INGRID work

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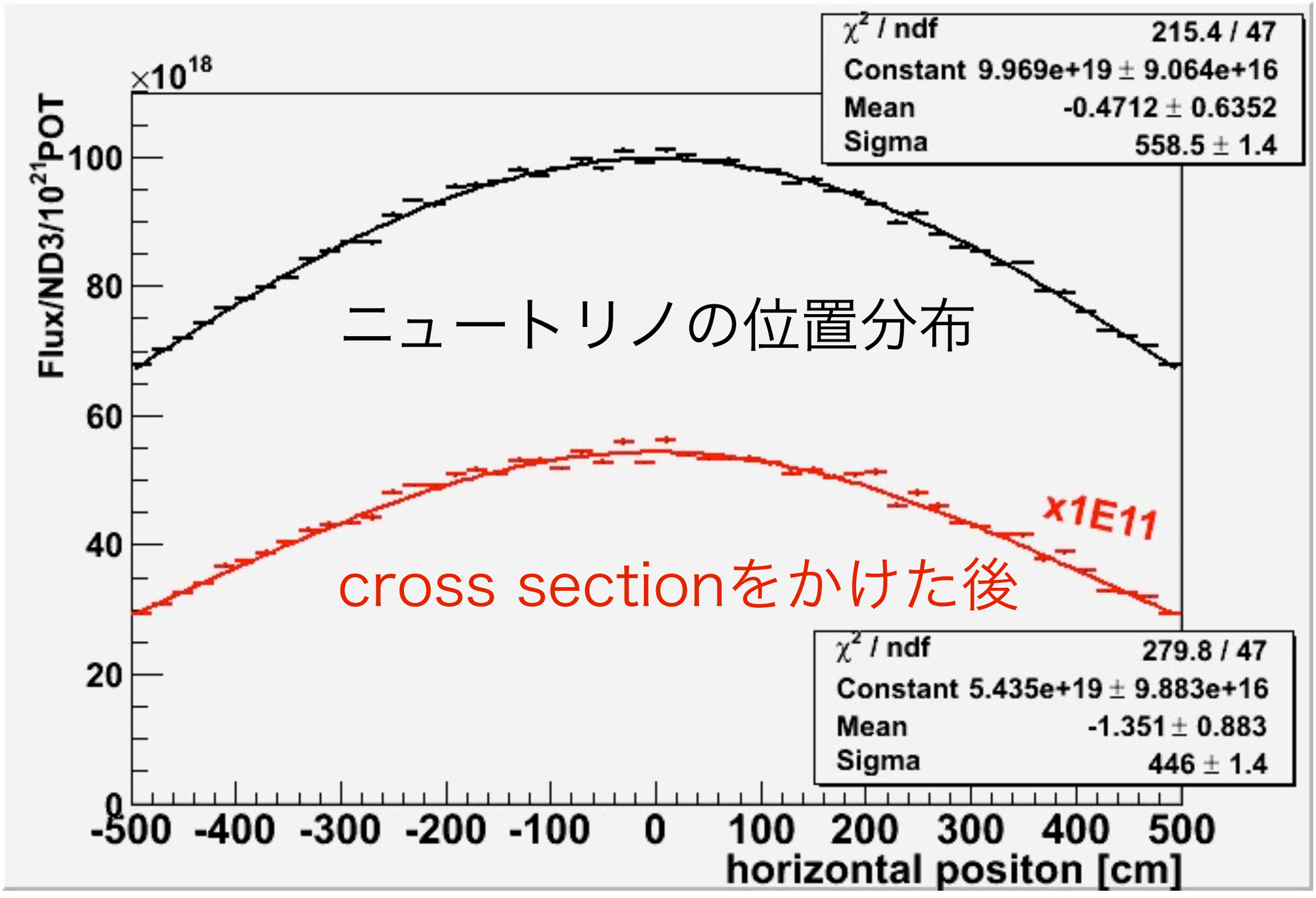
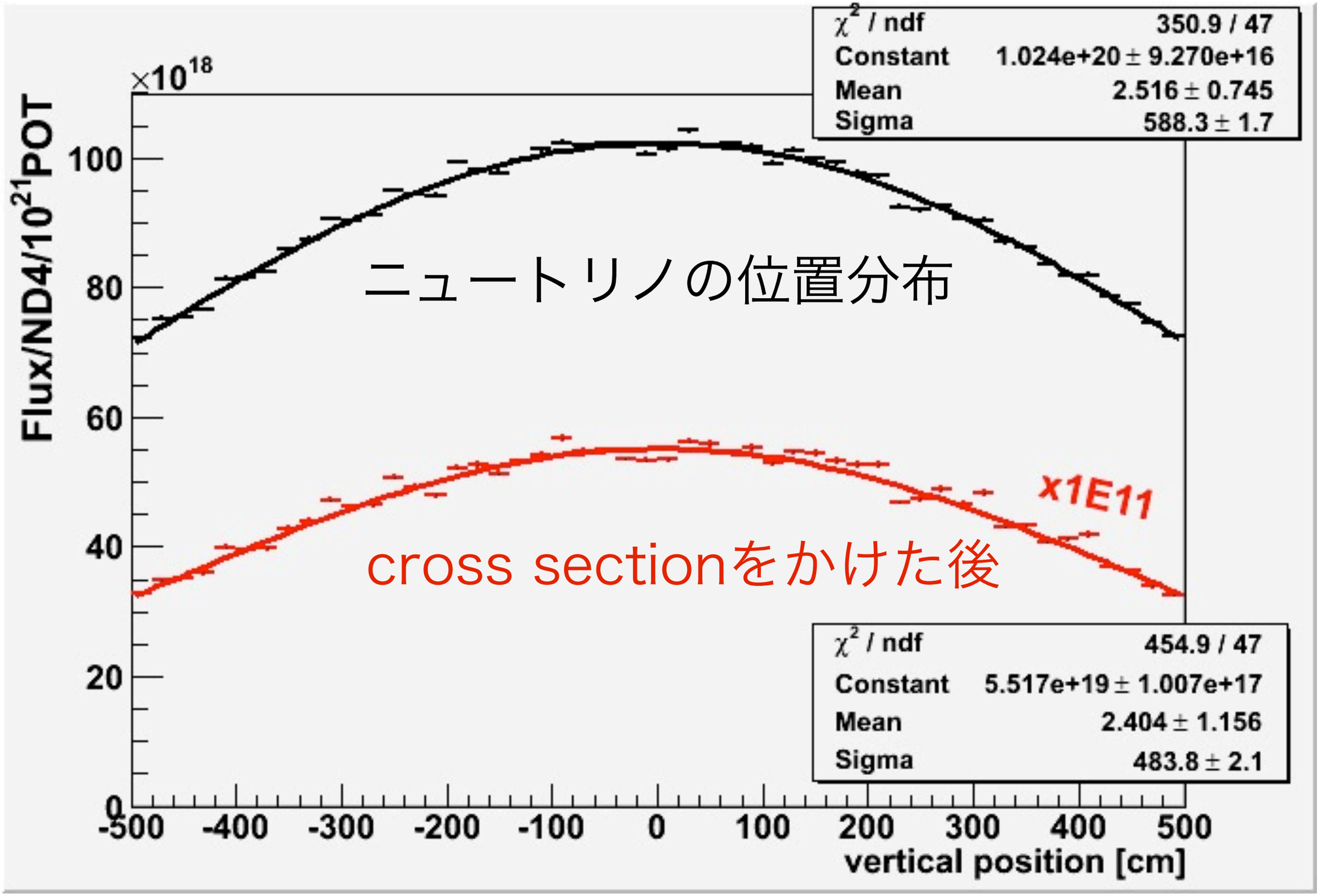
ニュートリノ位置分布の確認

