

Data set

- MC

</data/scratch/userspace/pretz/daqsim-reconstruction/output/daqsim-baseline-take4>

- Data

/data/archive/hawcroot/data/hawc/reconstructed/hawcprod/v2.02.02/config-33660/reco_xcdf/2016/06/run005519

Script used

- Detector response

http://hawclava.umd.edu/zhampe1/hawc/website/UNFOLDING/detector_response.php

- Reco extractor

http://hawclava.umd.edu/zhampe1/hawc/website/UNFOLDING/reco_extractor.php

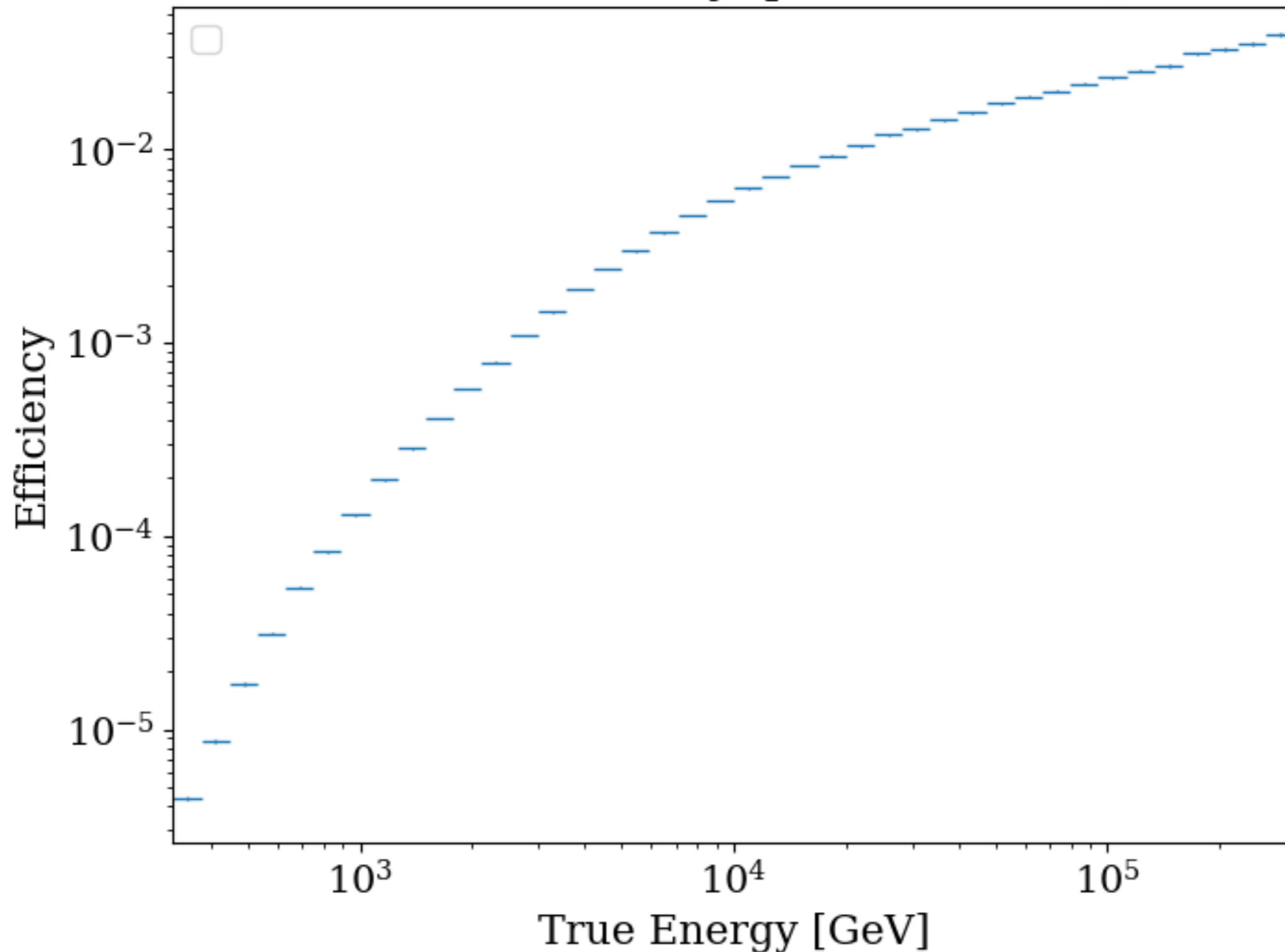
- PyUnfold

<https://jrbourbeau.github.io/pyunfold/>

NNV2

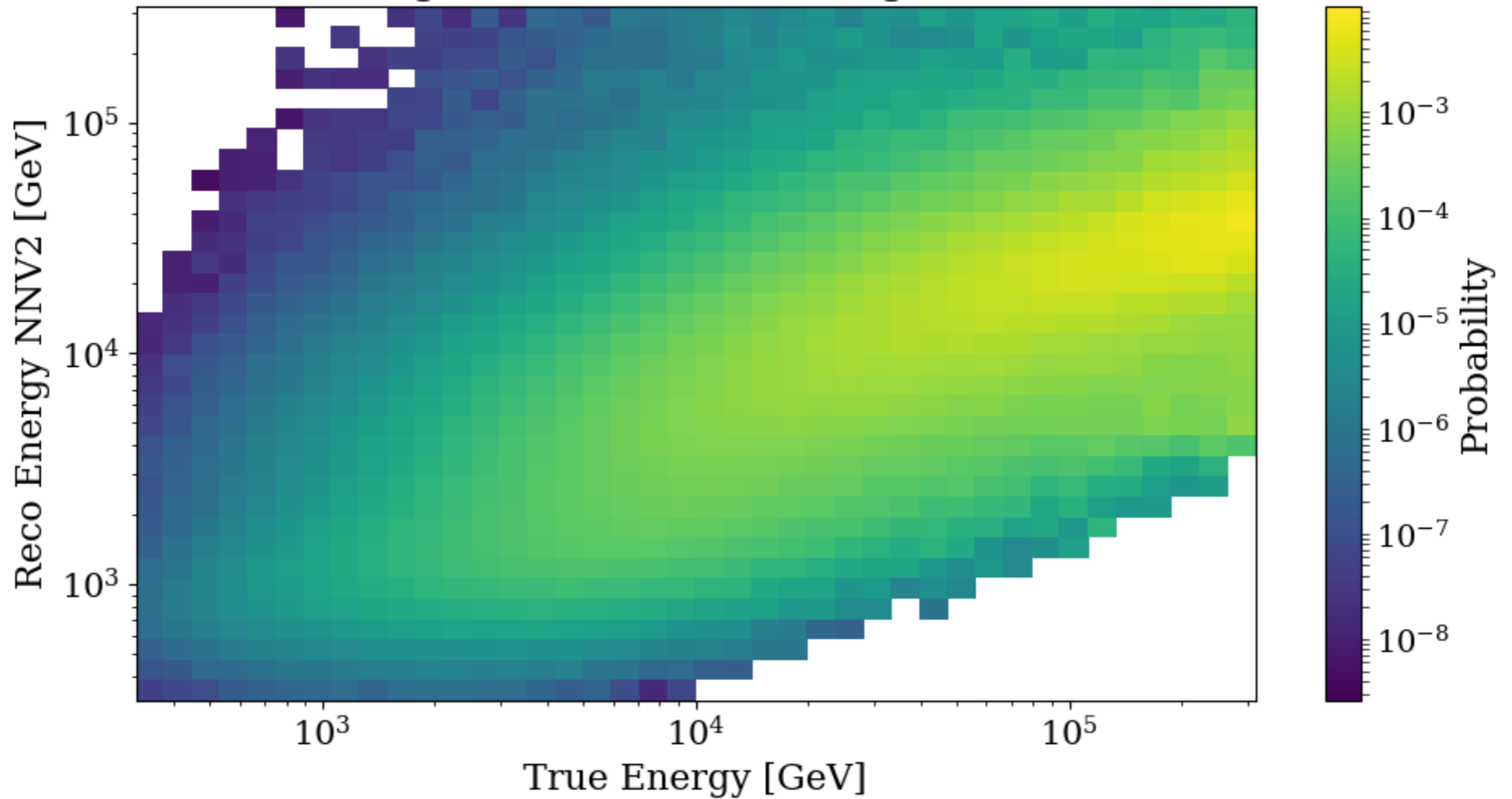
fbin: 1, ~Efficiency, script: Detector response

