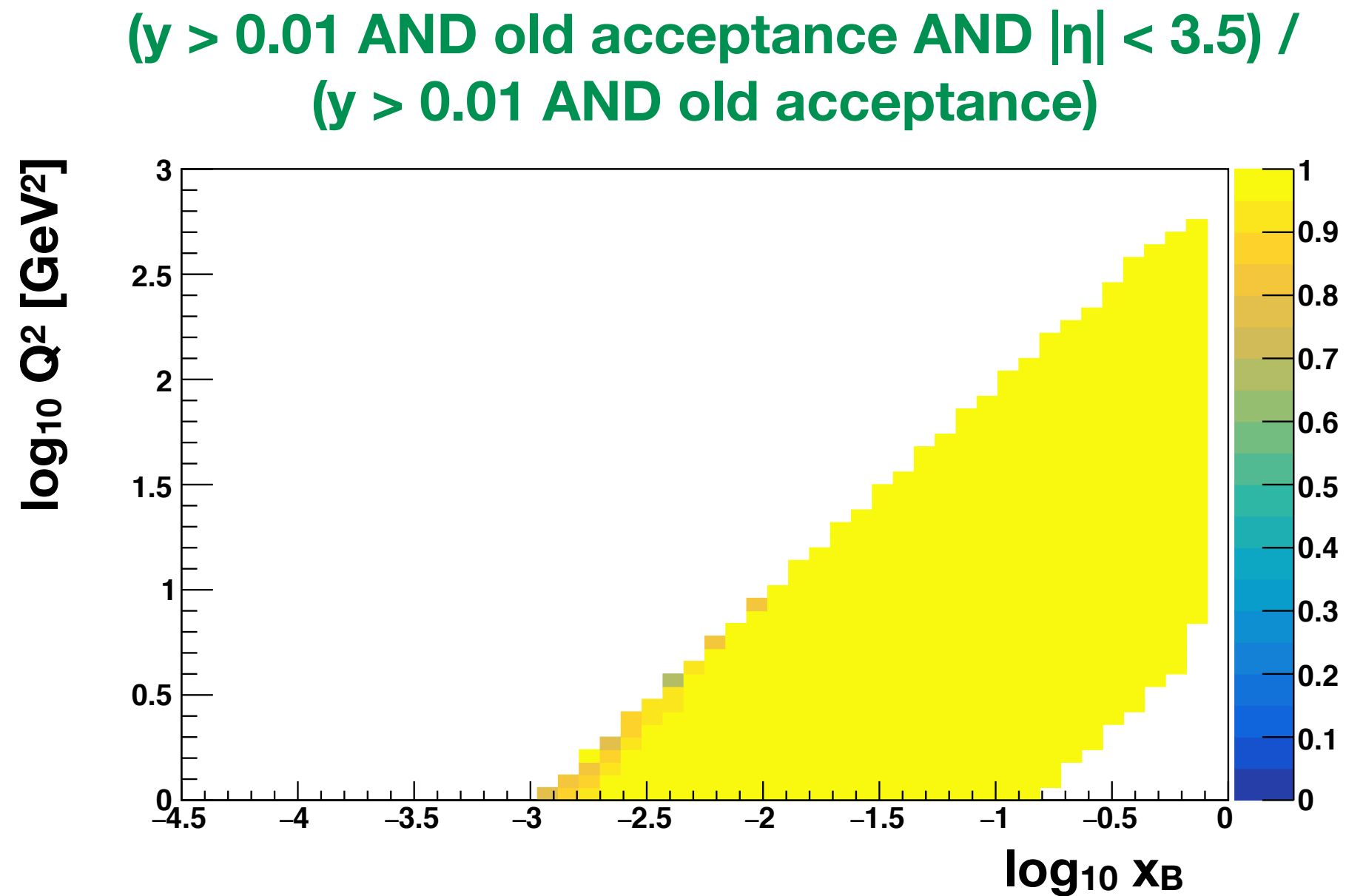
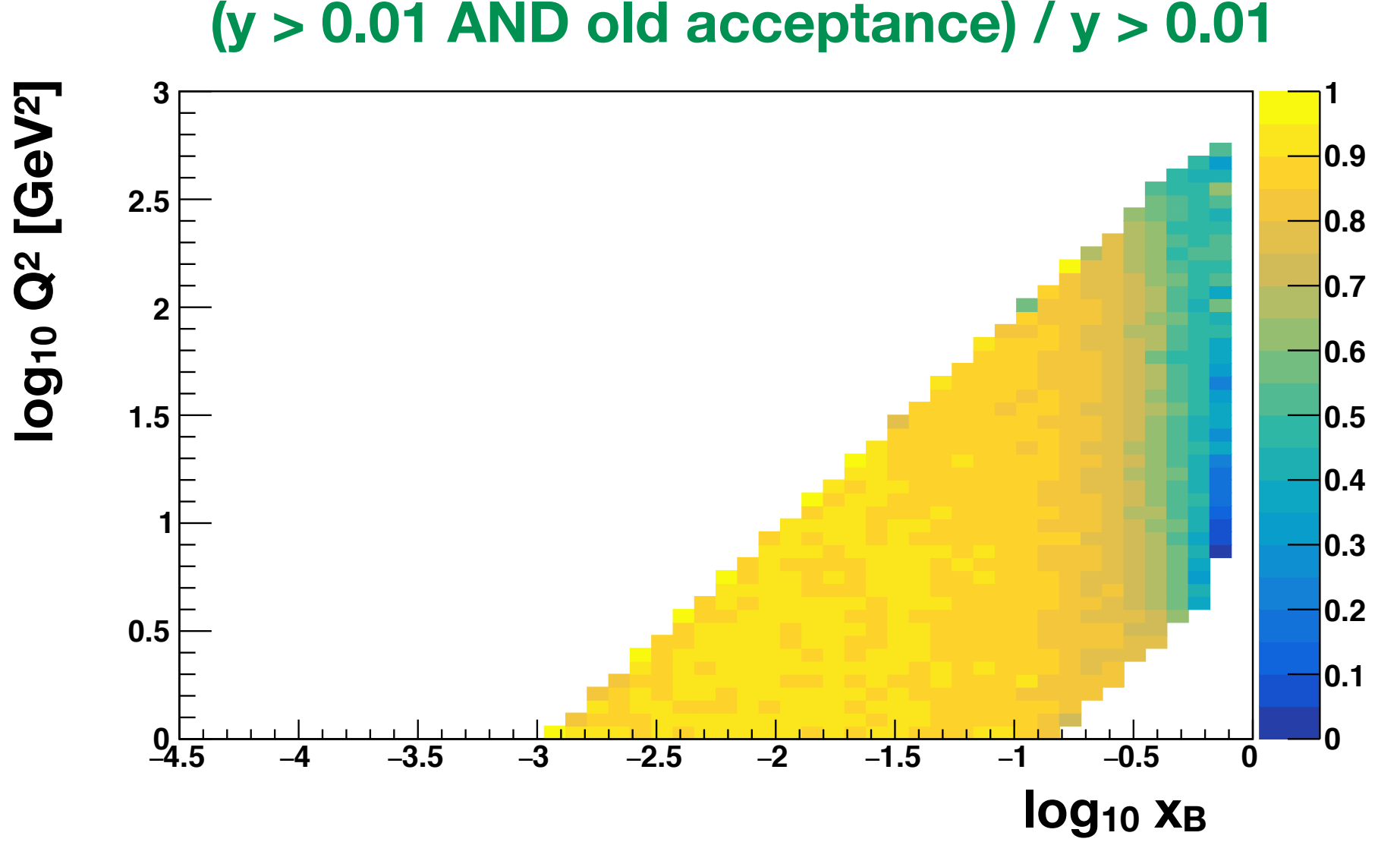
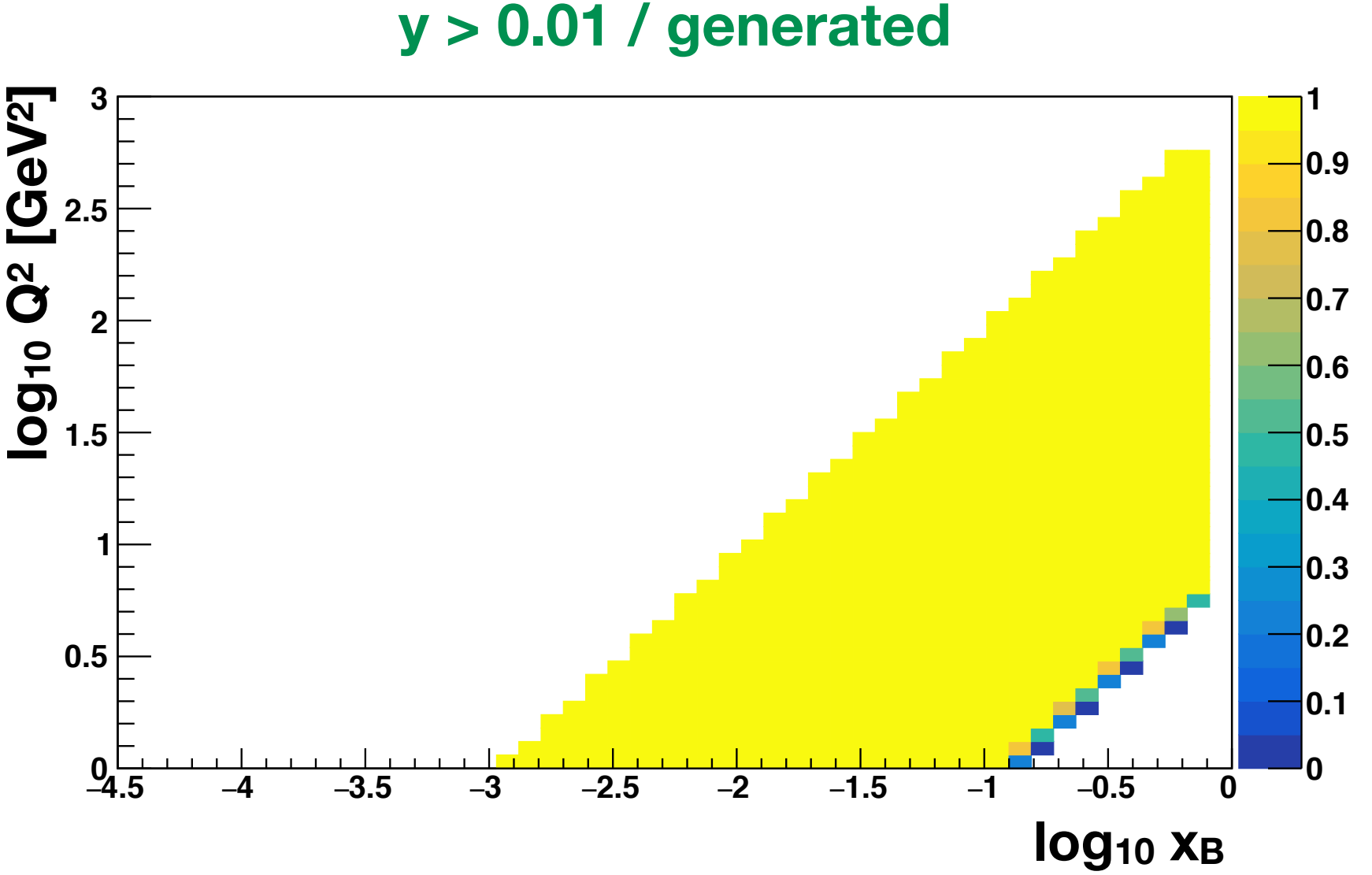
$y > 0.01$ AND old acceptance