- jnubeam 10a x 100 file
- horn 1,2,3 = 250kA
- nominal beam condition
- cross section をかける前後での様子

jnubeam10a flux (horizontal)

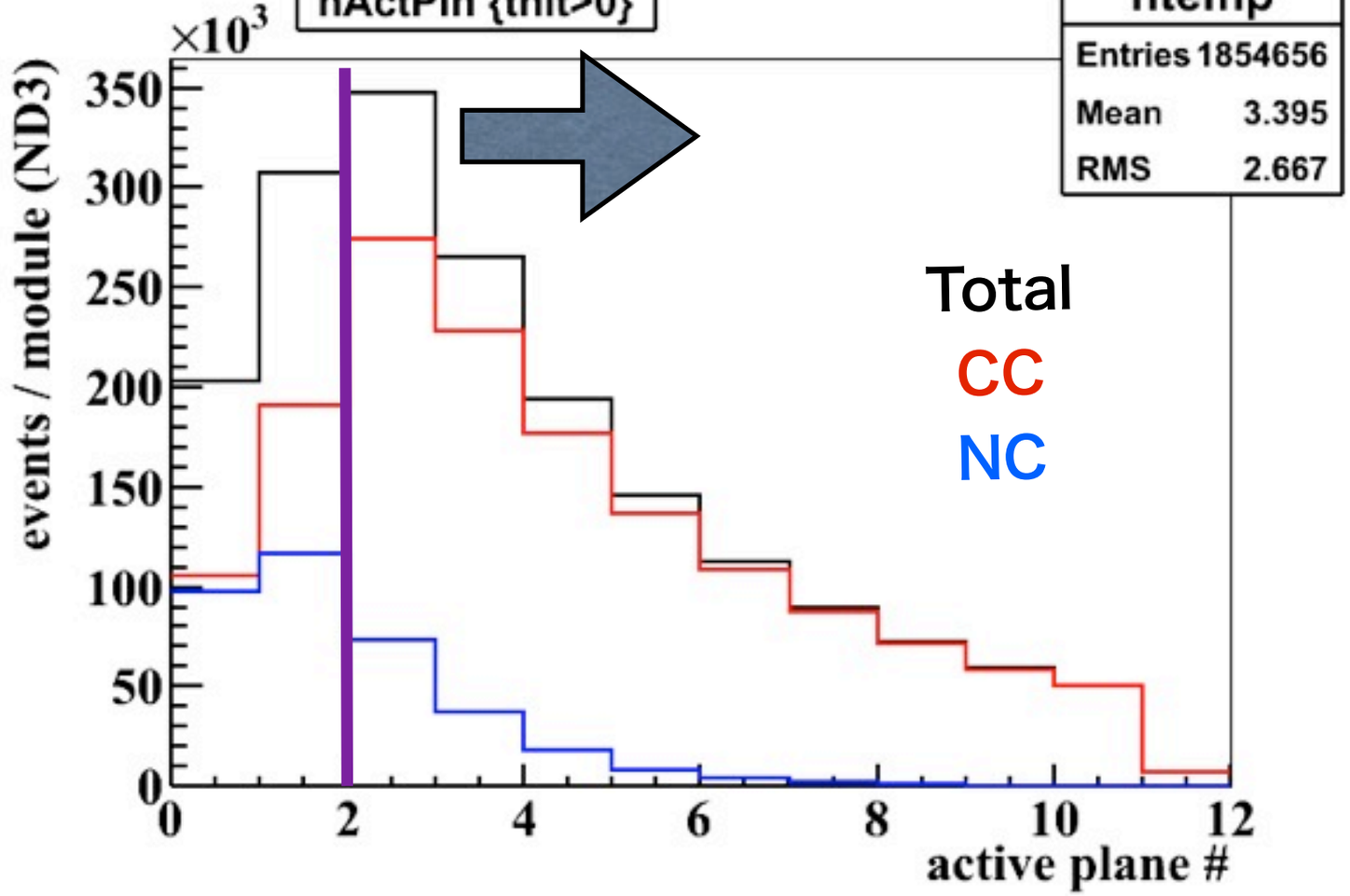