Non-Normed Combined Efficiency $\theta \in [0.0, 45.0)^\circ$



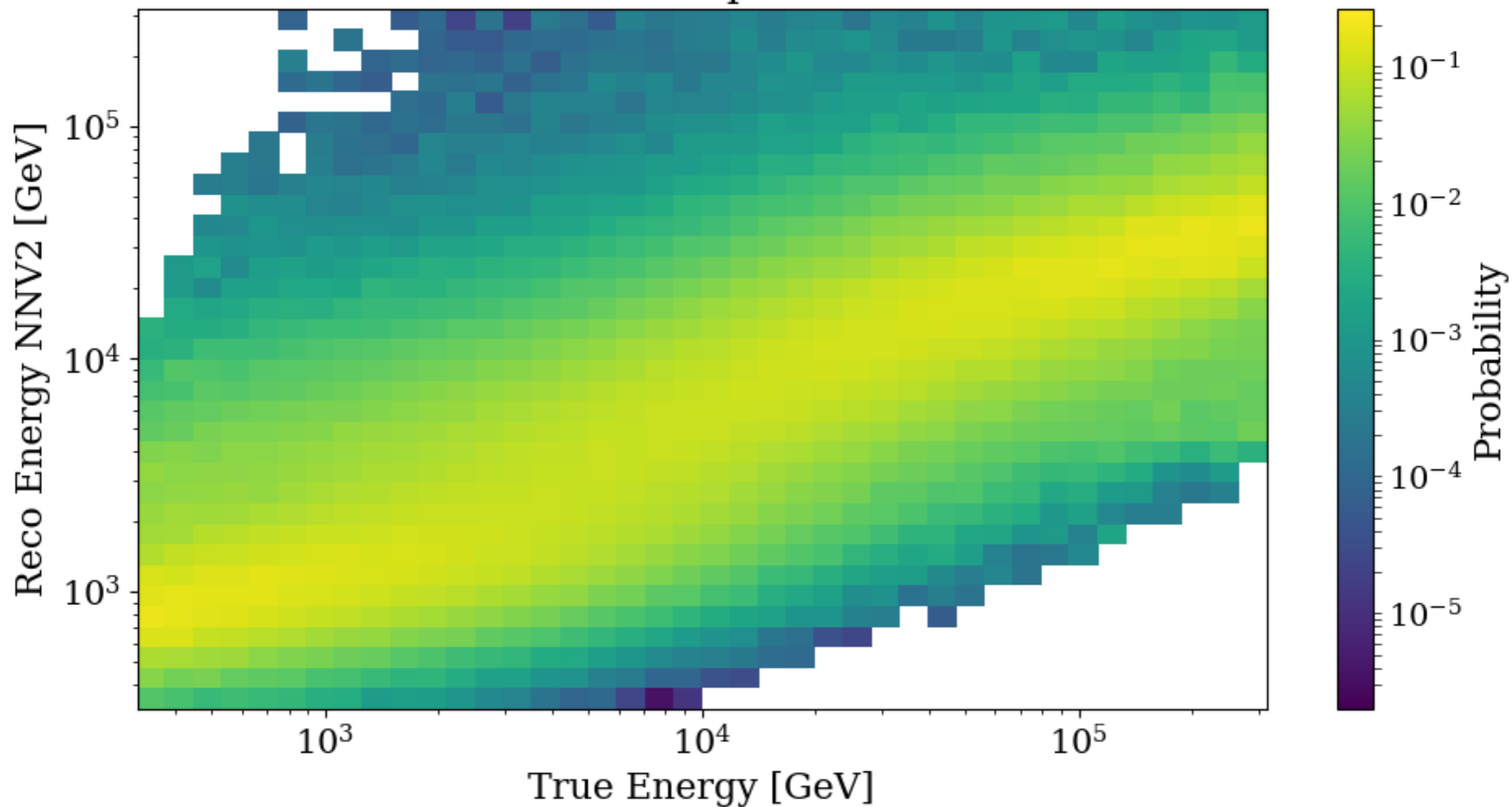
fbin: 1, Response Matrix, script: Detector response

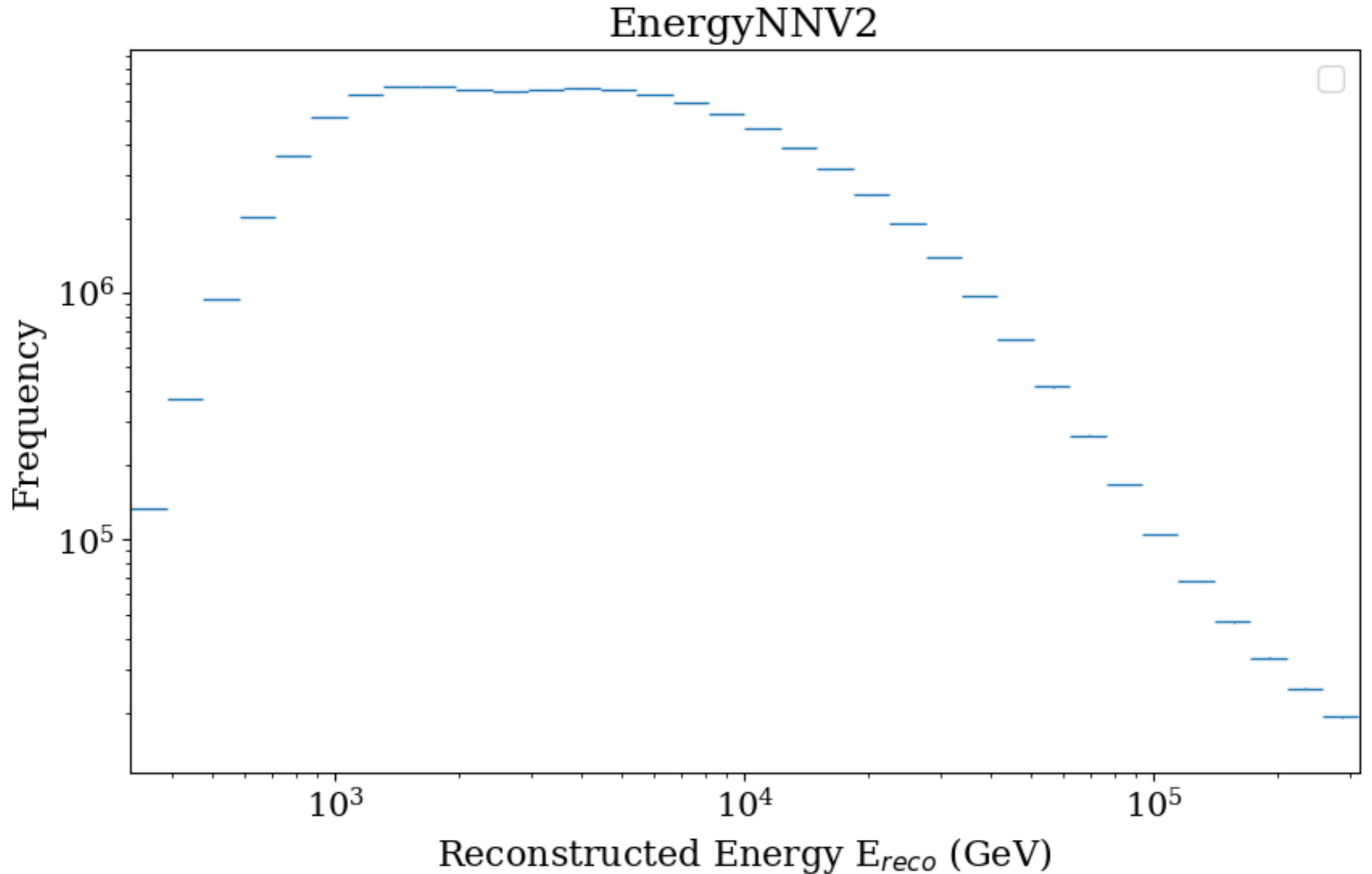
Weighted Combined Mixing Matrix



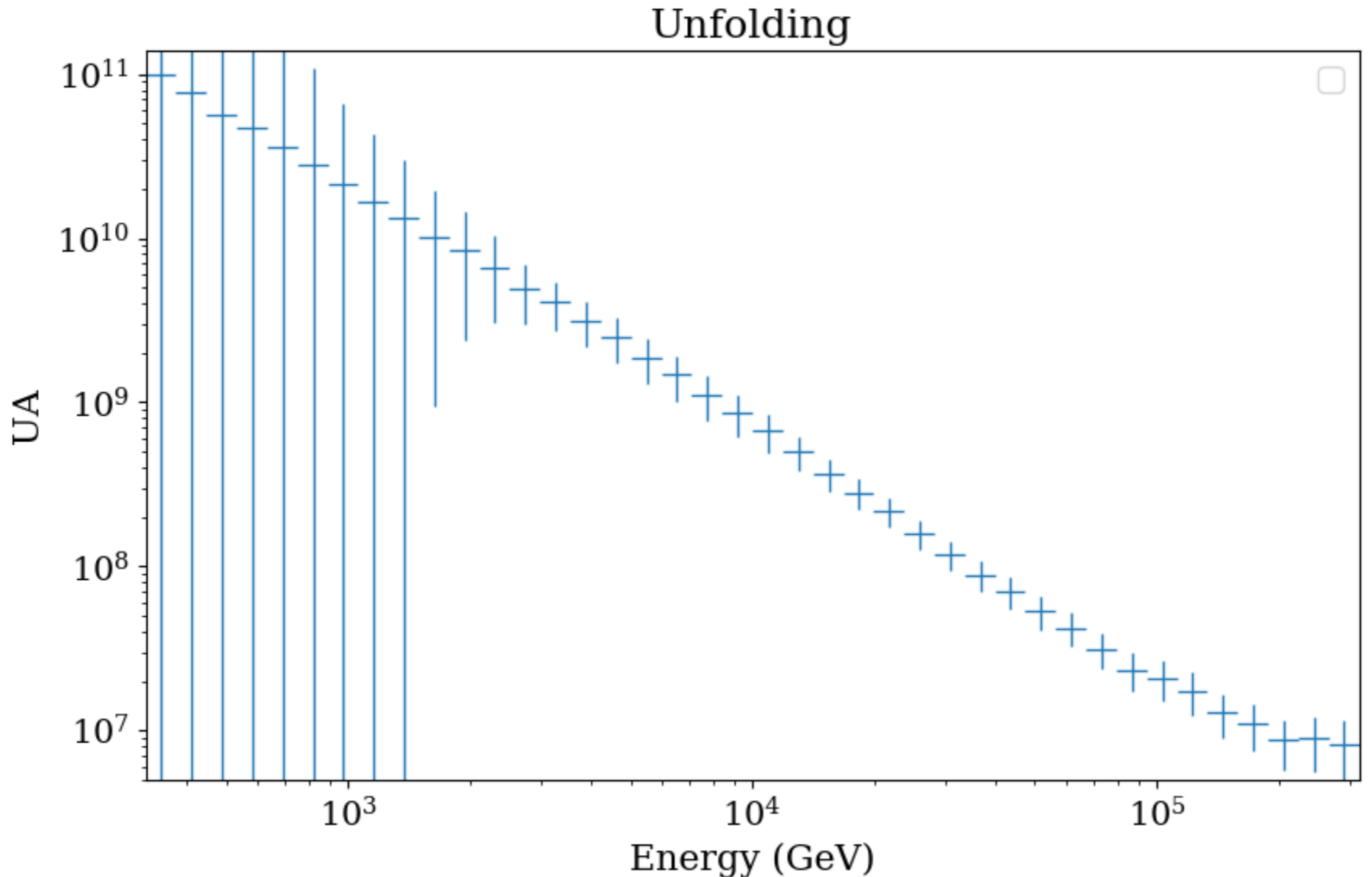
fbin: 1, Normalized Response Matrix, script: Detector response