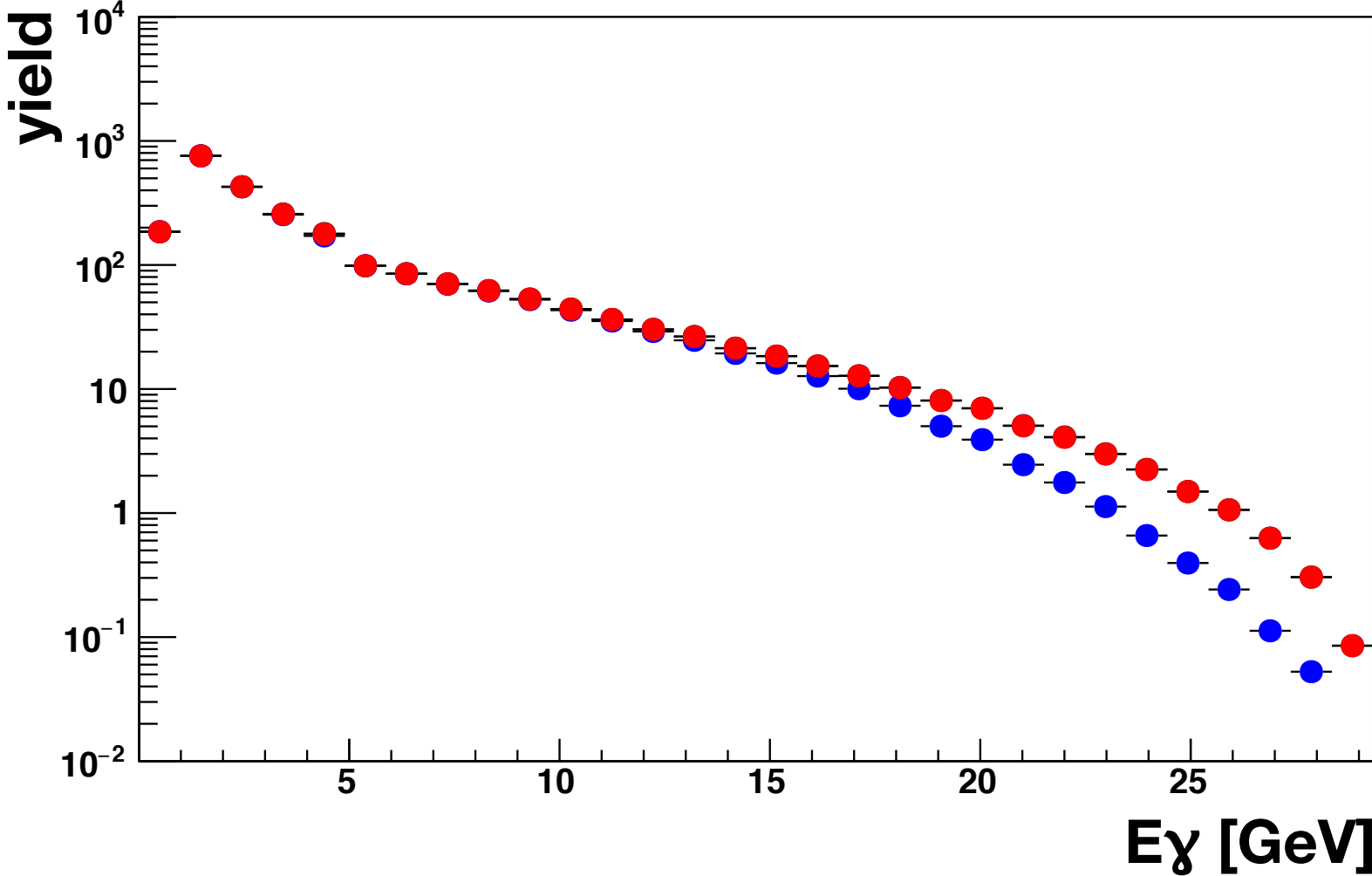
$y > 0.01$ AND old acceptance AND $|\eta| < 3.5$



new acceptance: 5 x 41



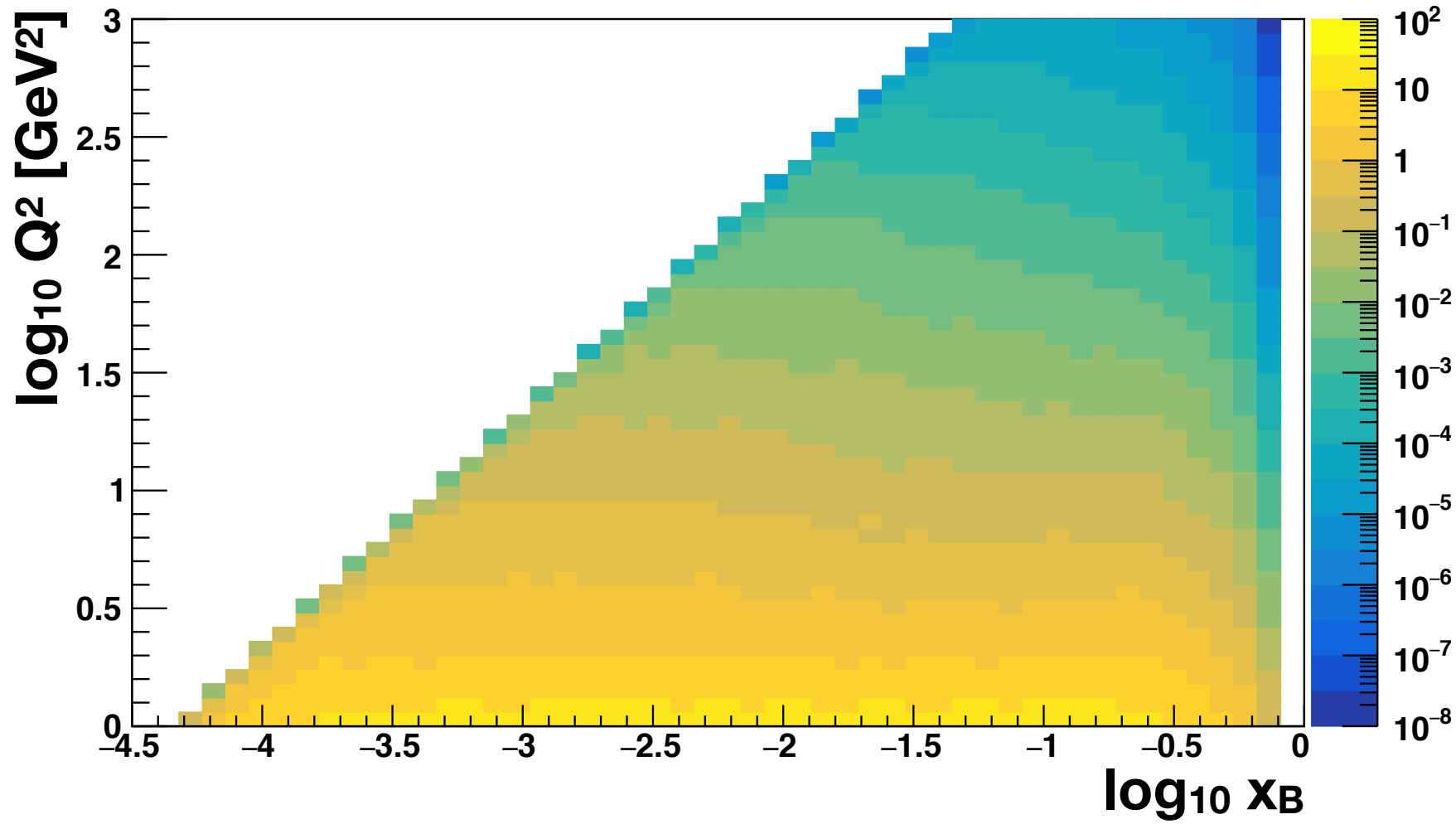
new acceptance: energy of DVCS photons: 5 x 41



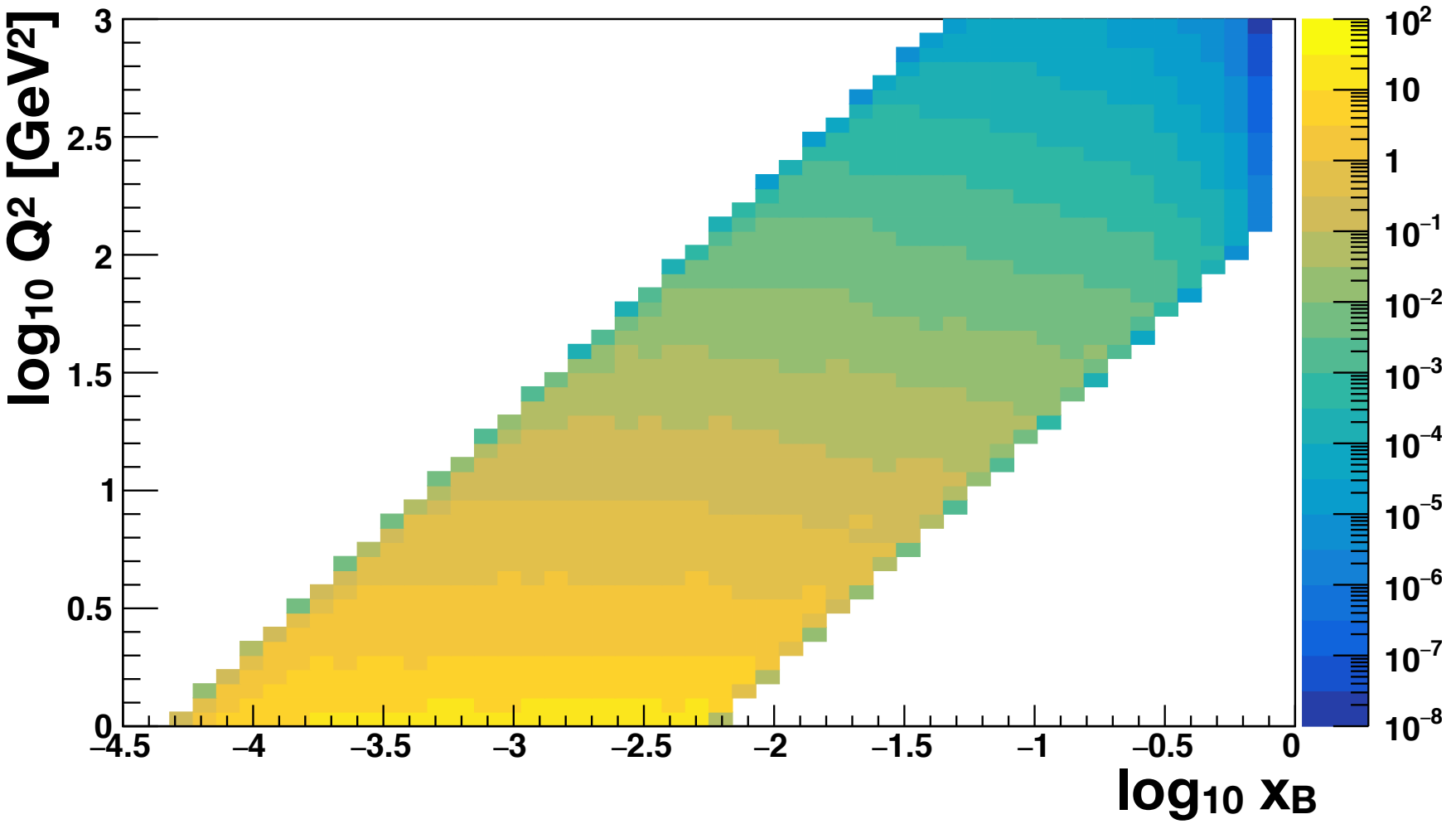
- generated
- accepted (old)
- accepted (old & $|\eta| < 3.5$)