jnubeam10a flux (vertical)



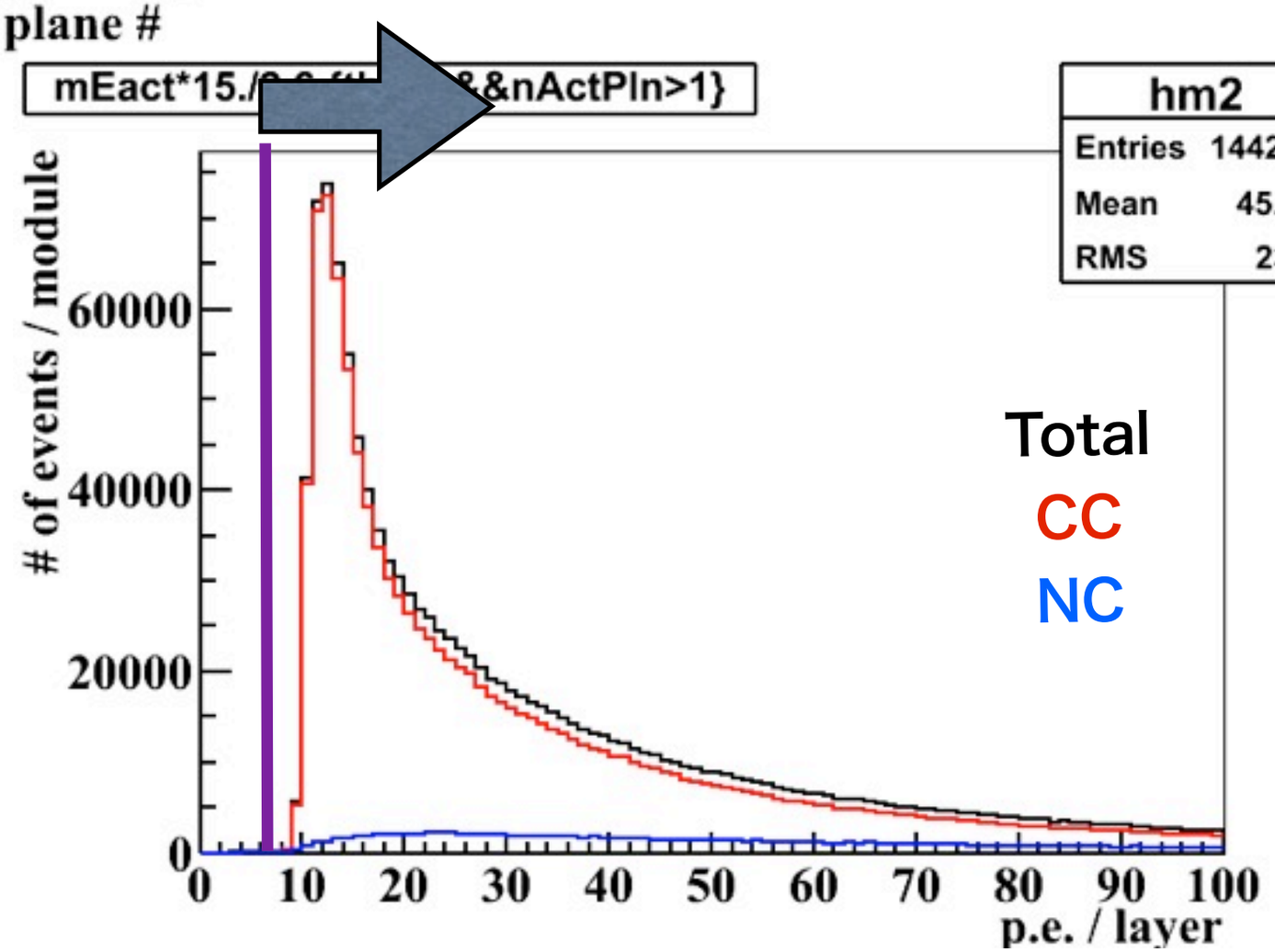
GEANT4

- input : Neut file x 60
- Interaction neutrino (only numu)
- ND3 : 1881384 -> 8.4E19 POT
- ND4 : 1887139 -> 8.1E19 POT