Normalized response matrix





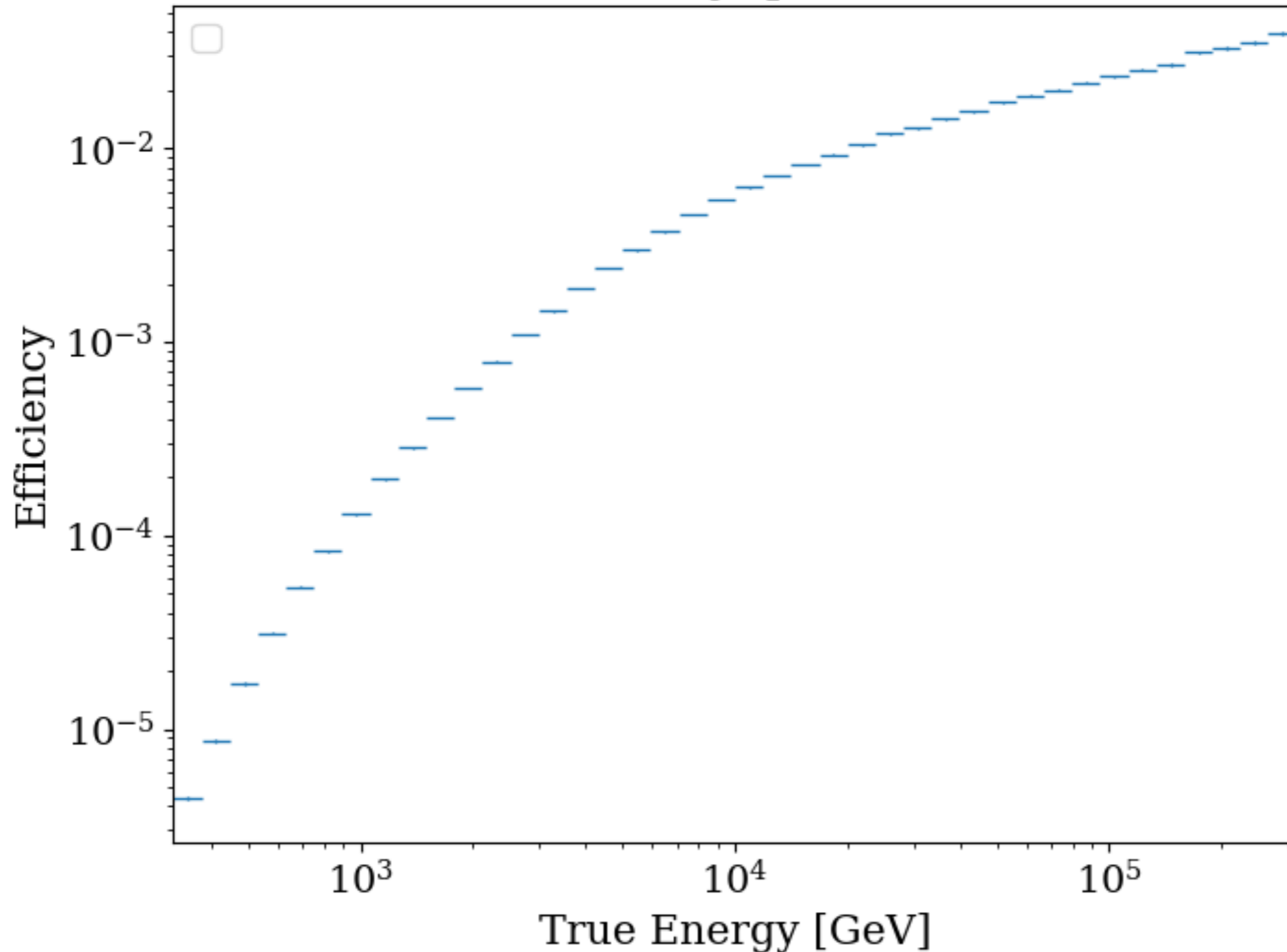
fbin: 1, Unfold output, script: PyUnfold