new acceptance: 18 x 275

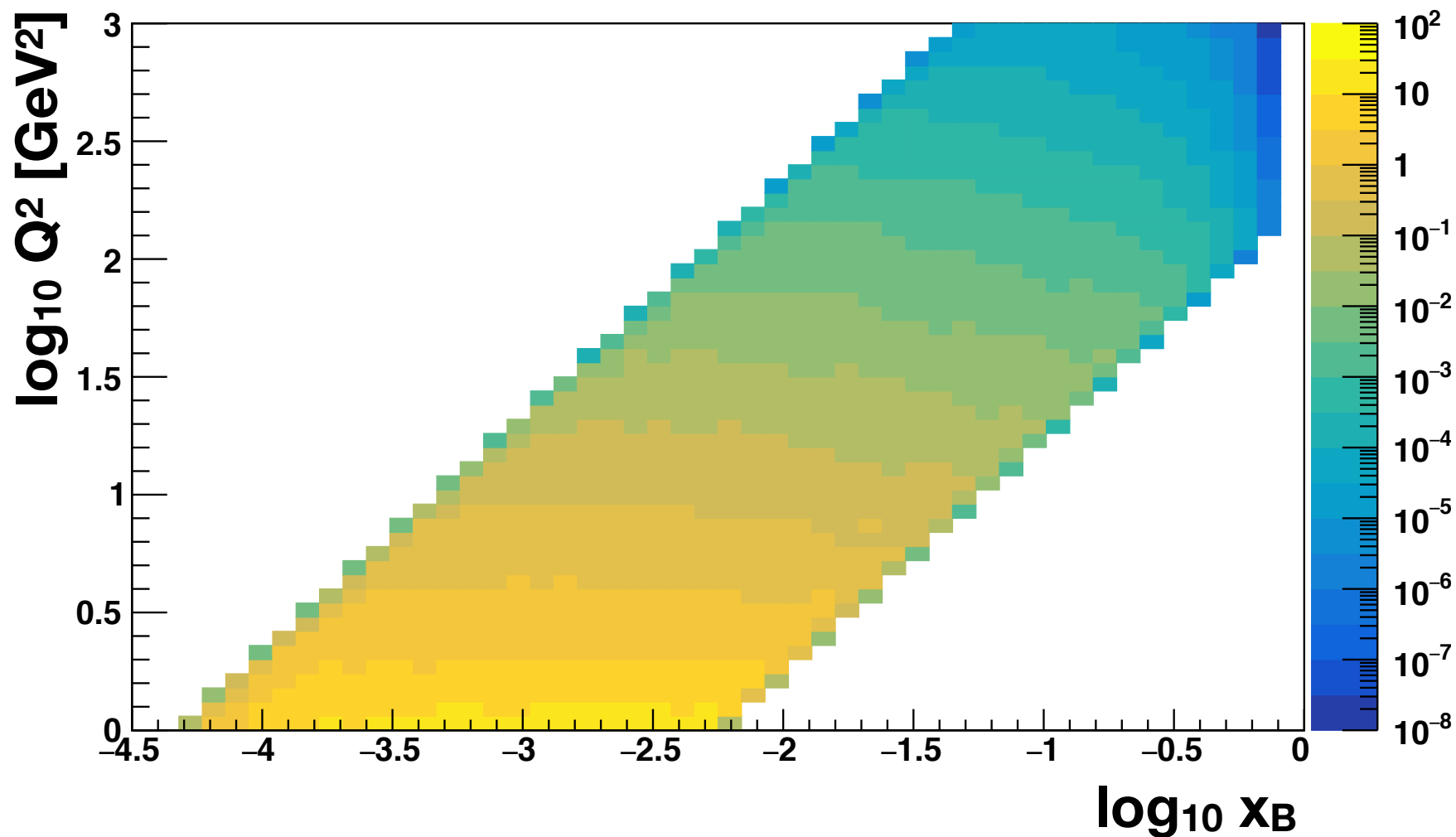
generated



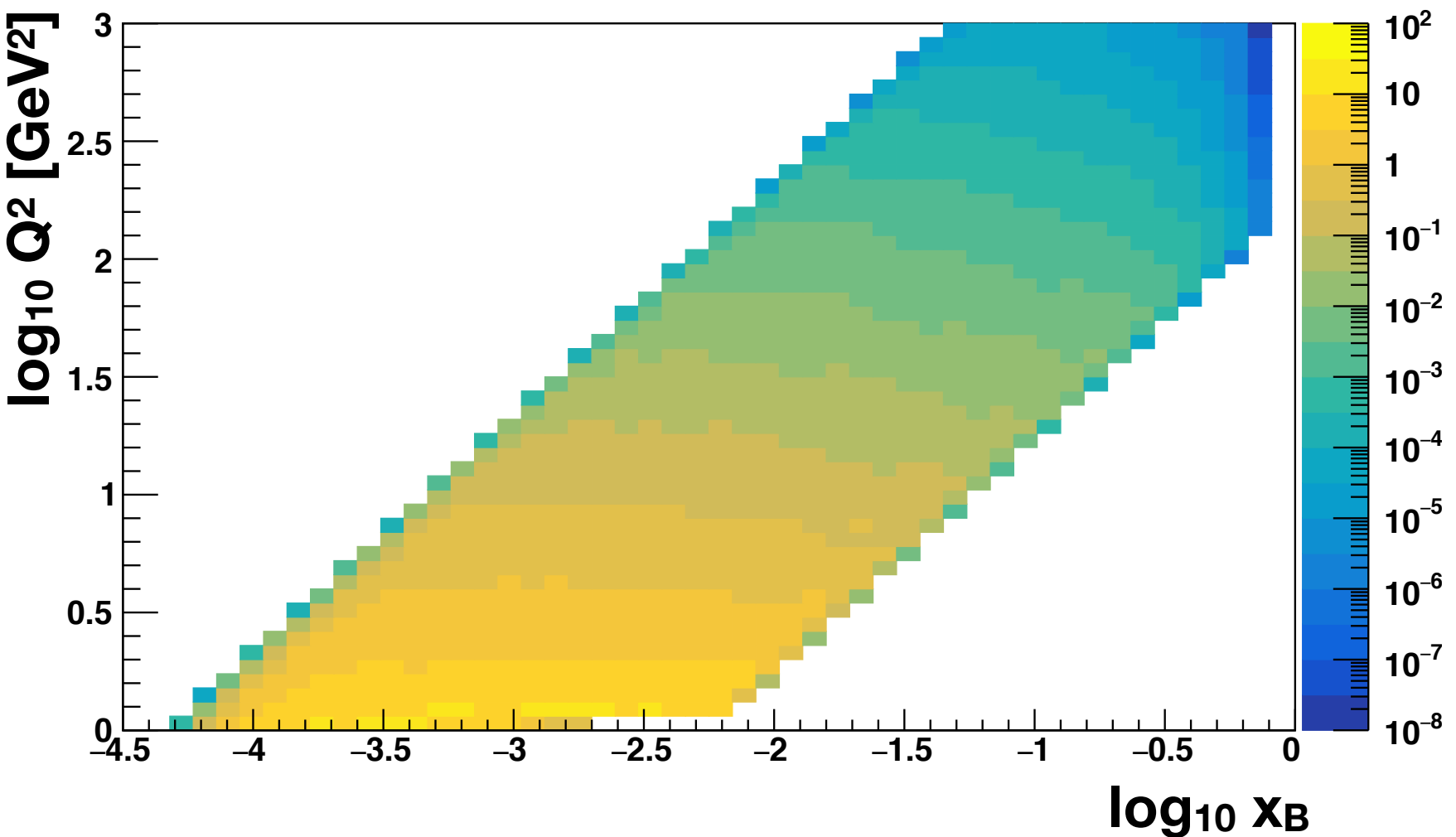
$y > 0.01$



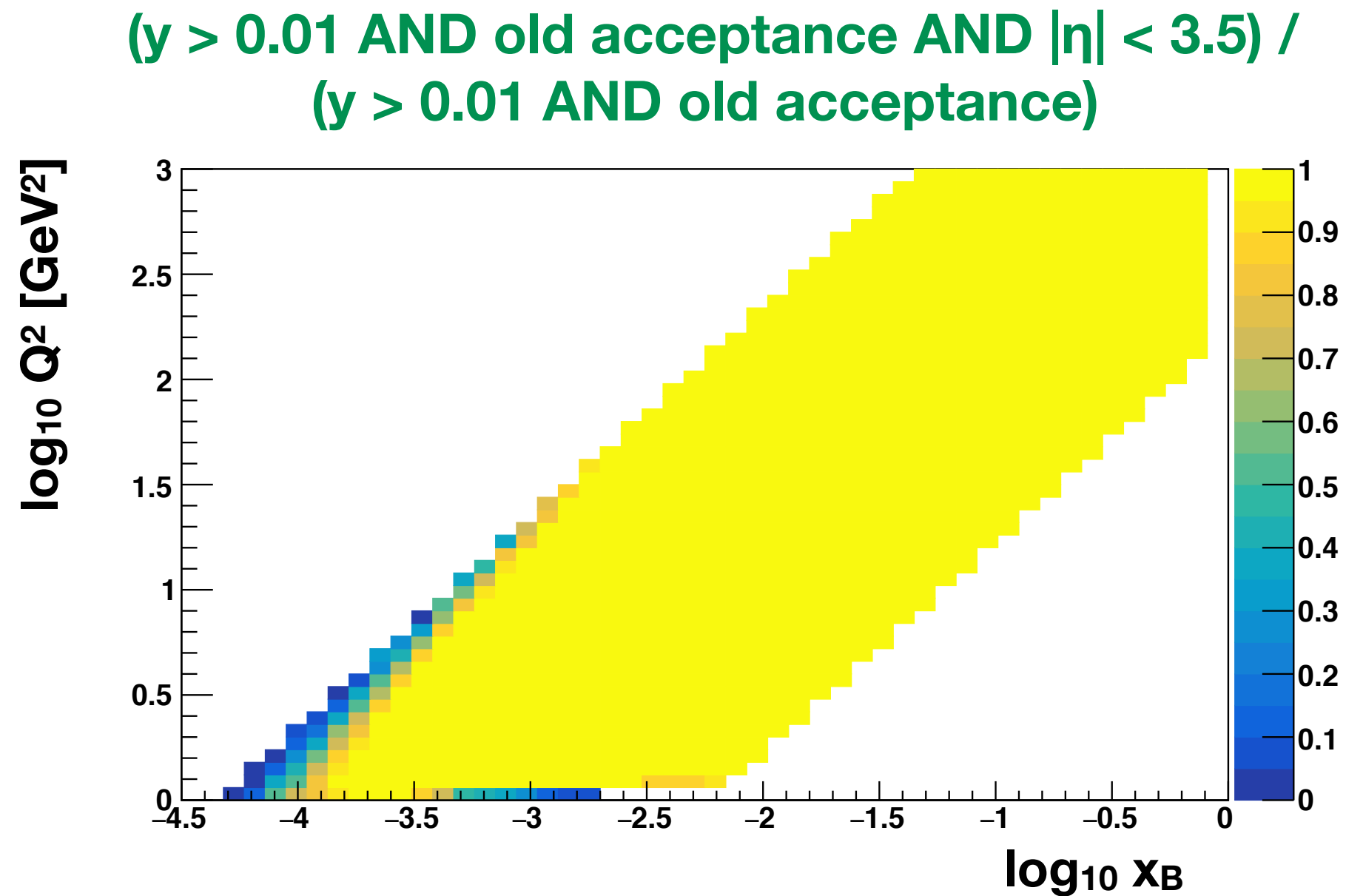