active plane # > 1

p.e. / layer > 6.5



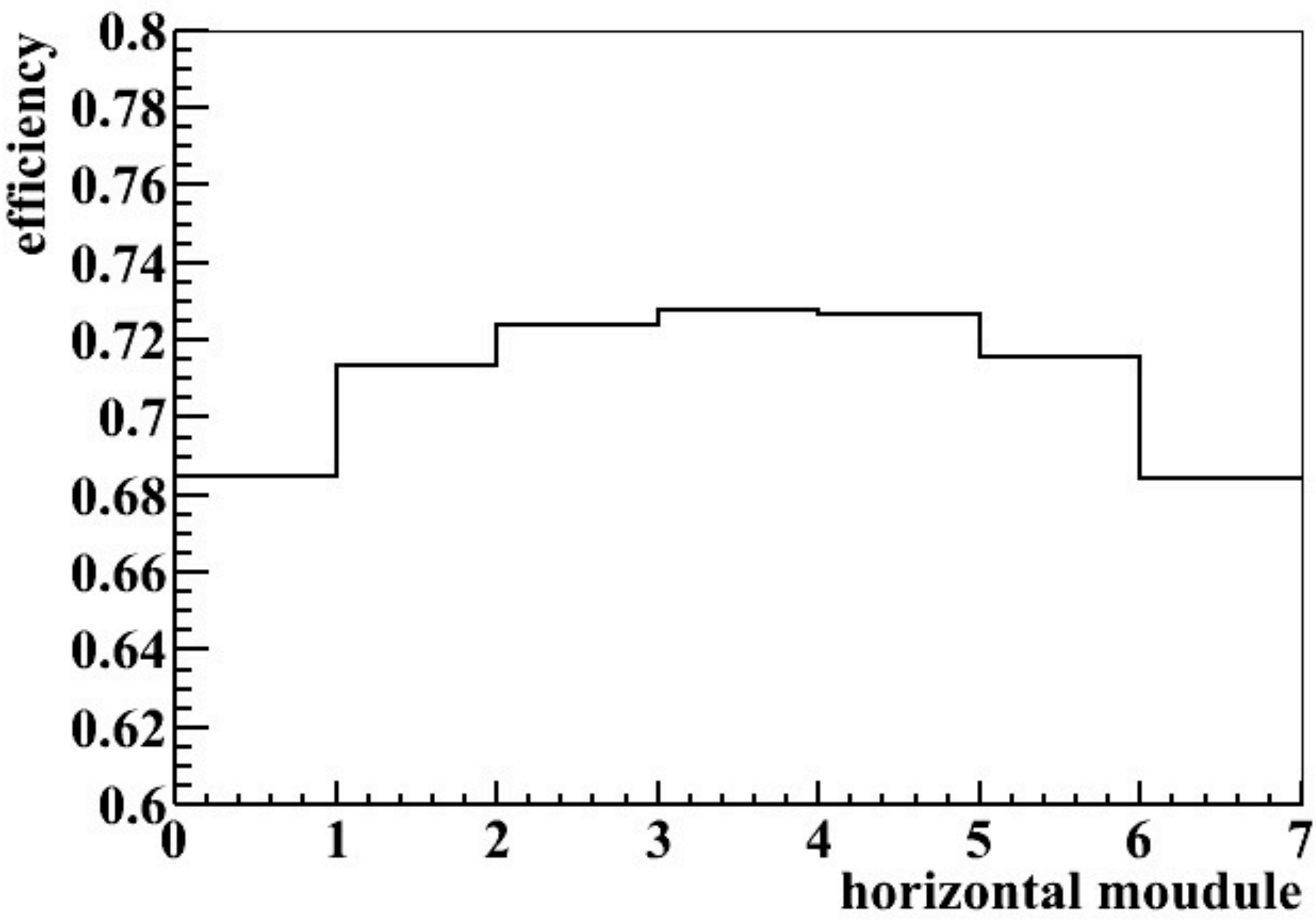
efficiency ~ all module ~

	horizontal(%)	vertical(%)
act>1	71	66
act>2	53	49
act>1 & pe>6.5	71	66
act>2 & pe>6.5	53	49