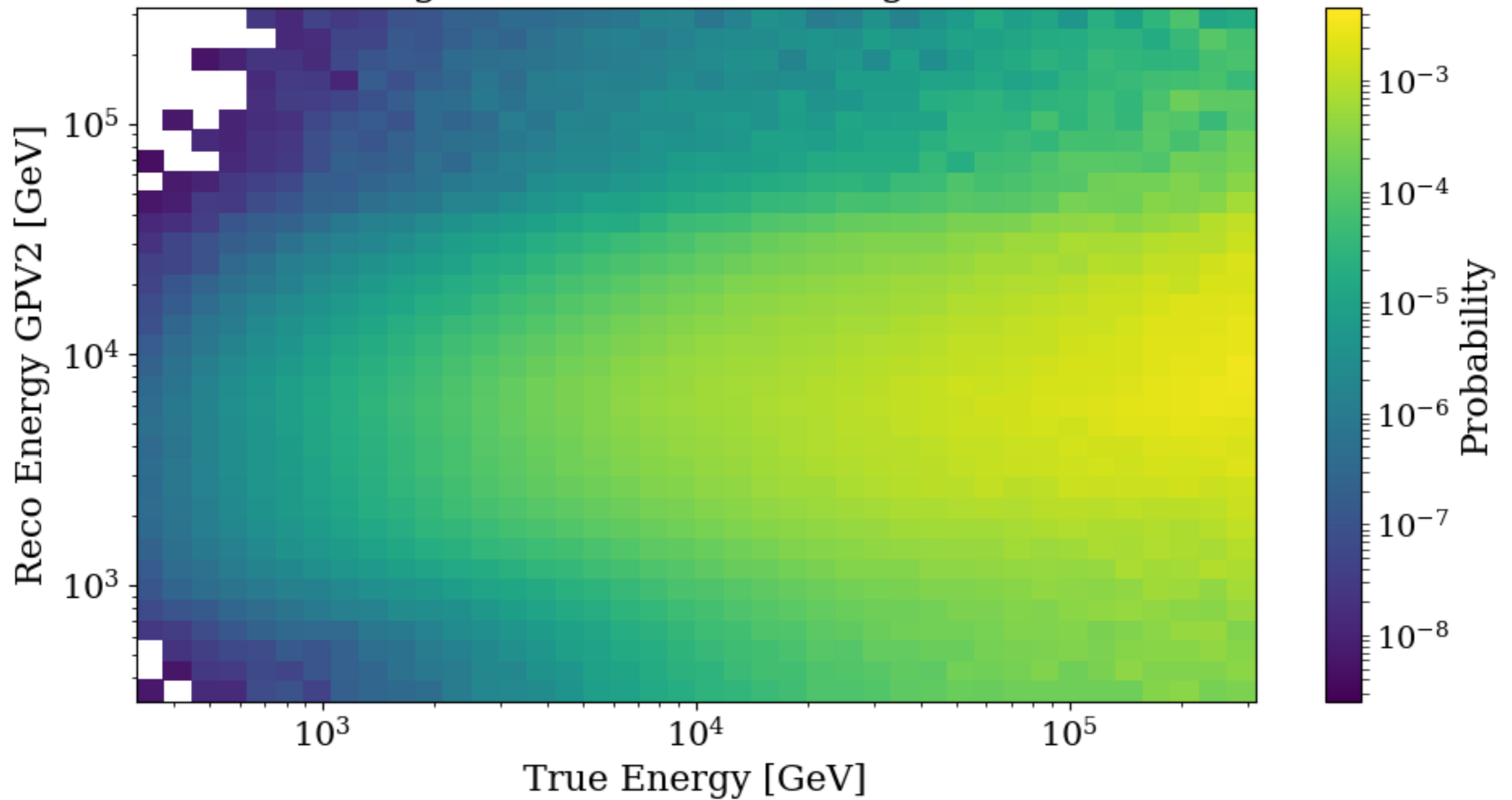
GPV2

fbin: 1, ~Efficiency, script: Detector response

Non-Normed Combined Efficiency $\theta \in [0.0, 45.0)^\circ$

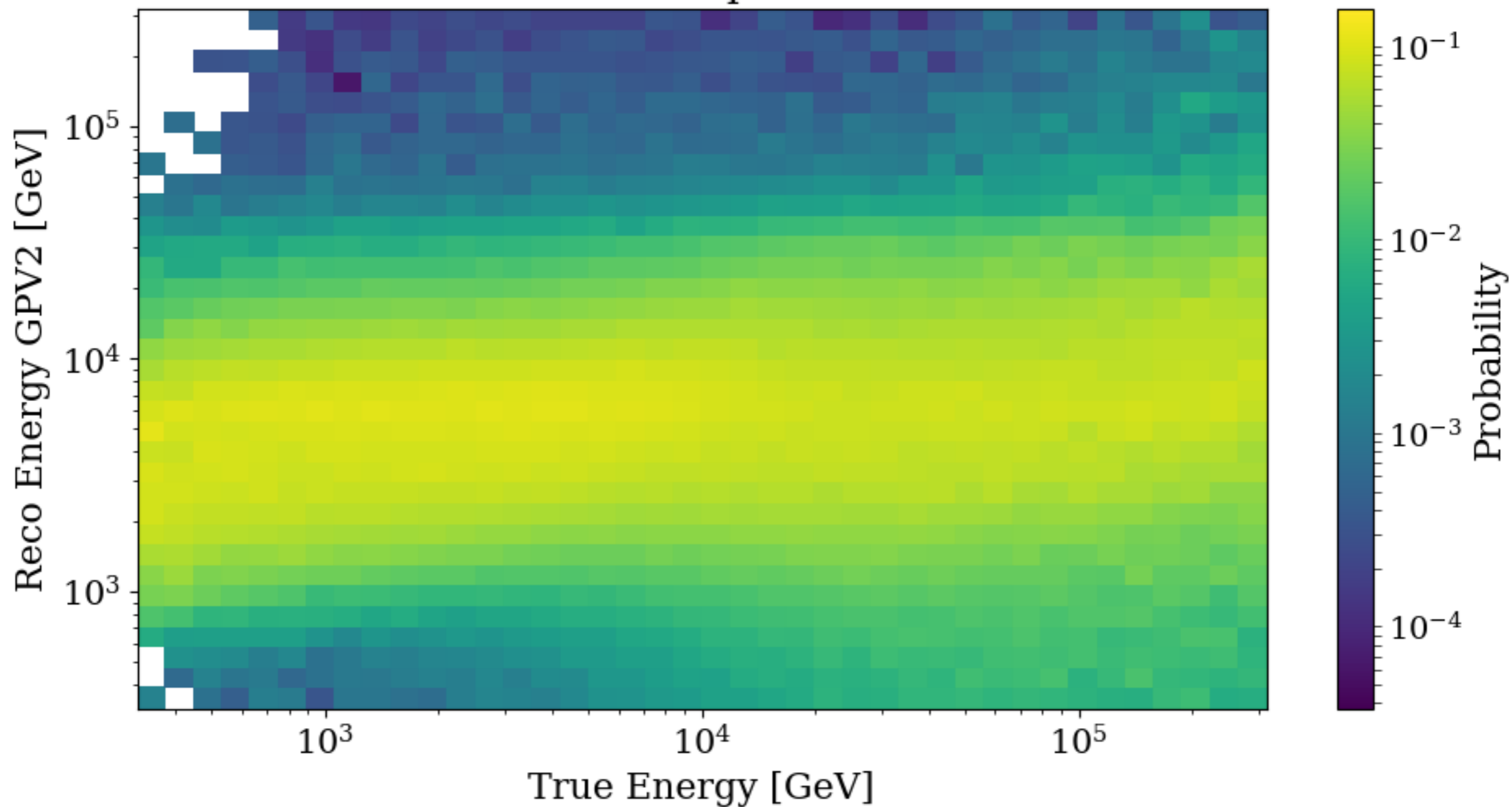


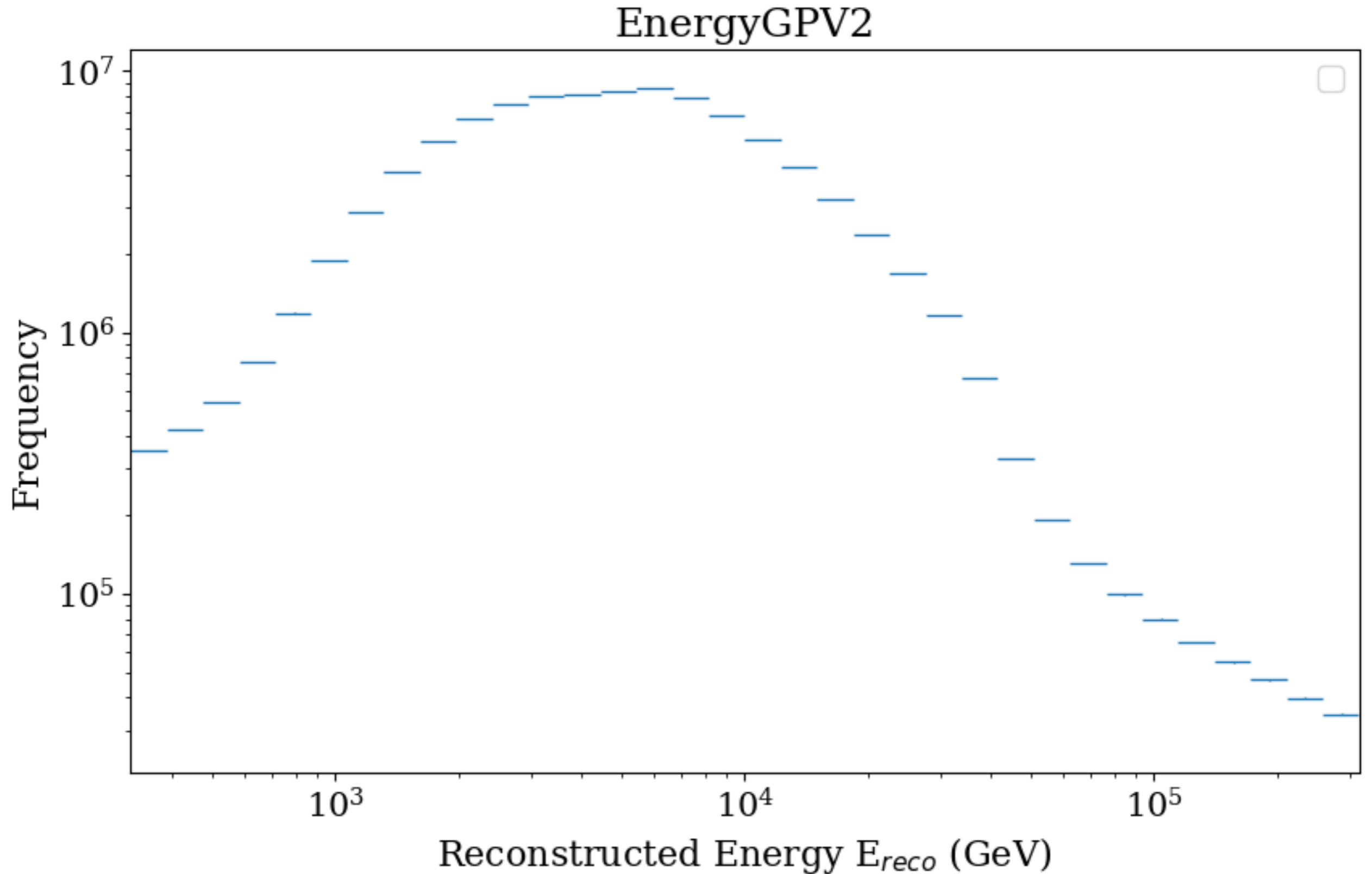
Weighted Combined Mixing Matrix