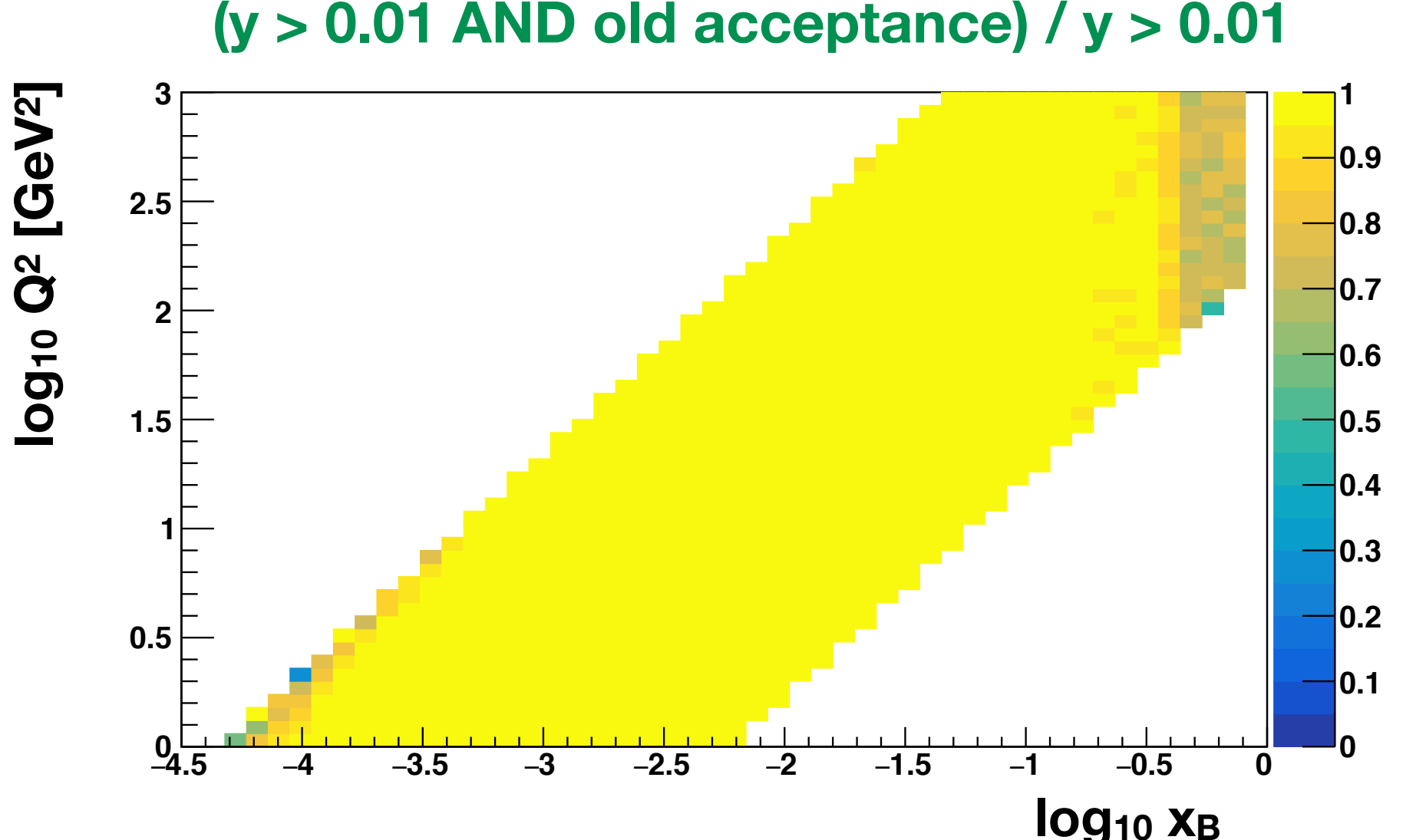
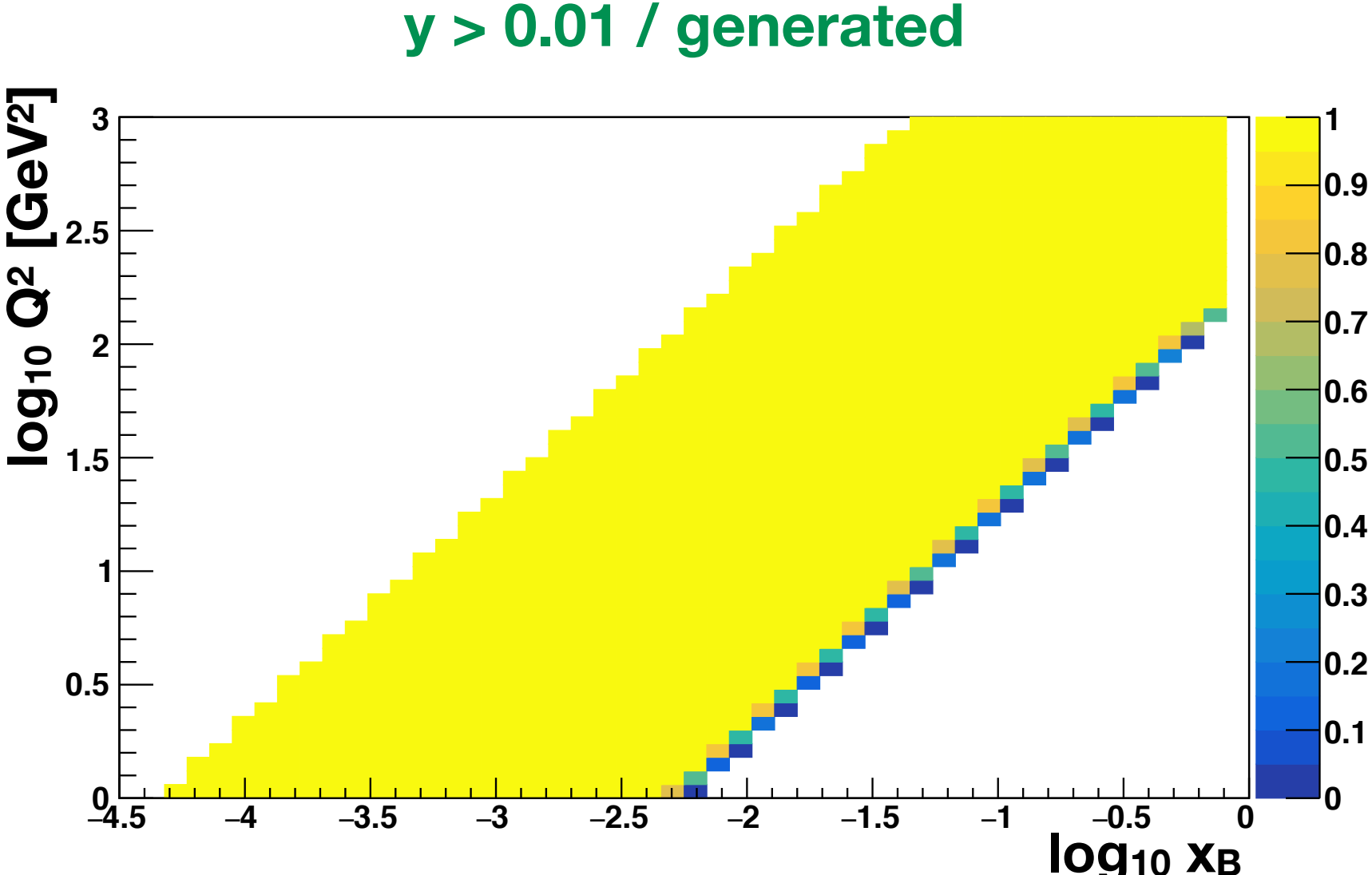
$y > 0.01$ AND old acceptance



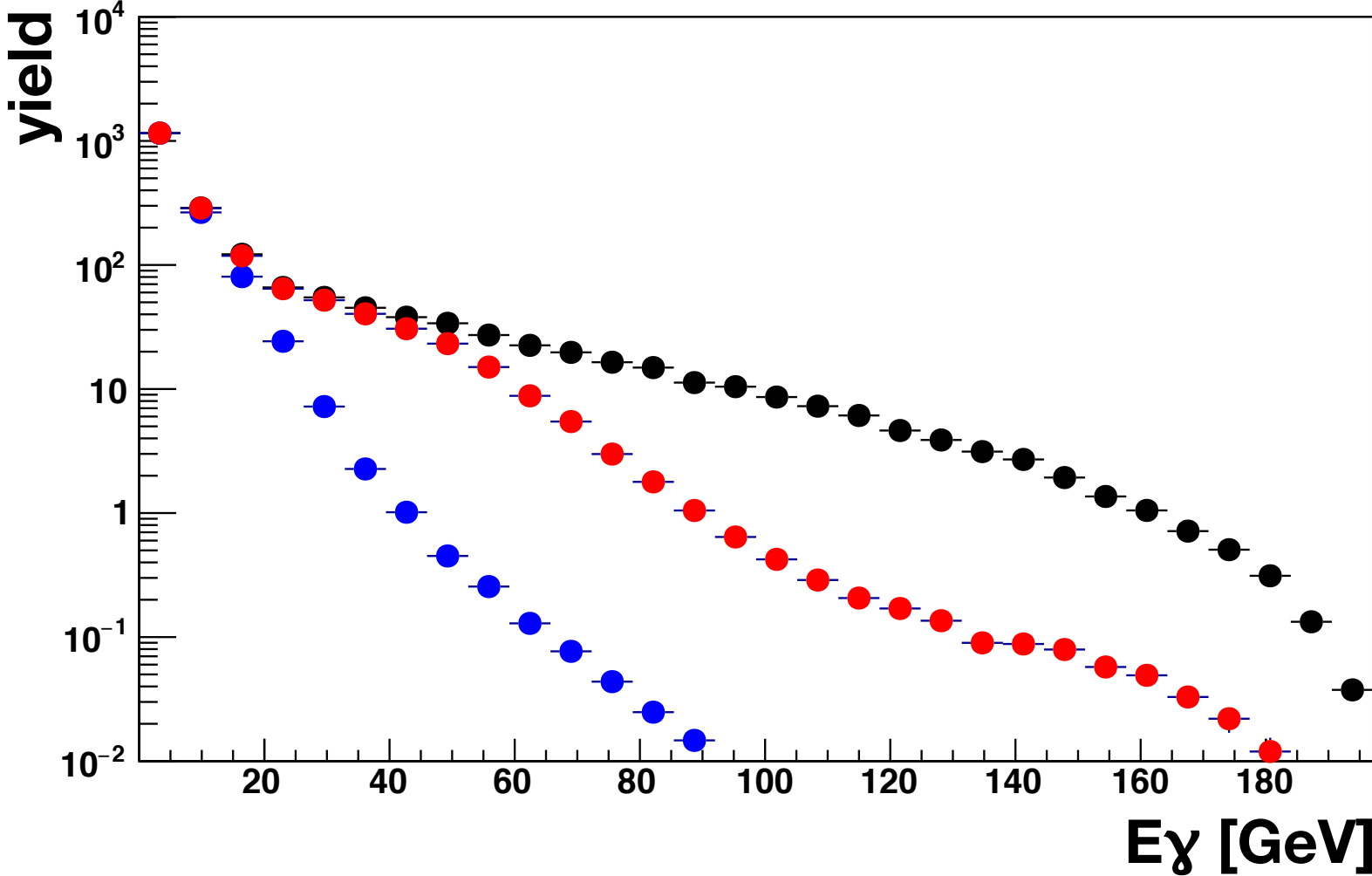
$y > 0.01$ AND old acceptance AND $|\eta| < 3.5$