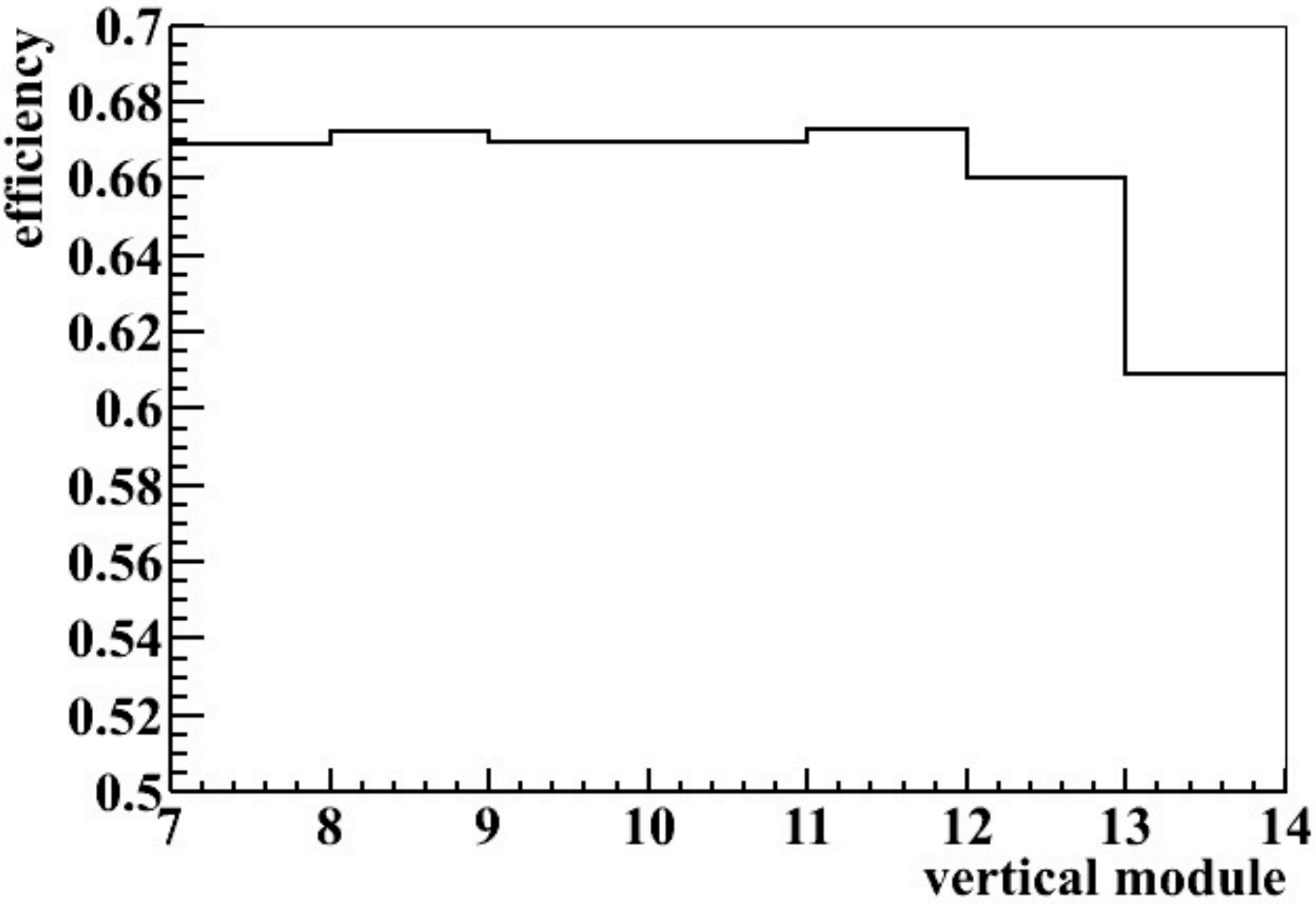
efficiency ~ horizontal ~

efficiency = event# after cut / interaction# in module

cut : act>1 & pe>6.5



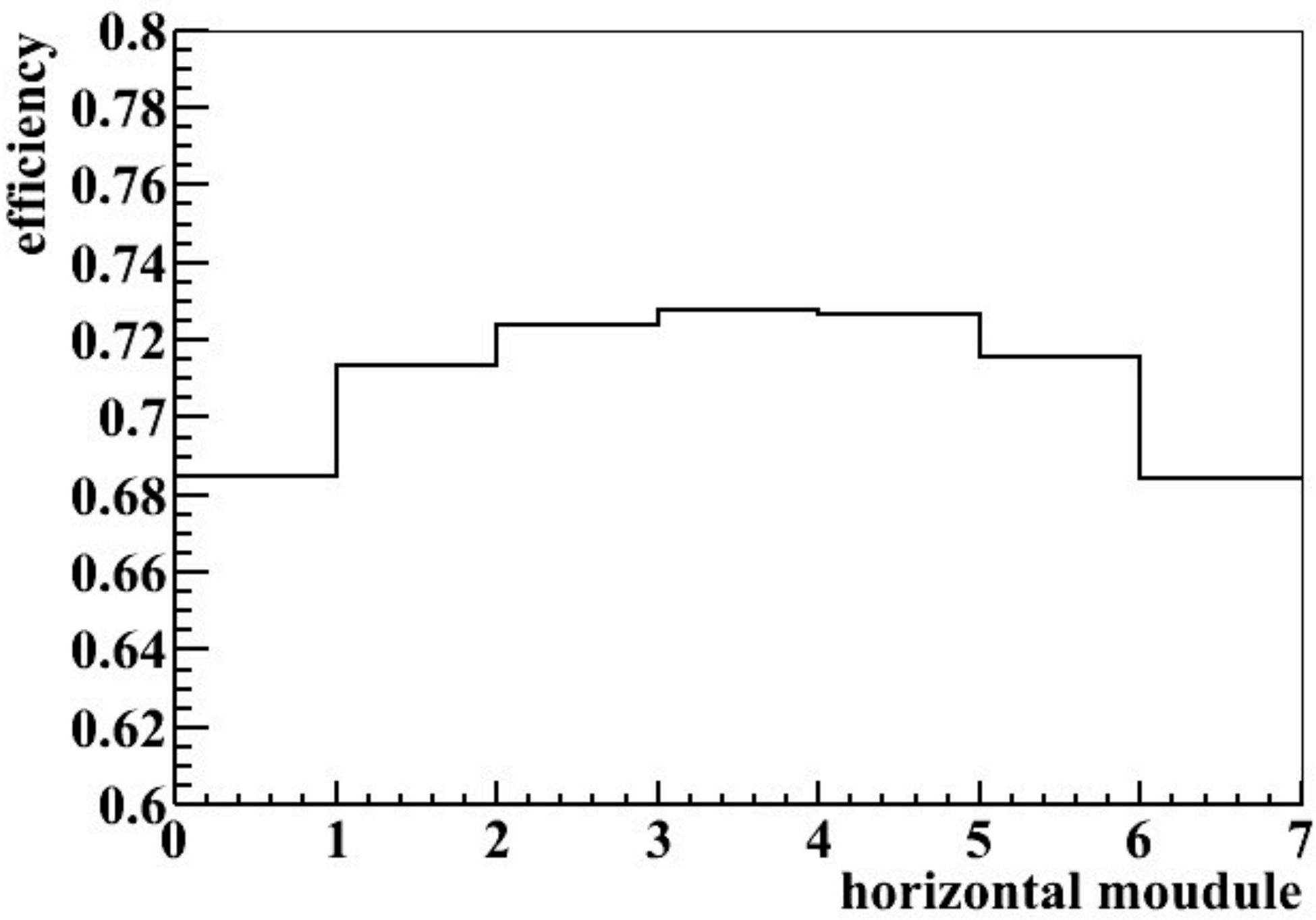
efficiency ~ vertical ~



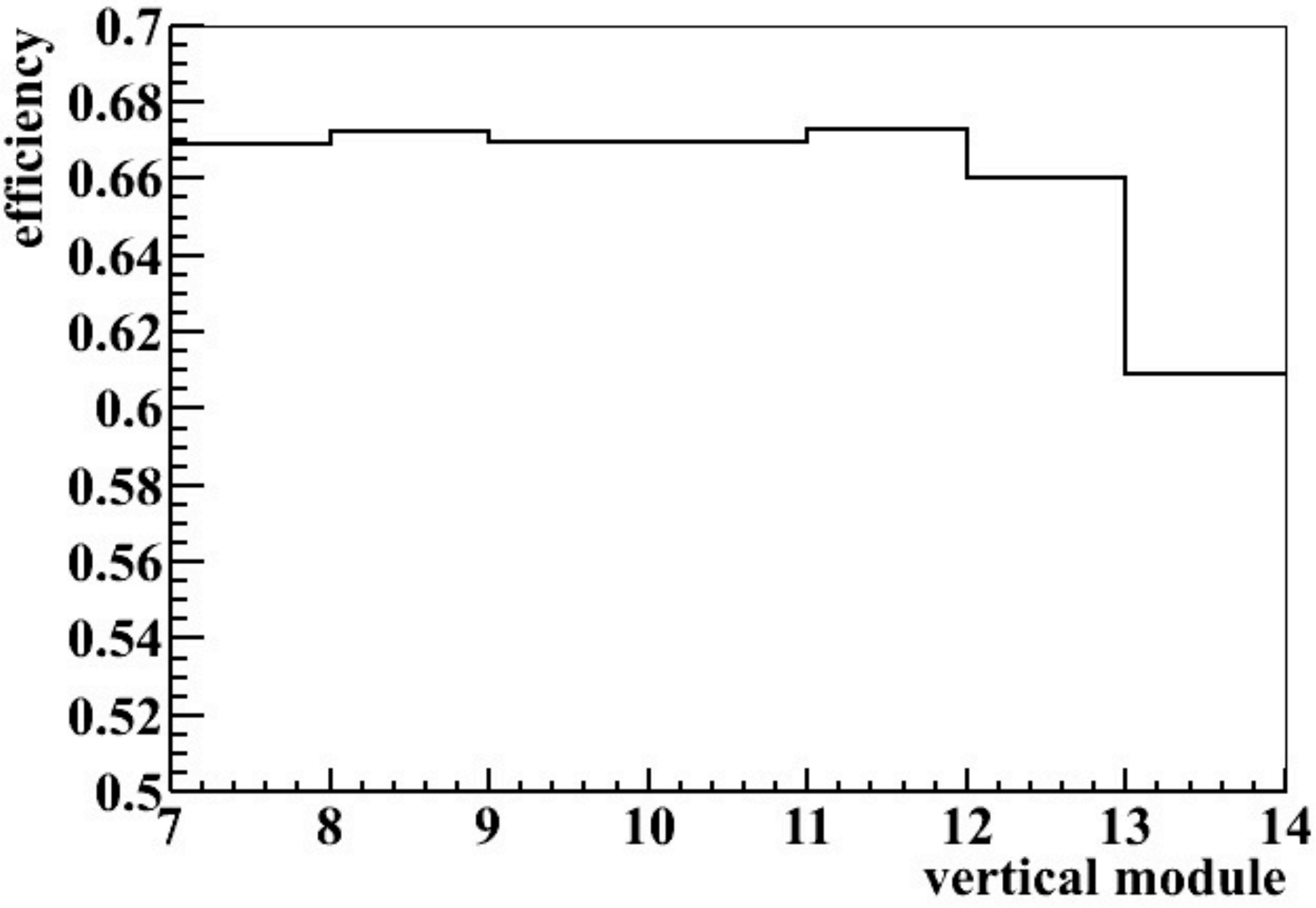
efficiency ~ horizontal ~