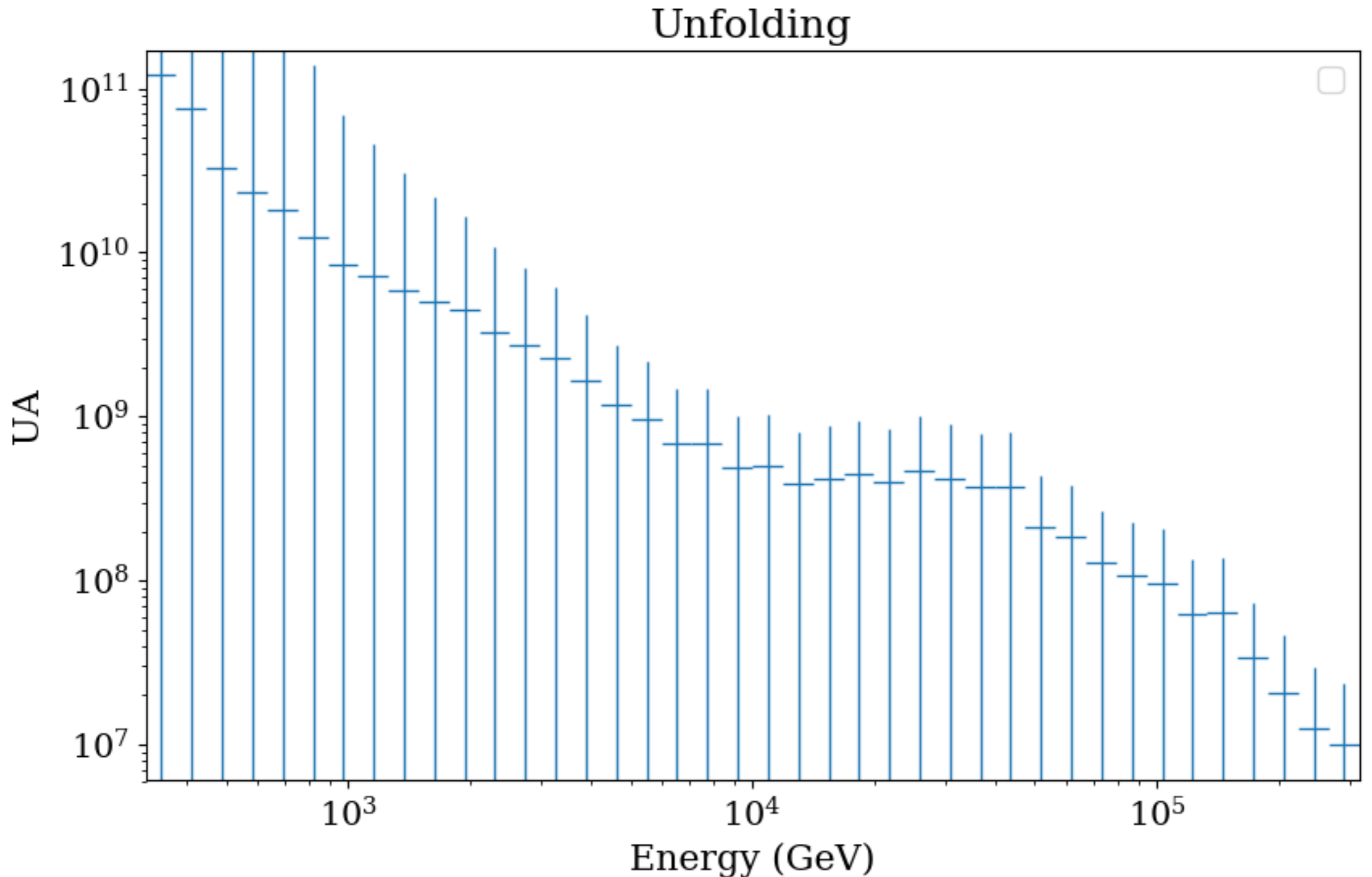
fbin: 1, Normalized Response Matrix, script: Detector response

Normalized response matrix





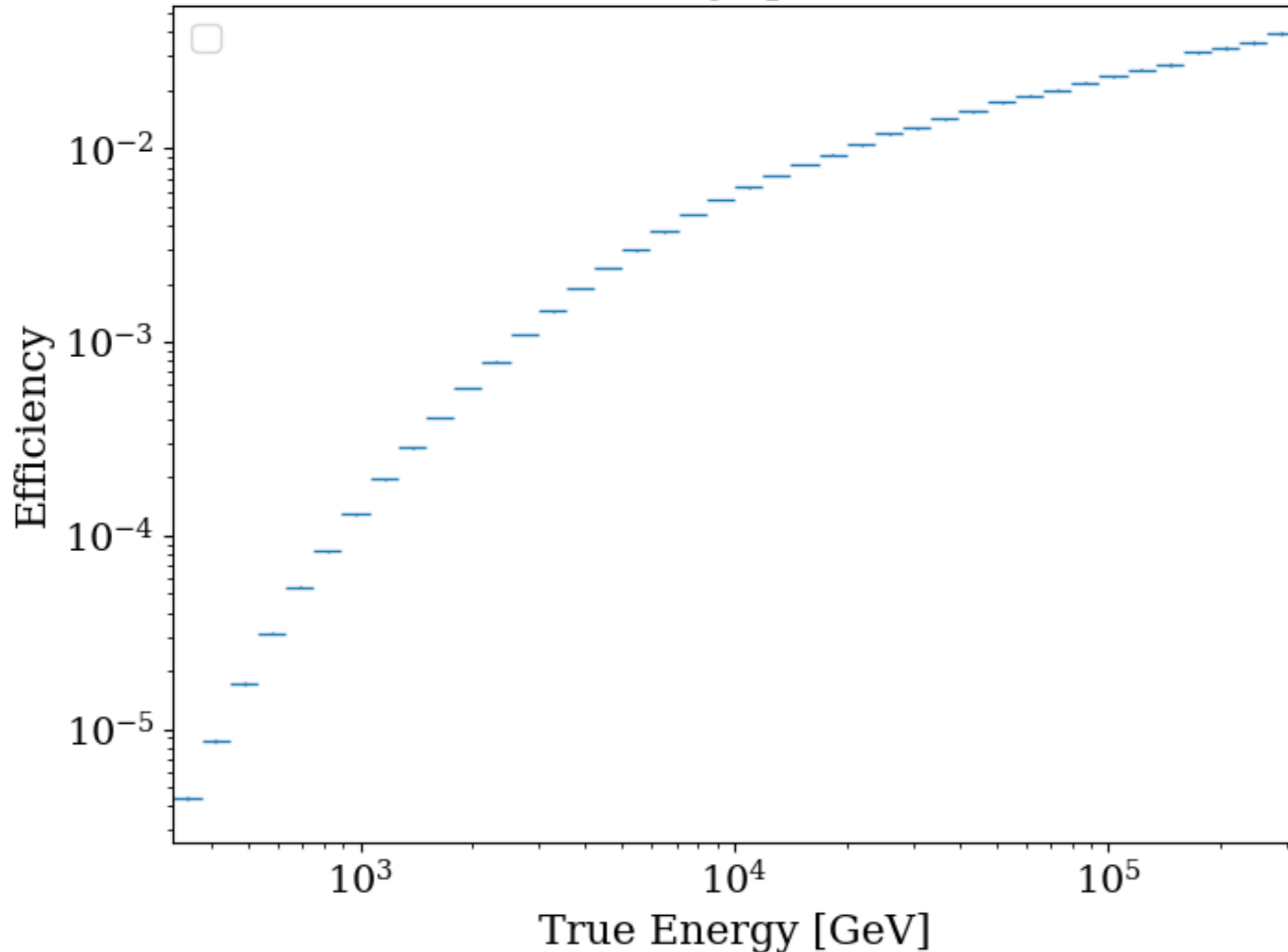
fbin: 1, Unfold output, script: PyUnfold



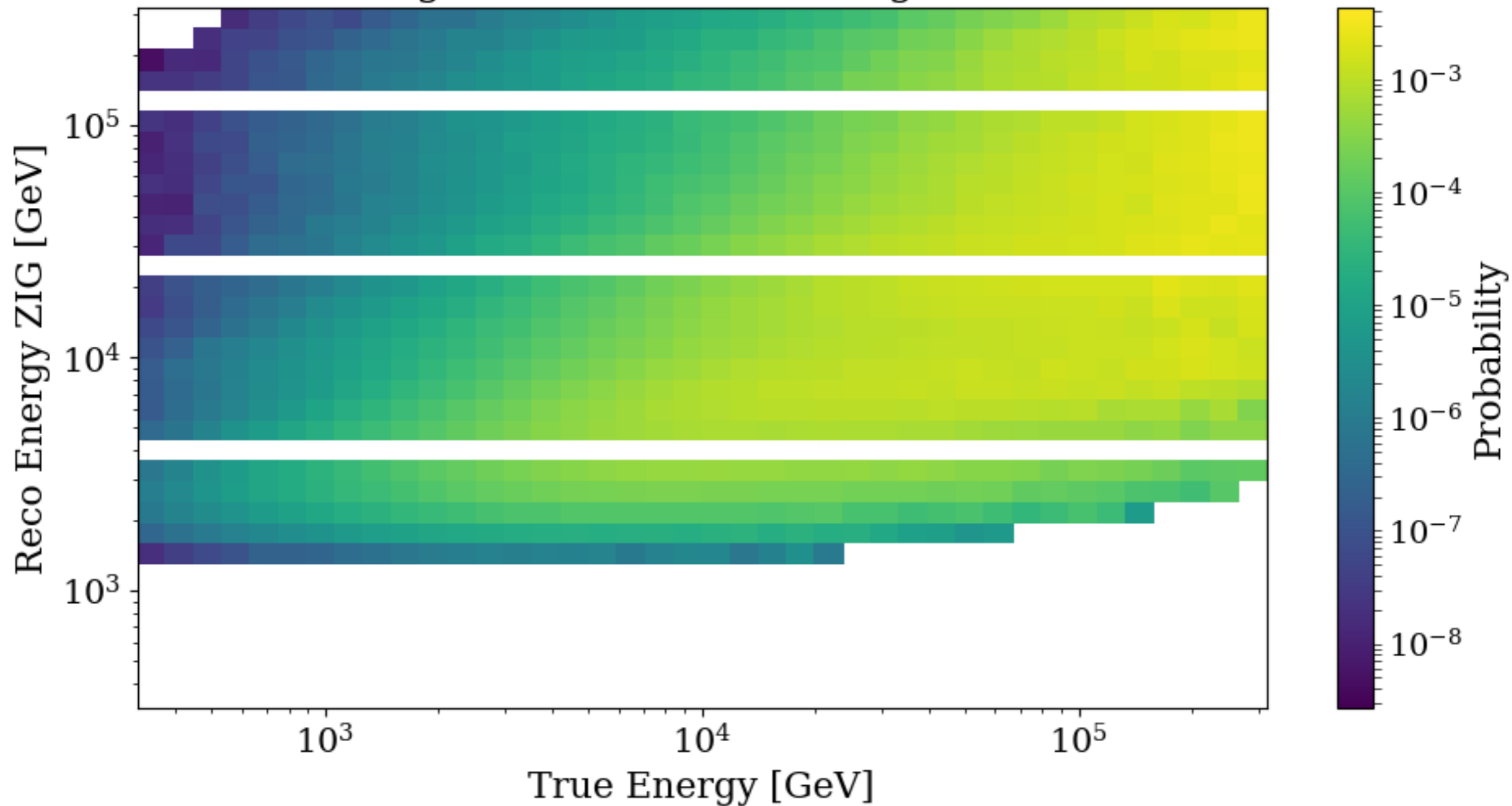
Zig variable
'rec.protonIheEnergy'