new acceptance: 18 x 275

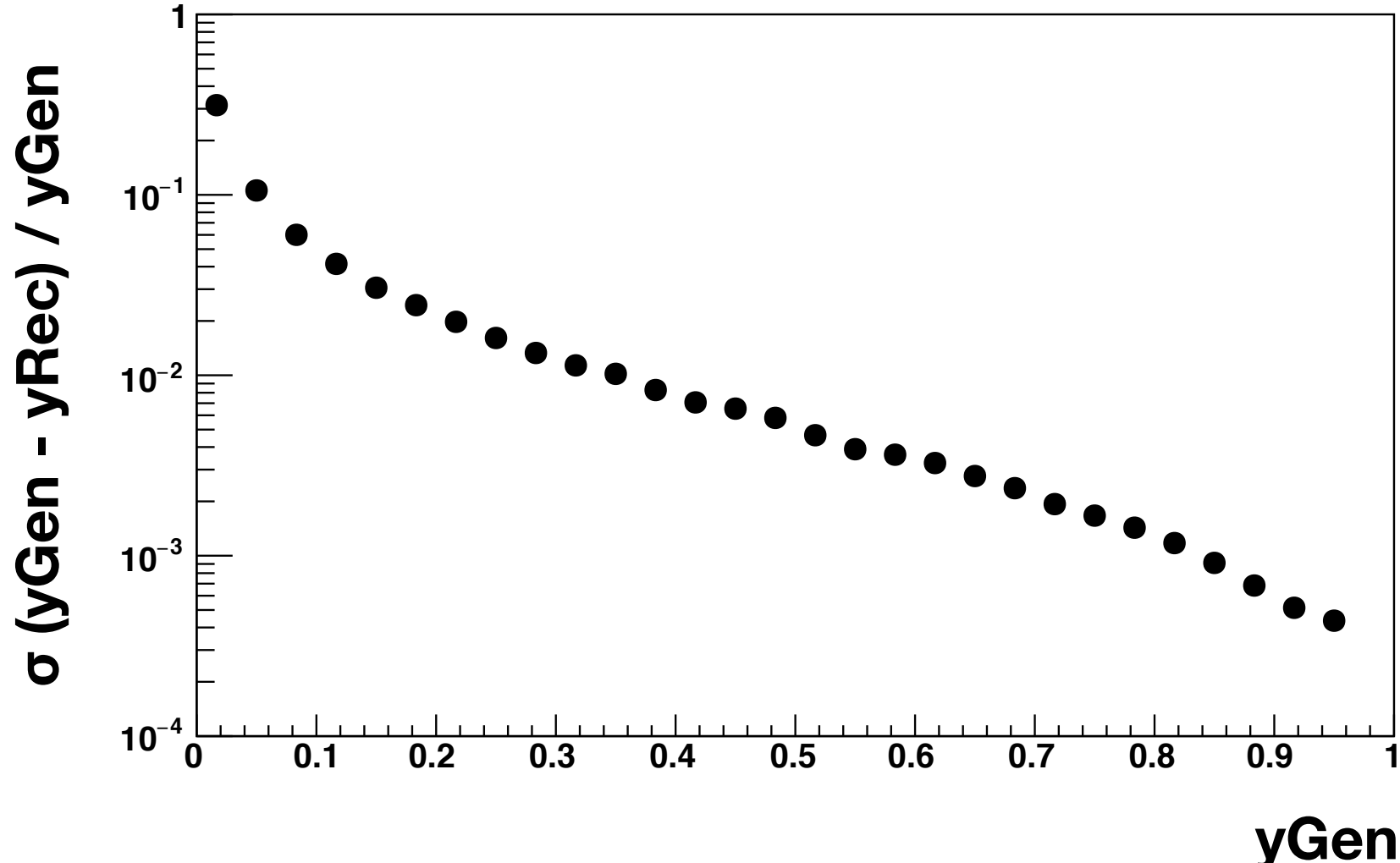
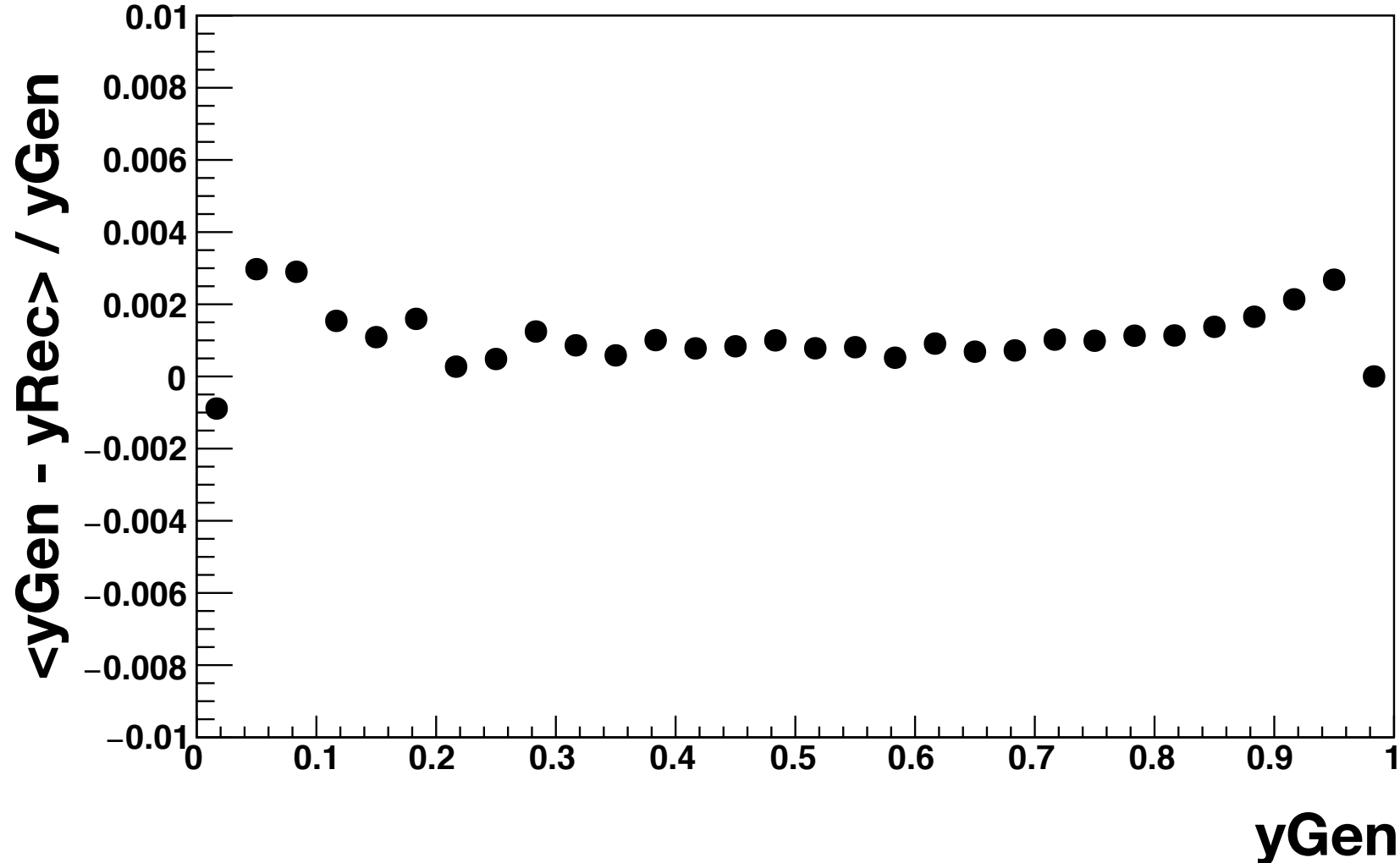
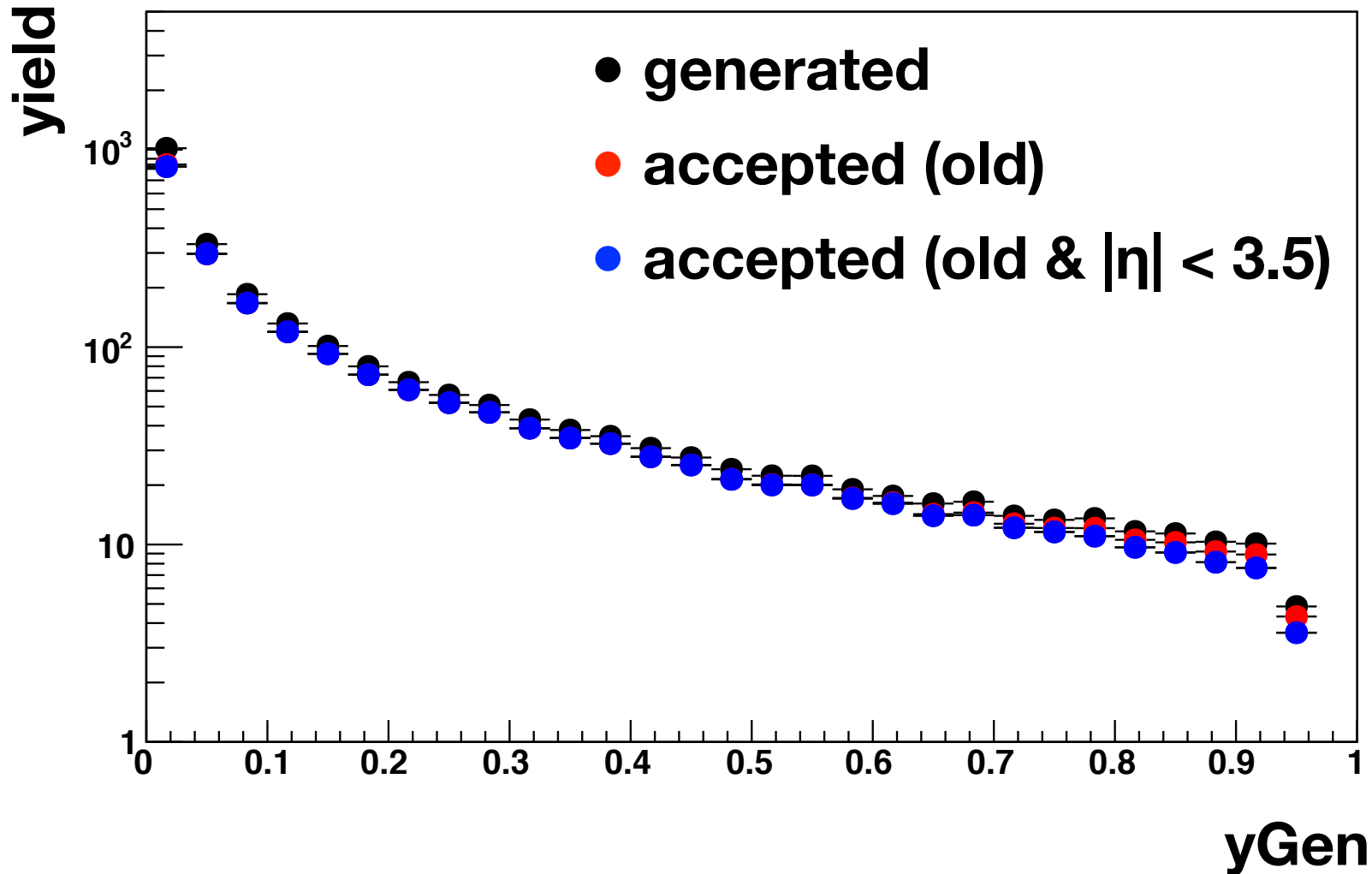