efficiency = event# after cut / interaction# in module

cut : act>1 & pe>6.5



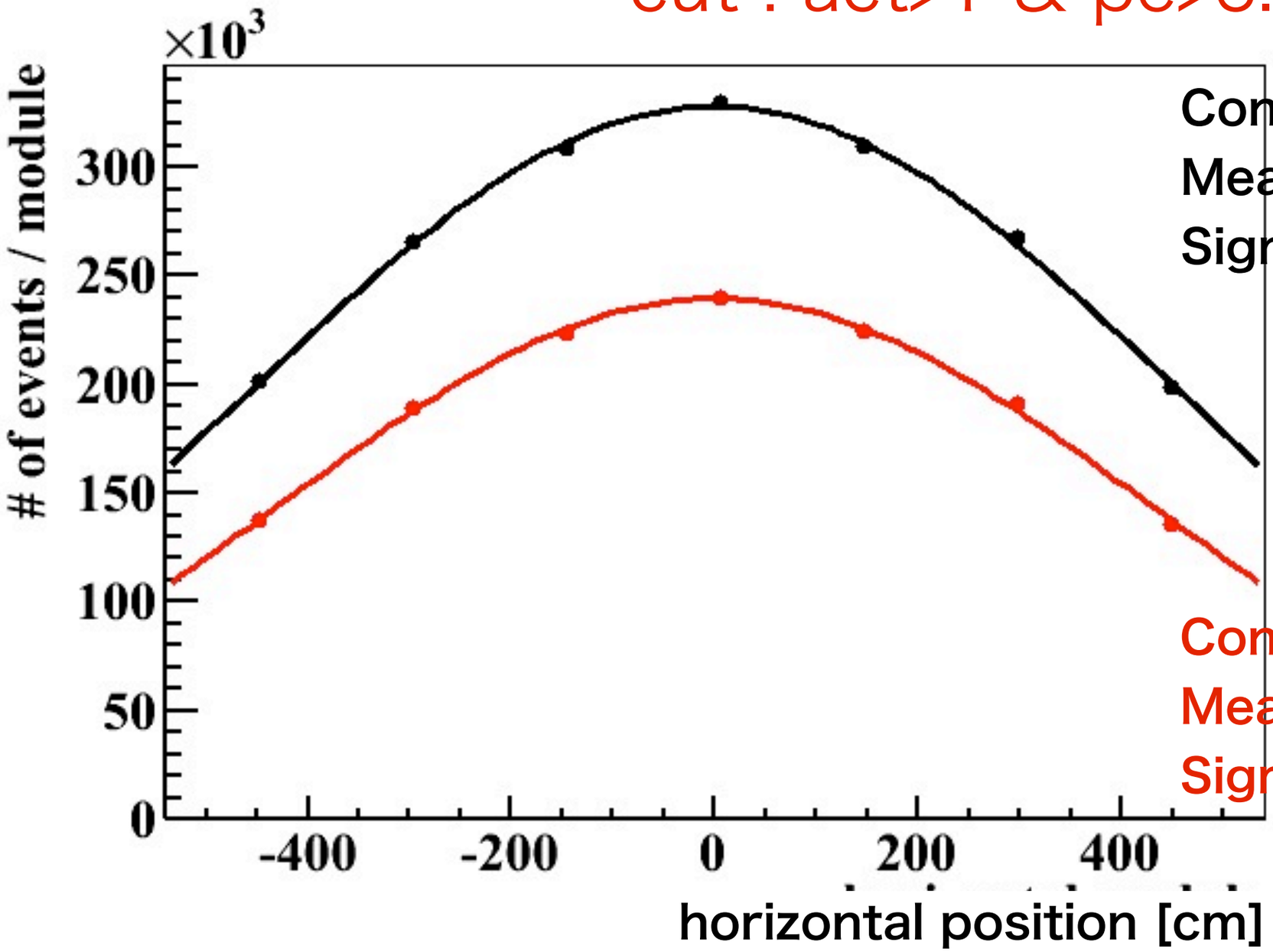
efficiency ~ vertical ~



profile ~ horizontal ~

generate

cut : act>1 & pe>6.5



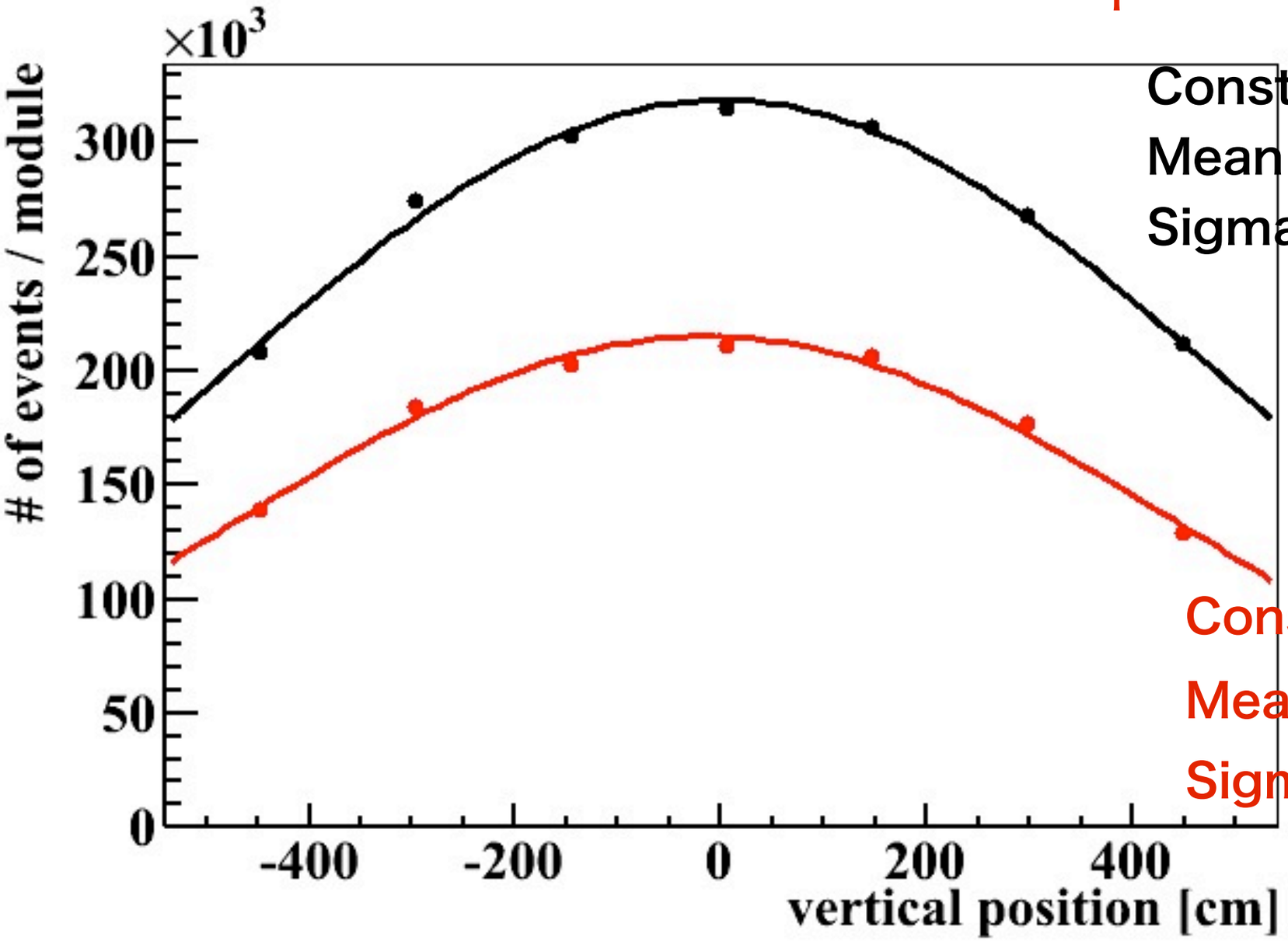
Constant : 3.3e+05 3.4e+02
Mean [cm]: -0.65 0.55
Sigma [cm: 453 0.92

Constant : 2.4e+05 2.9e+02
Mean [cm]: -0.07 0.58
Sigma [cm :426 0.92

profile ~ vertical ~

generate

cut : act>1 & pe>6.5



Constant : 3.2e+05 3.3e+02
Mean [cm]: -0.30 0.65
Sigma [cm: 497 1.2

Constant : 2.2e+05 2.7e+02
Mean [cm]: -15 0.72
Sigma [cm]: 469 1.2

fitting result

	horizontal	vertical
constant	3.3e+5 ± 3.4e+2	3.2e+5 ± 3.3e+2
Mean[cm]	-0.65 ± 0.55	-0.30 ± 0.65
Sigma[cm]	453 ± 0.92	497 ± 1.2

constant	2.4e+5 ± 2.9e+2	2.2e+5 ± 2.7e+2
Mean[cm]	-0.07 ± 0.58	-15 ± 0.72
Sigma[cm]	426 ± 0.92	469 ± 1.2

Fiducial cut したい……