fbin: 1, ~Efficiency, script: Detector response

Non-Normed Combined Efficiency $\theta \in [0.0, 45.0)^\circ$

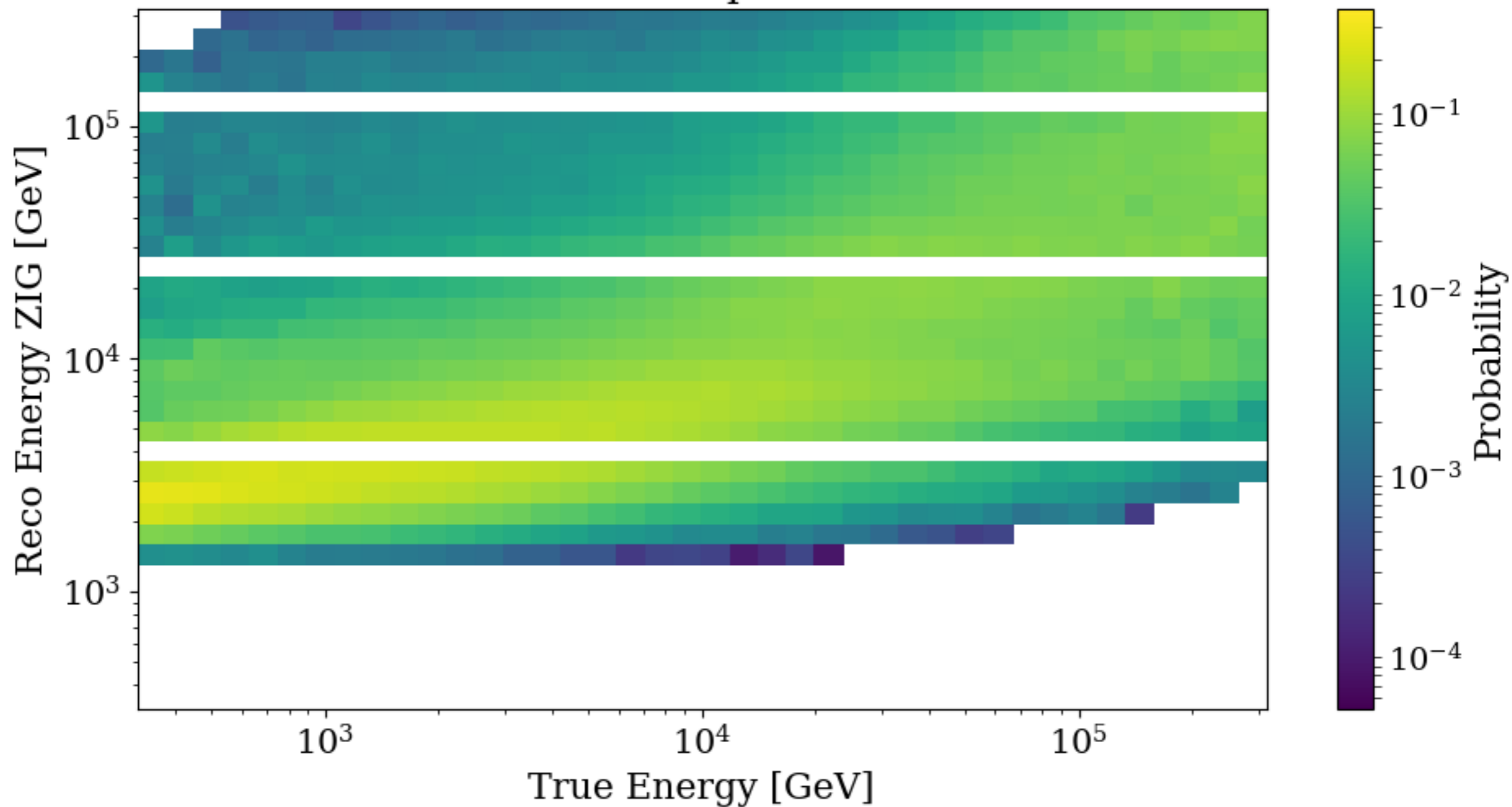


Weighted Combined Mixing Matrix

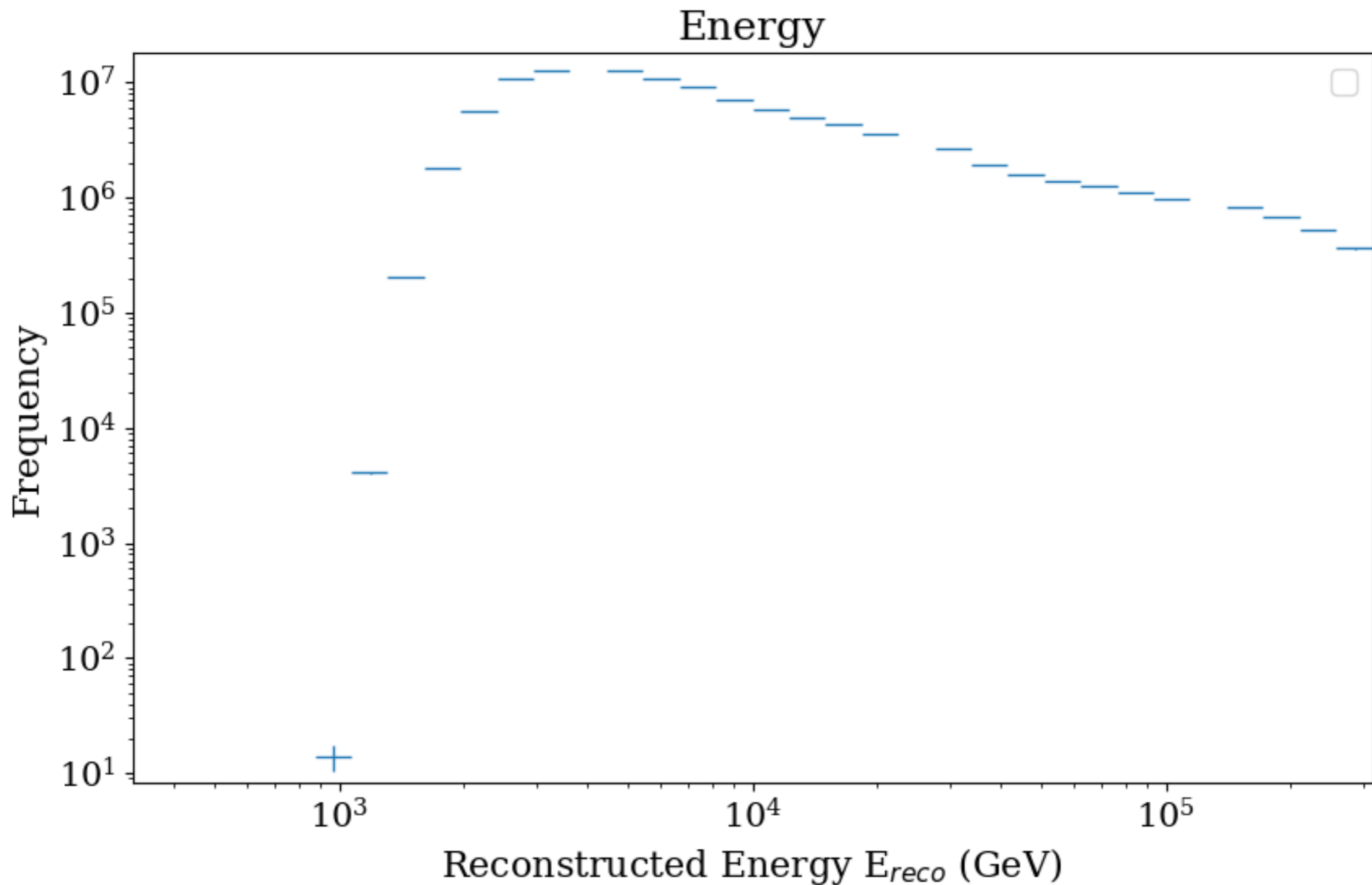