new acceptance: energy of DVCS photons: 18 x 275

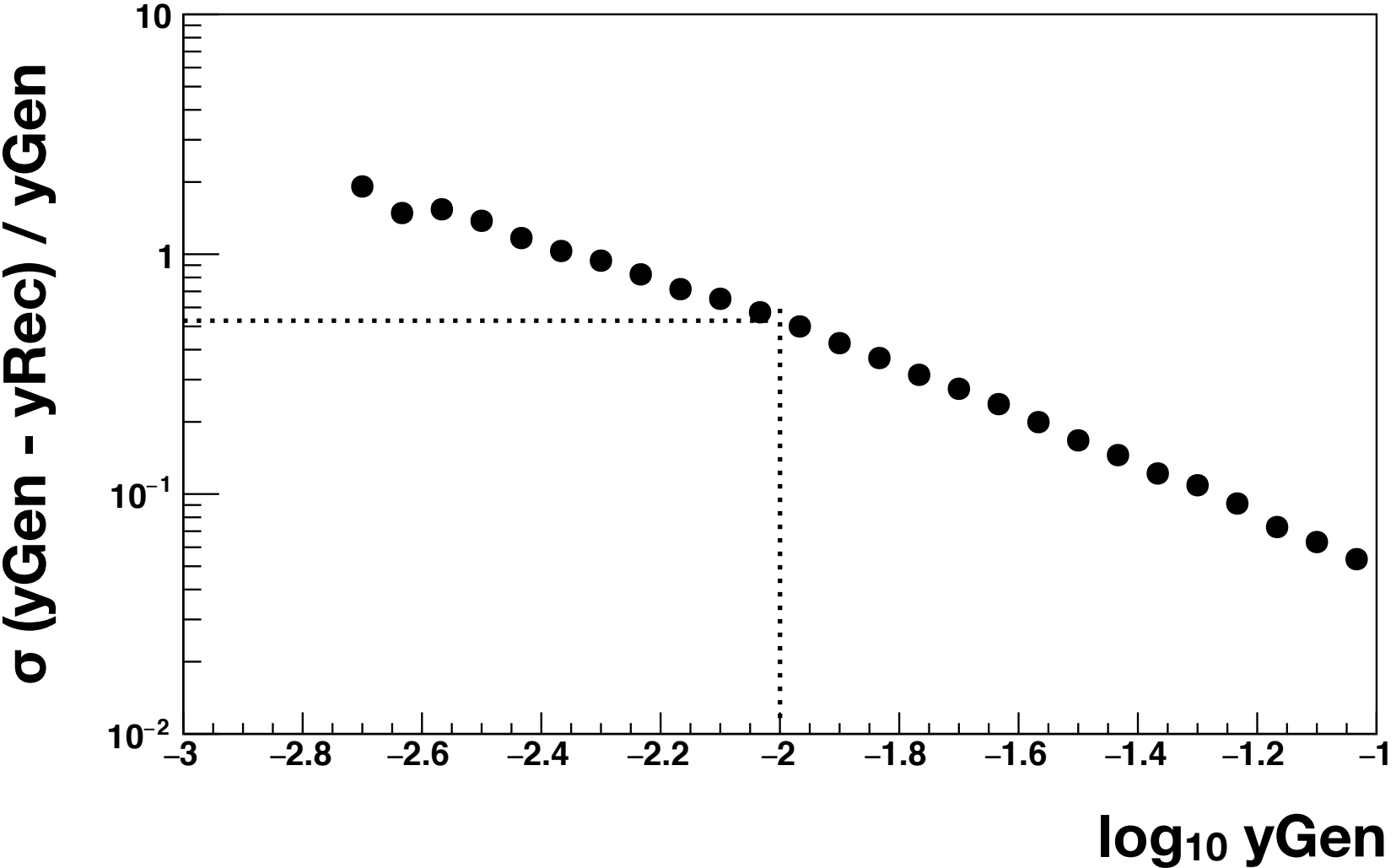
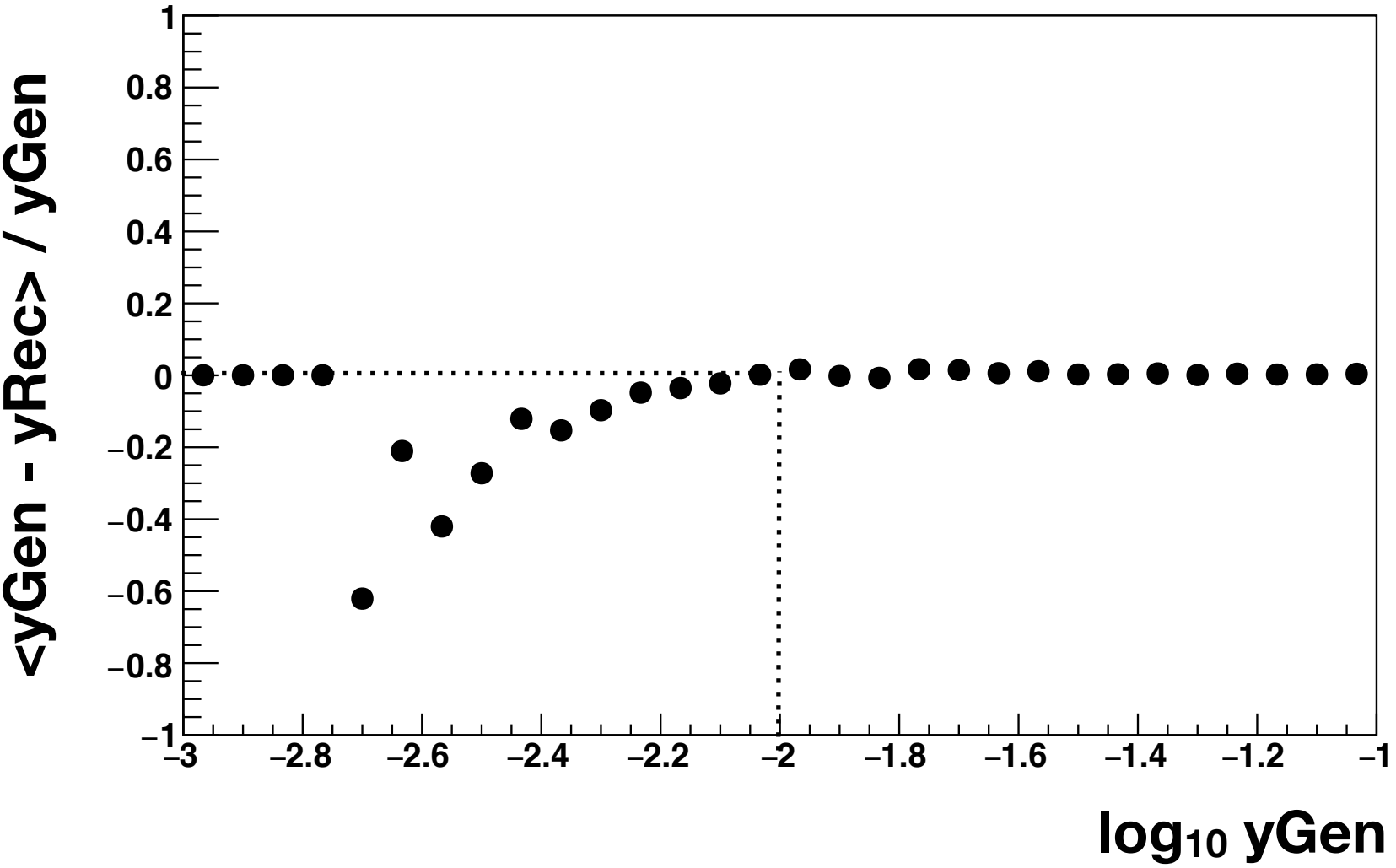
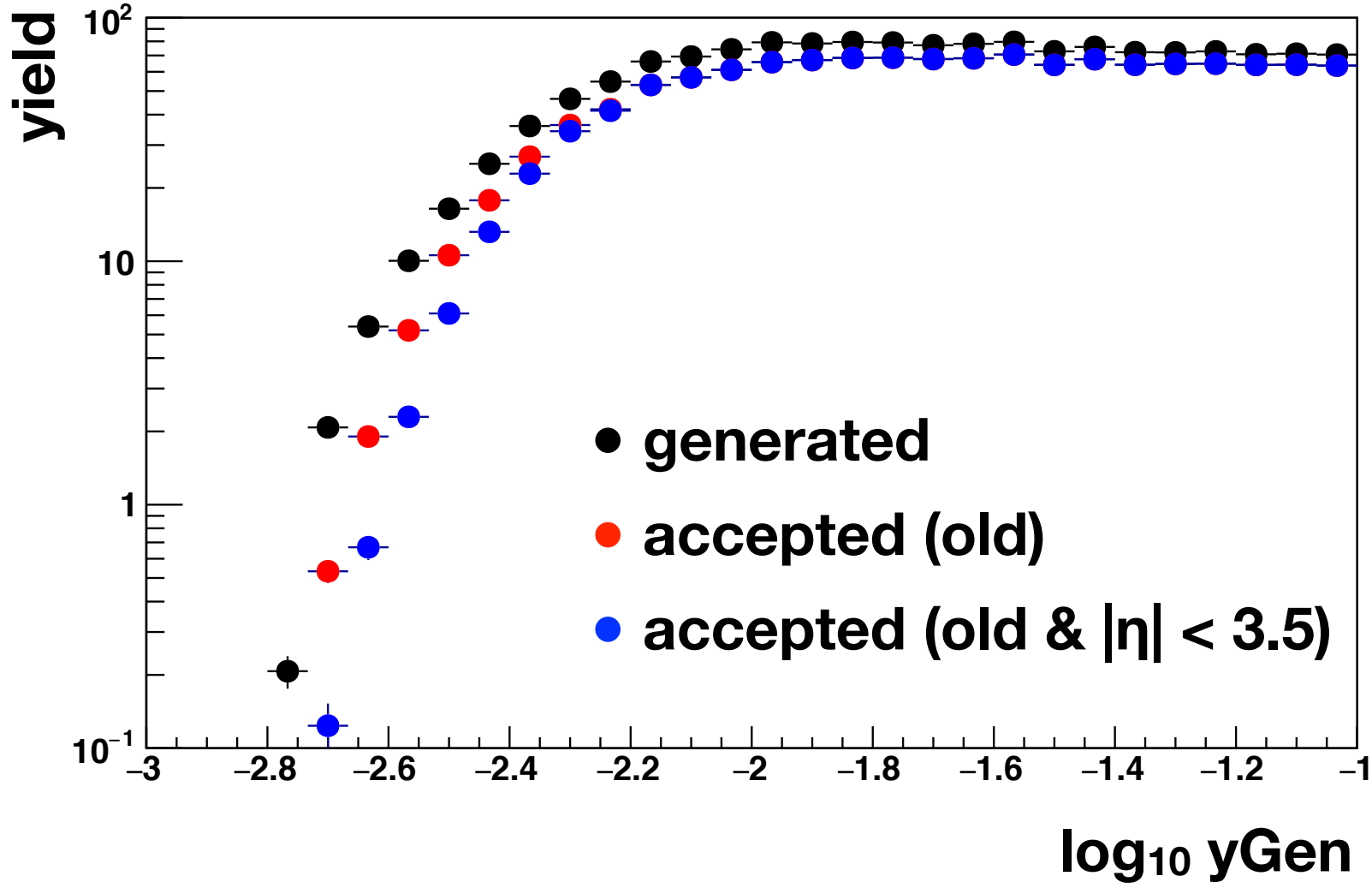


- generated
- accepted (old)
- accepted (old & $|\eta| < 3.5$)

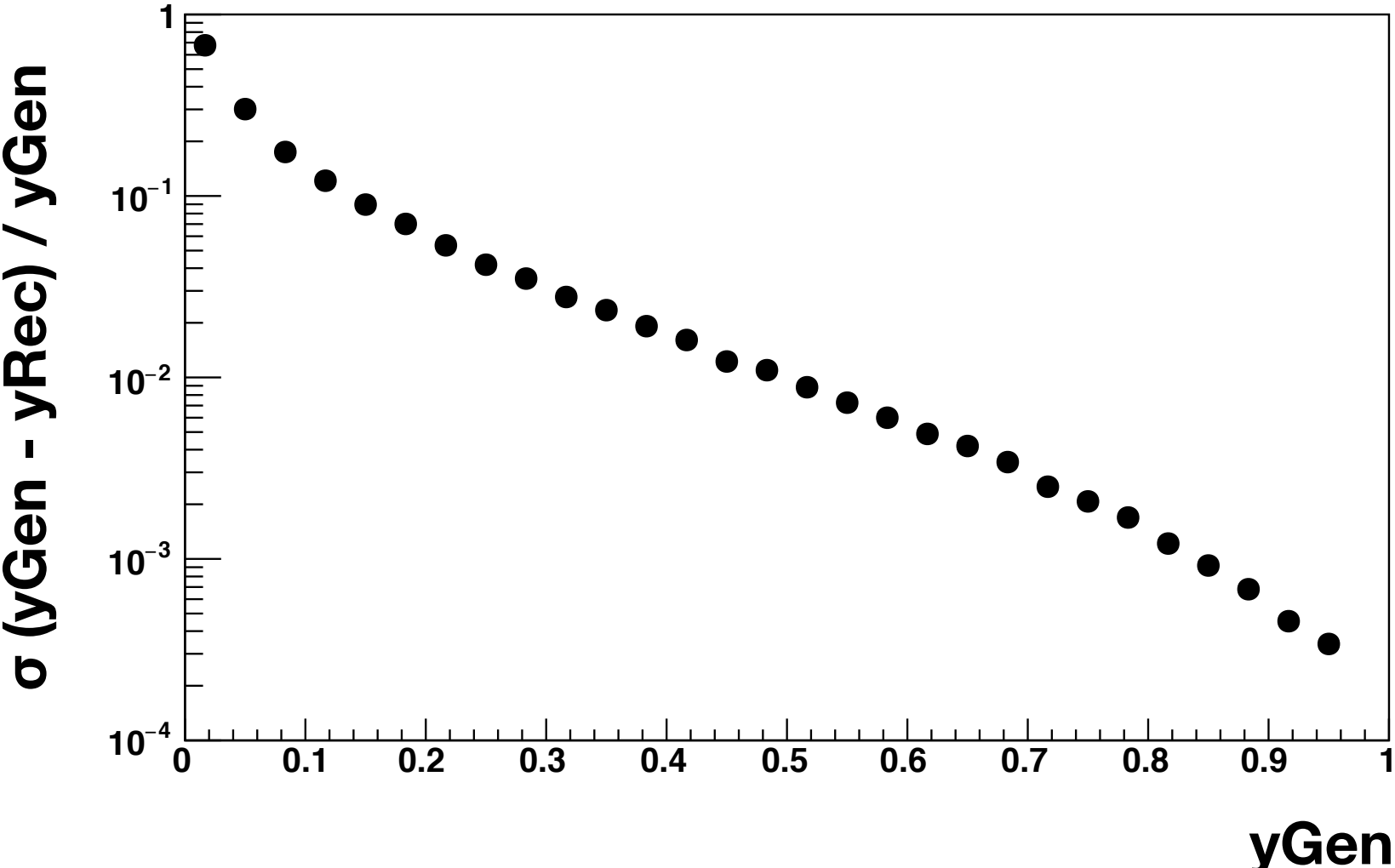
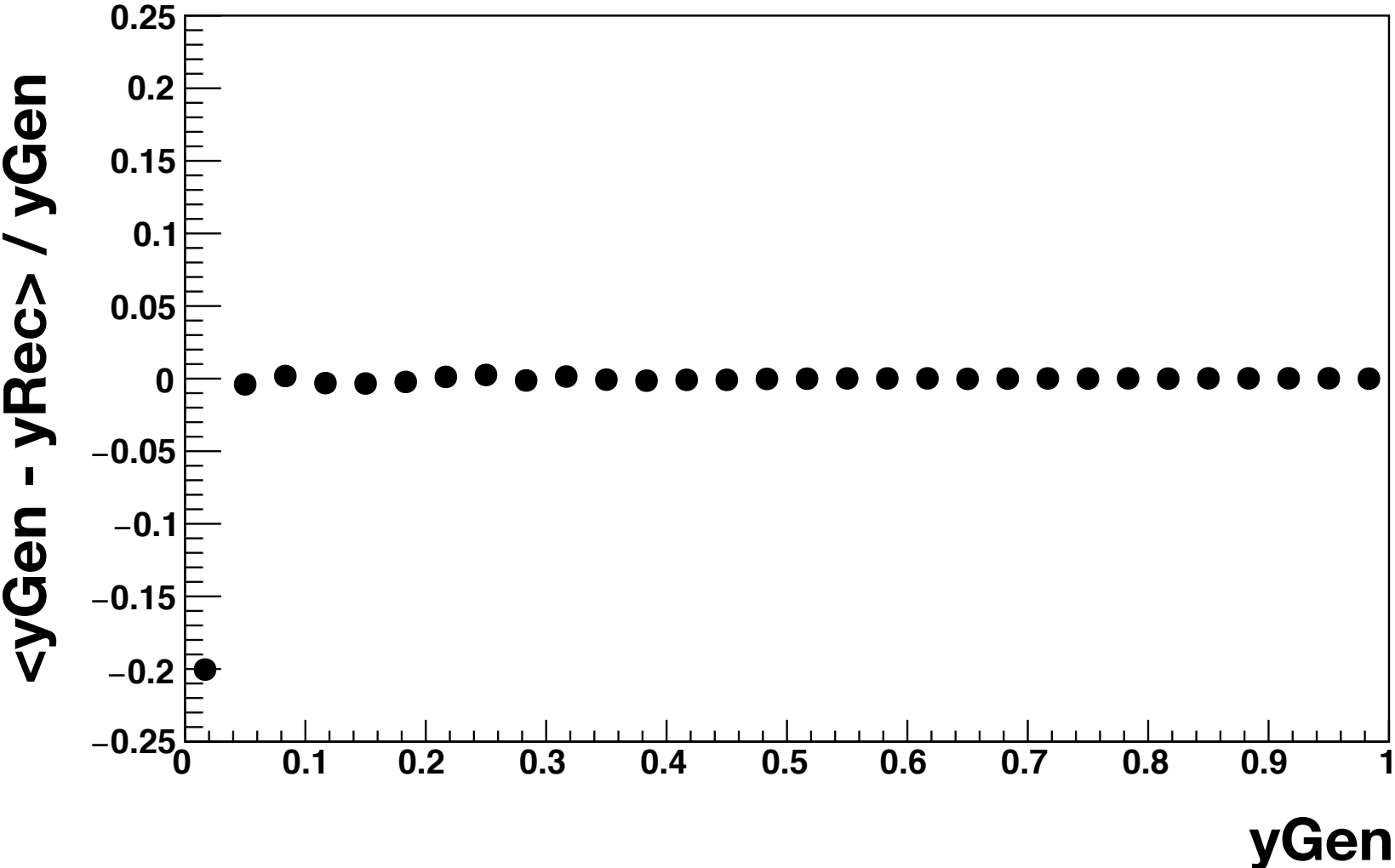
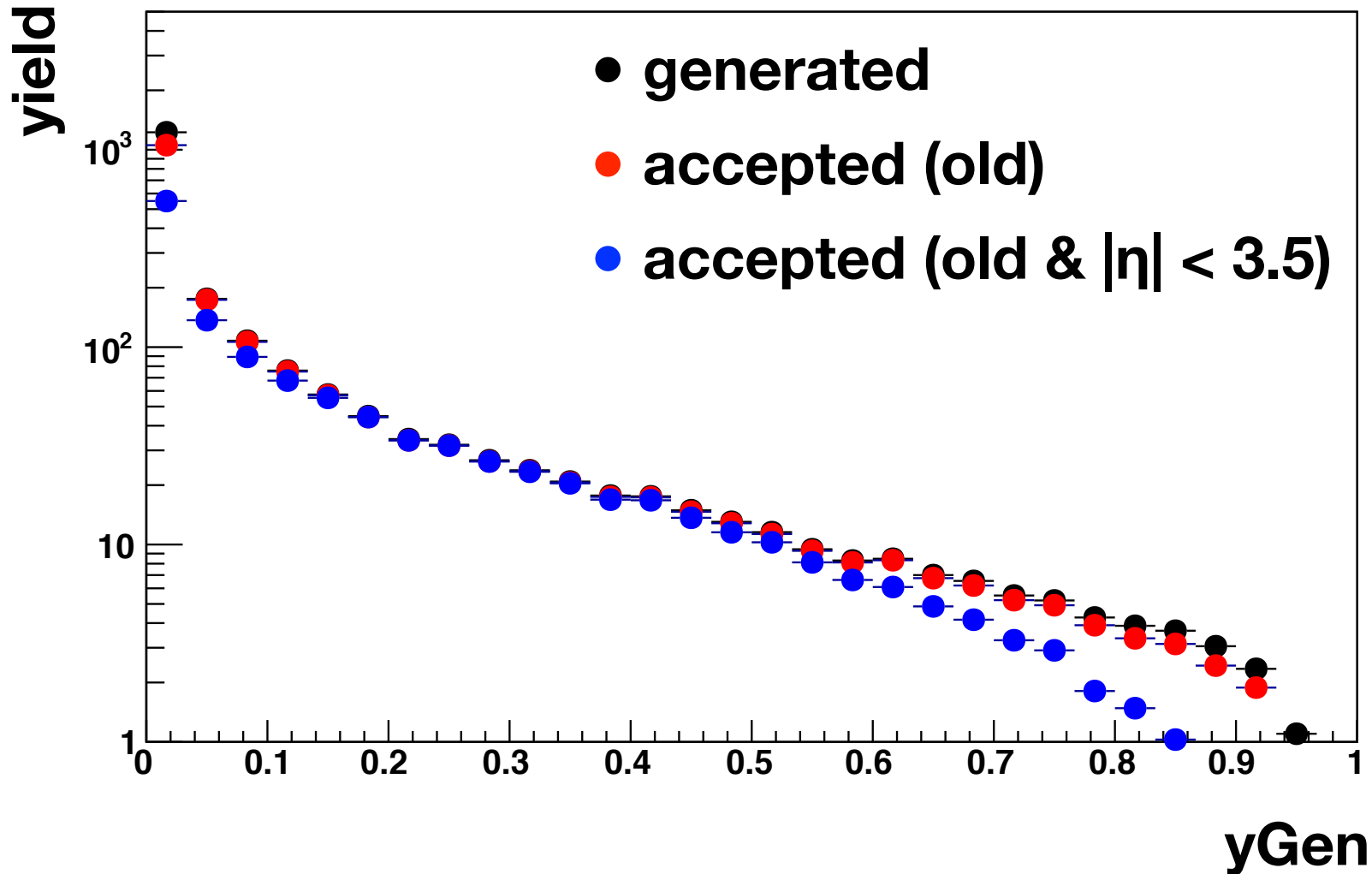
smearing of y: 5 x 41