fbin: 1, Normalized Response Matrix, script: Detector response

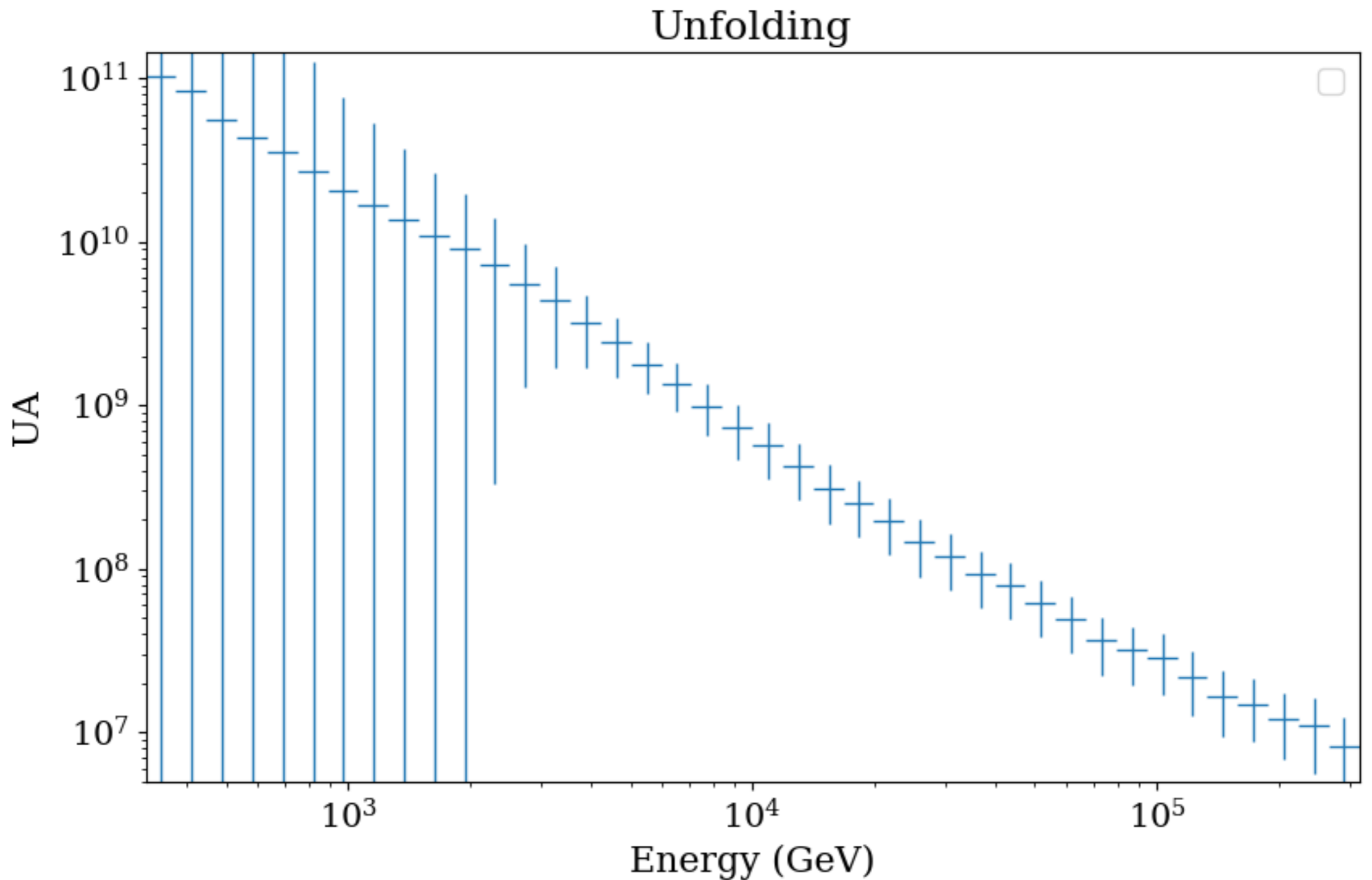
Normalized response matrix



fbin: 1, data: run 5519, script: Reco Extractor



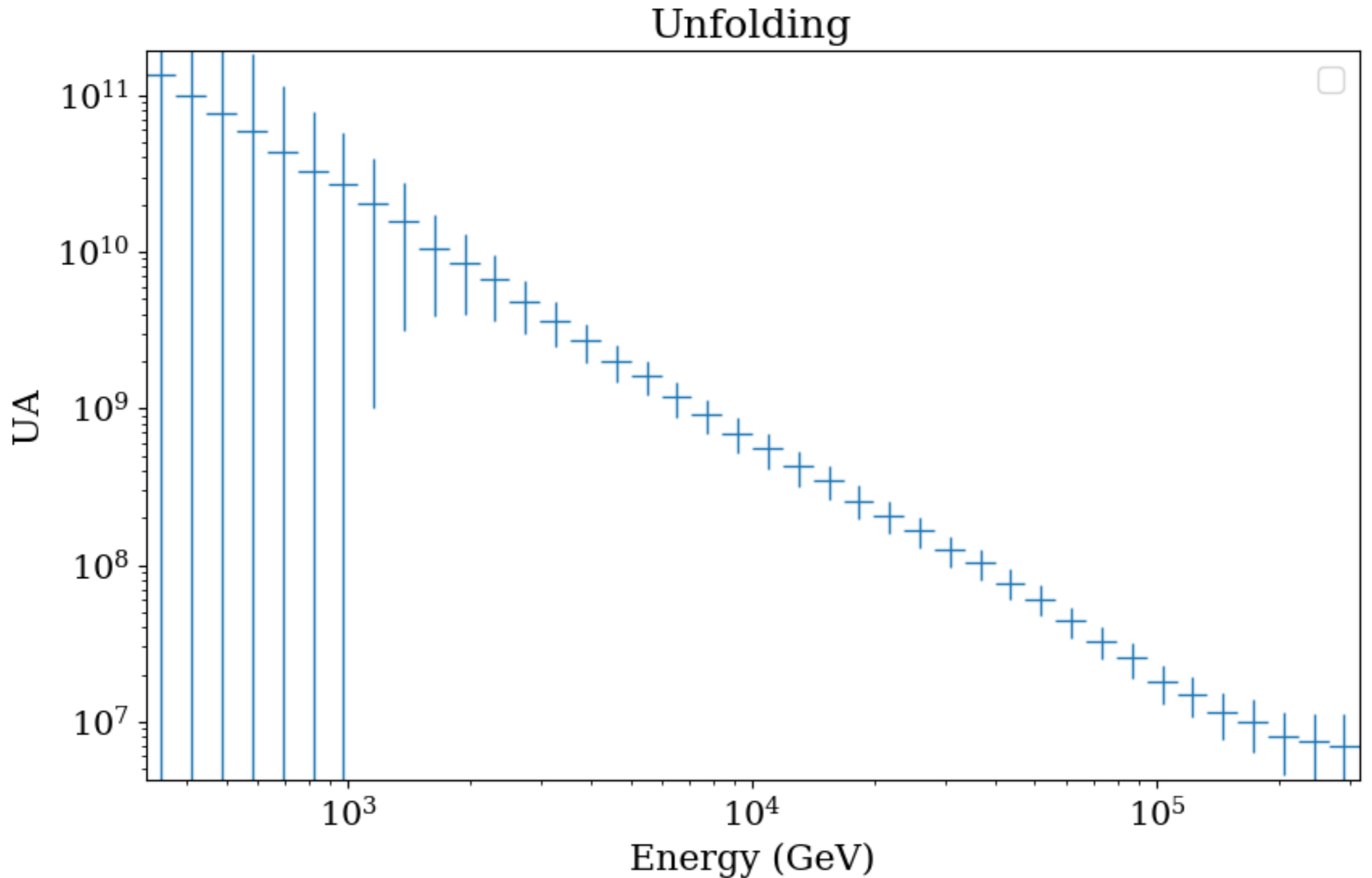
fbin: 1, Unfold output, script: PyUnfold