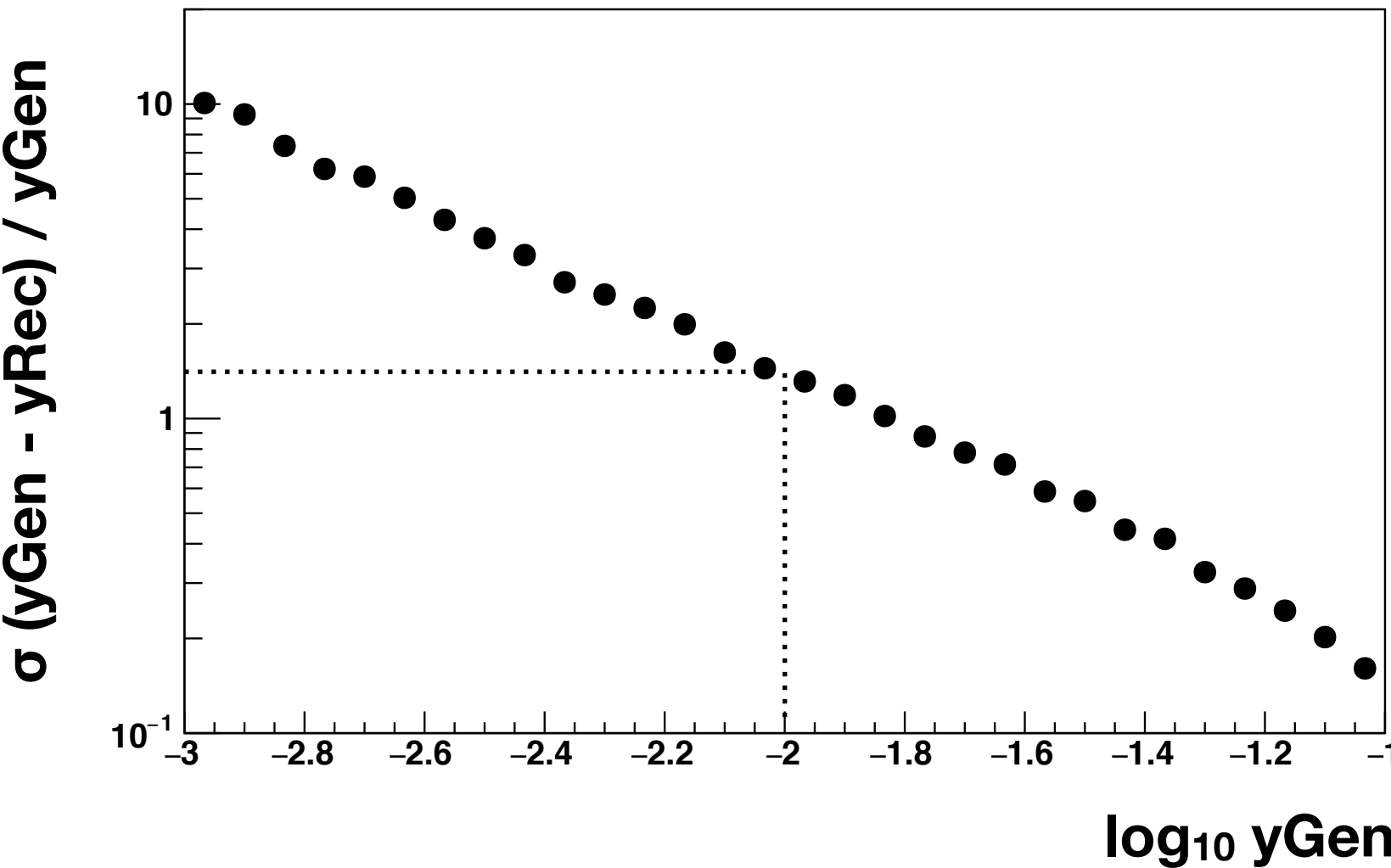
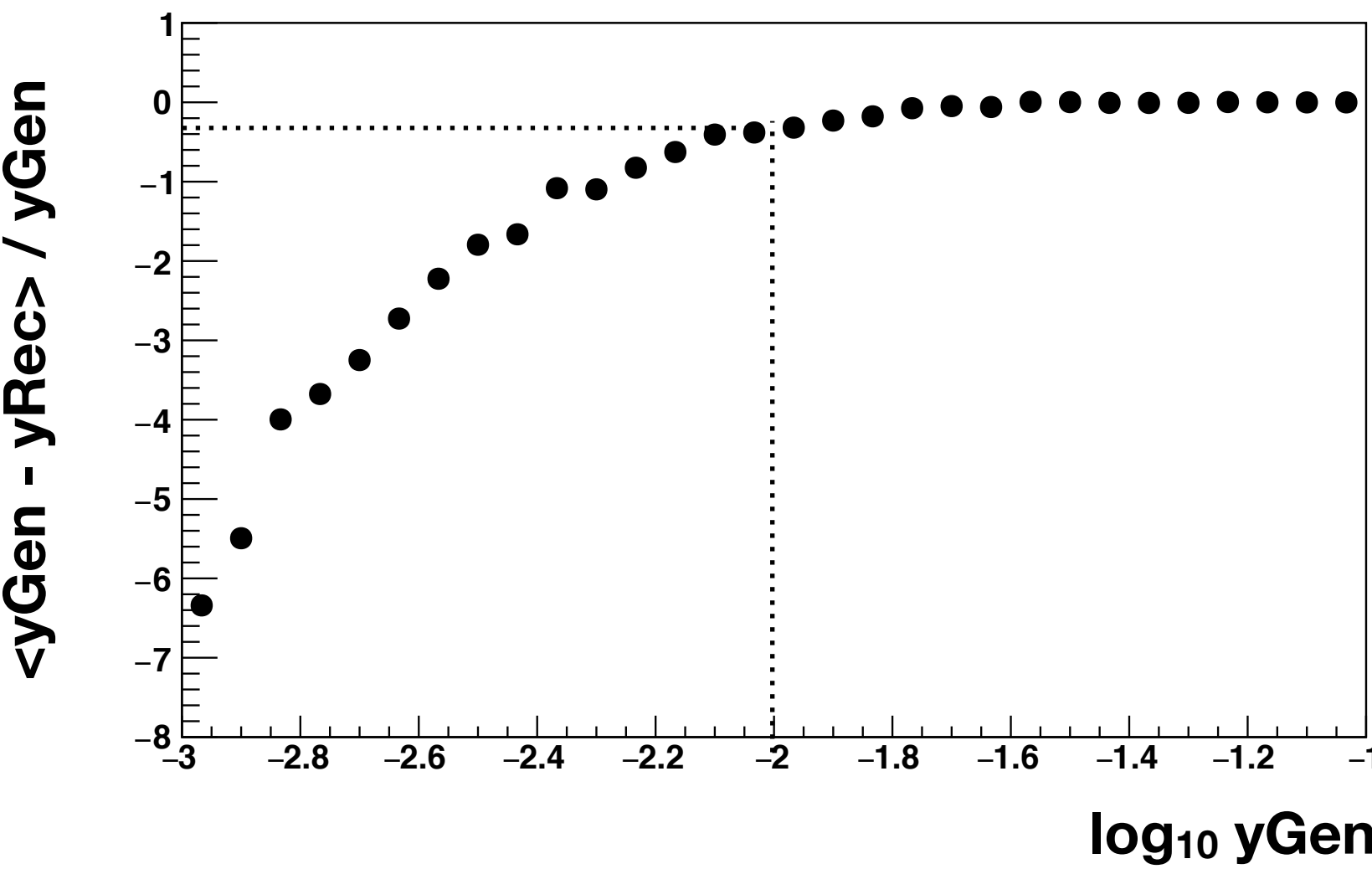
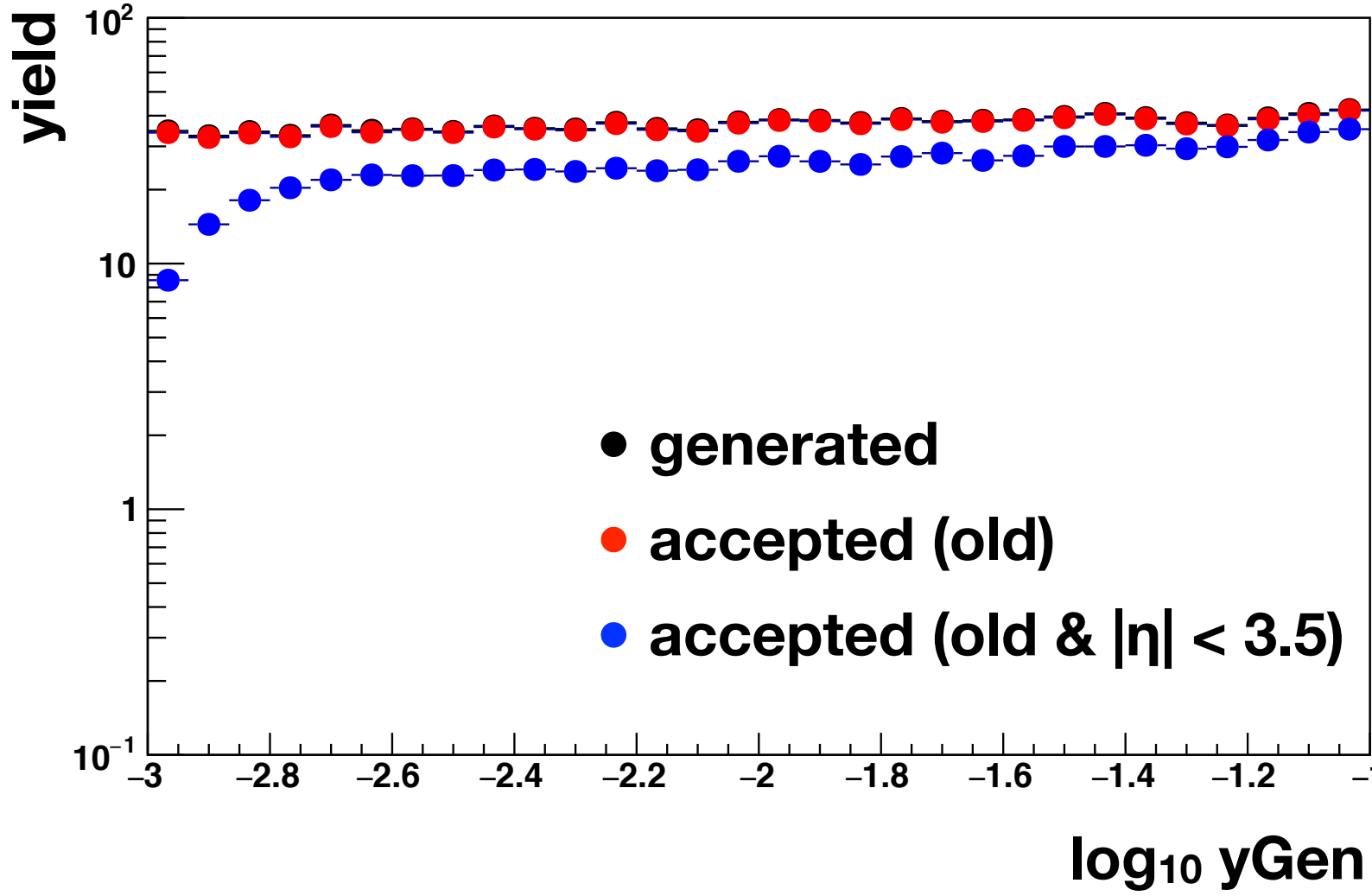
smearing of y : 5 x 41 (zoom)



smearing of y : 18 x 275

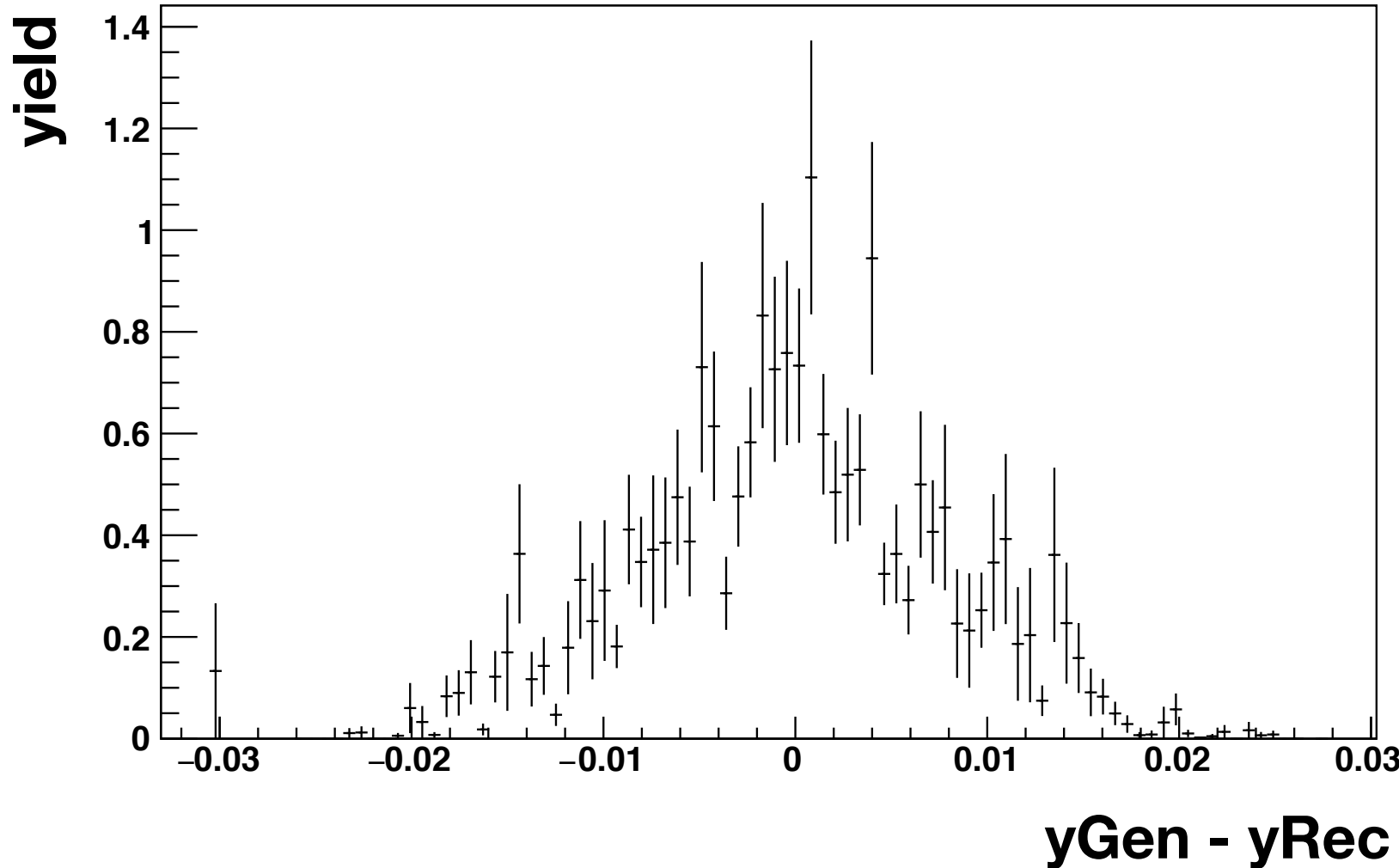


smearing of y: 18 x 275 (zoom)



smearing of y: 18 x 275 (zoom)

0.33 < y < 0.36



0.0046 < y < 0.0054