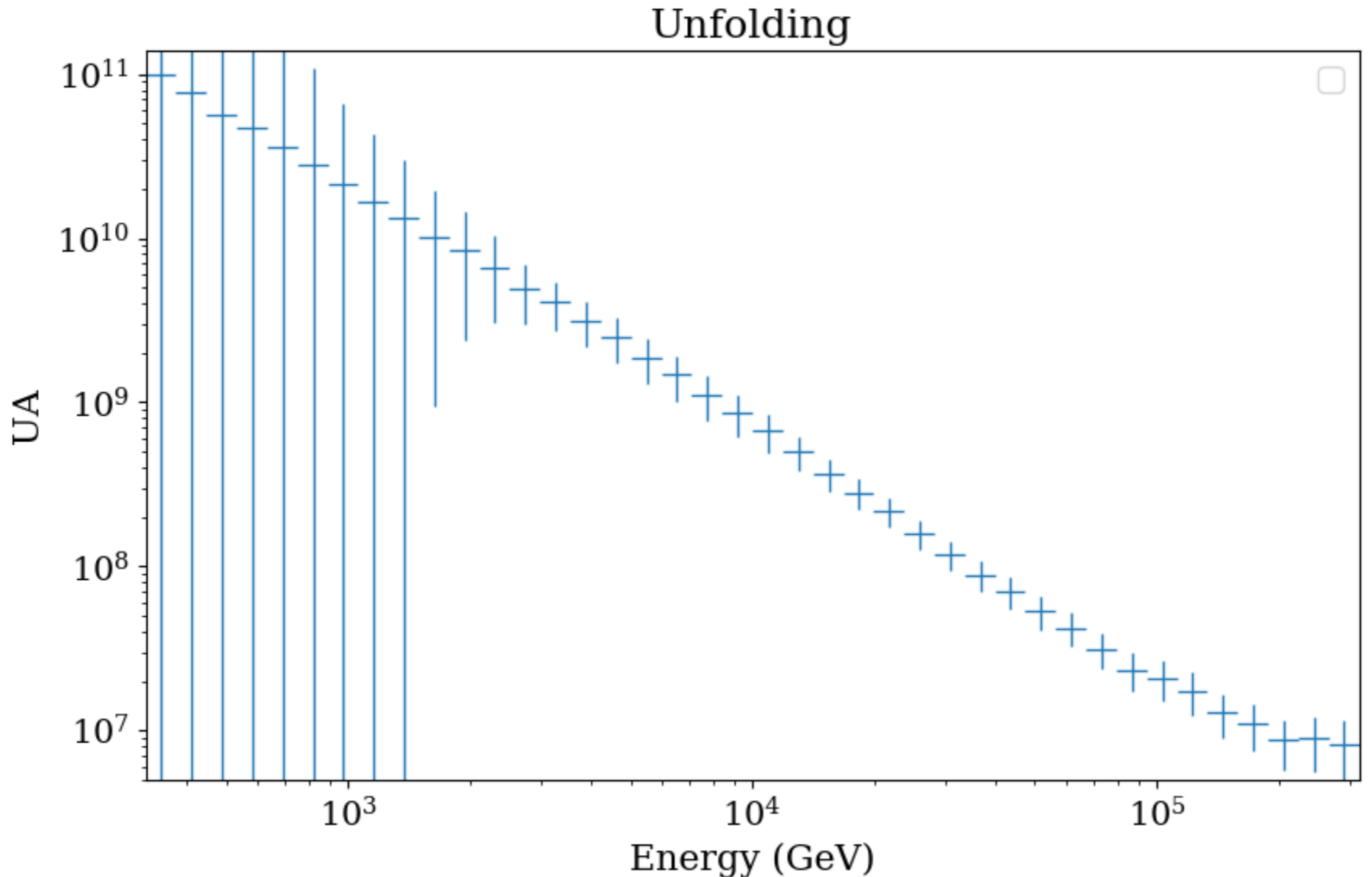
Backslide

NNV2

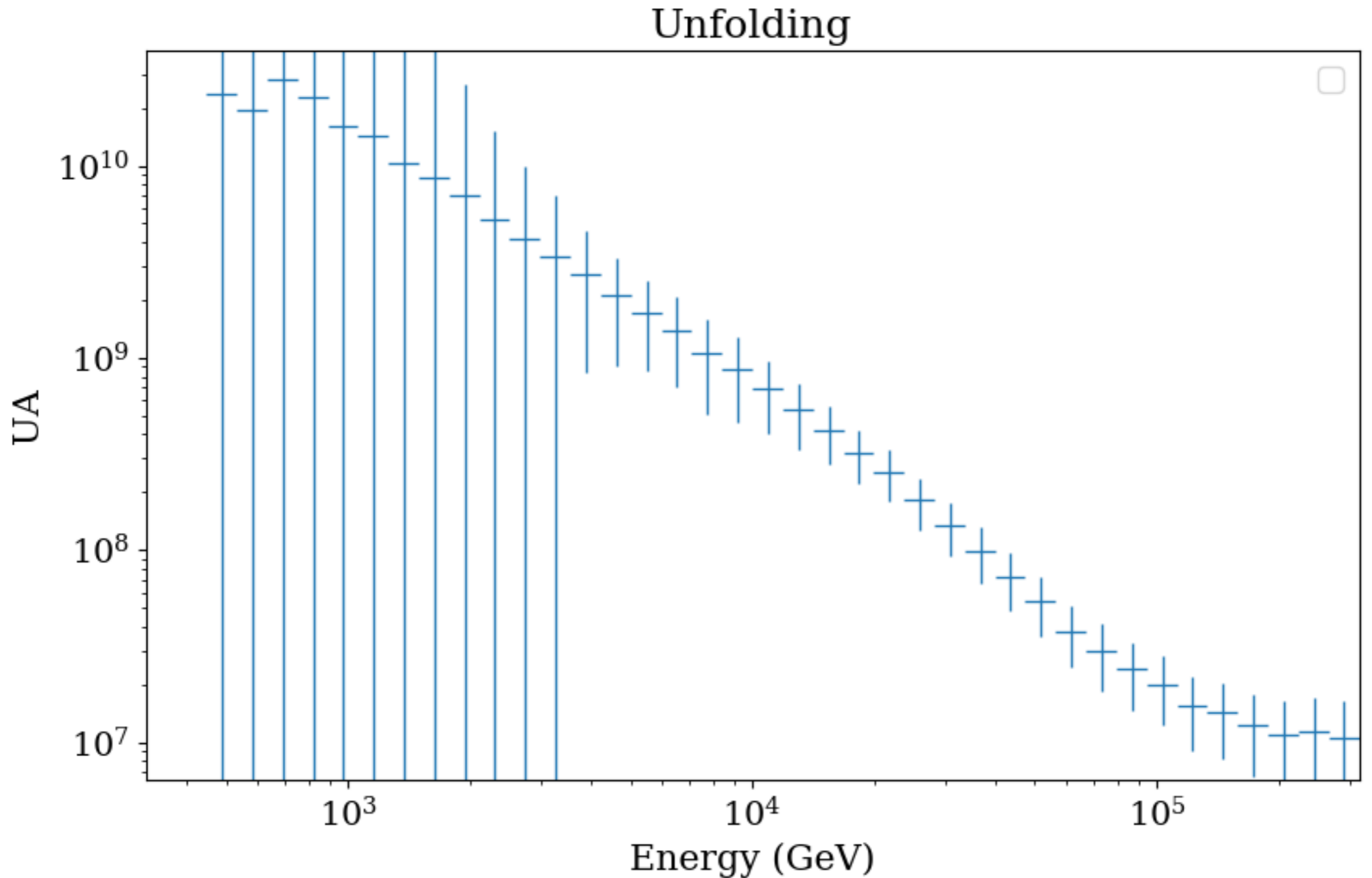
fbin: 0, Unfold output, script: PyUnfold

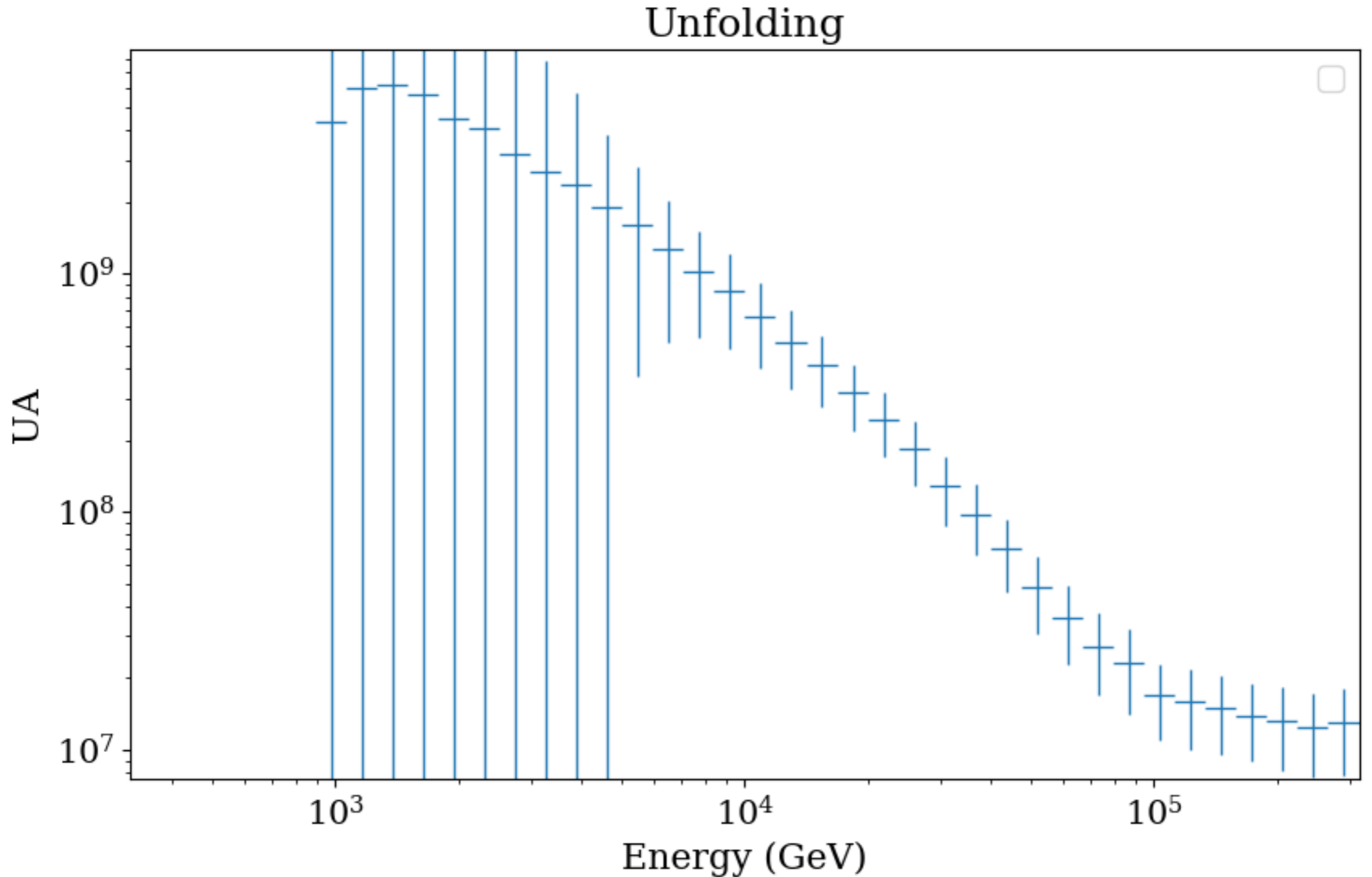


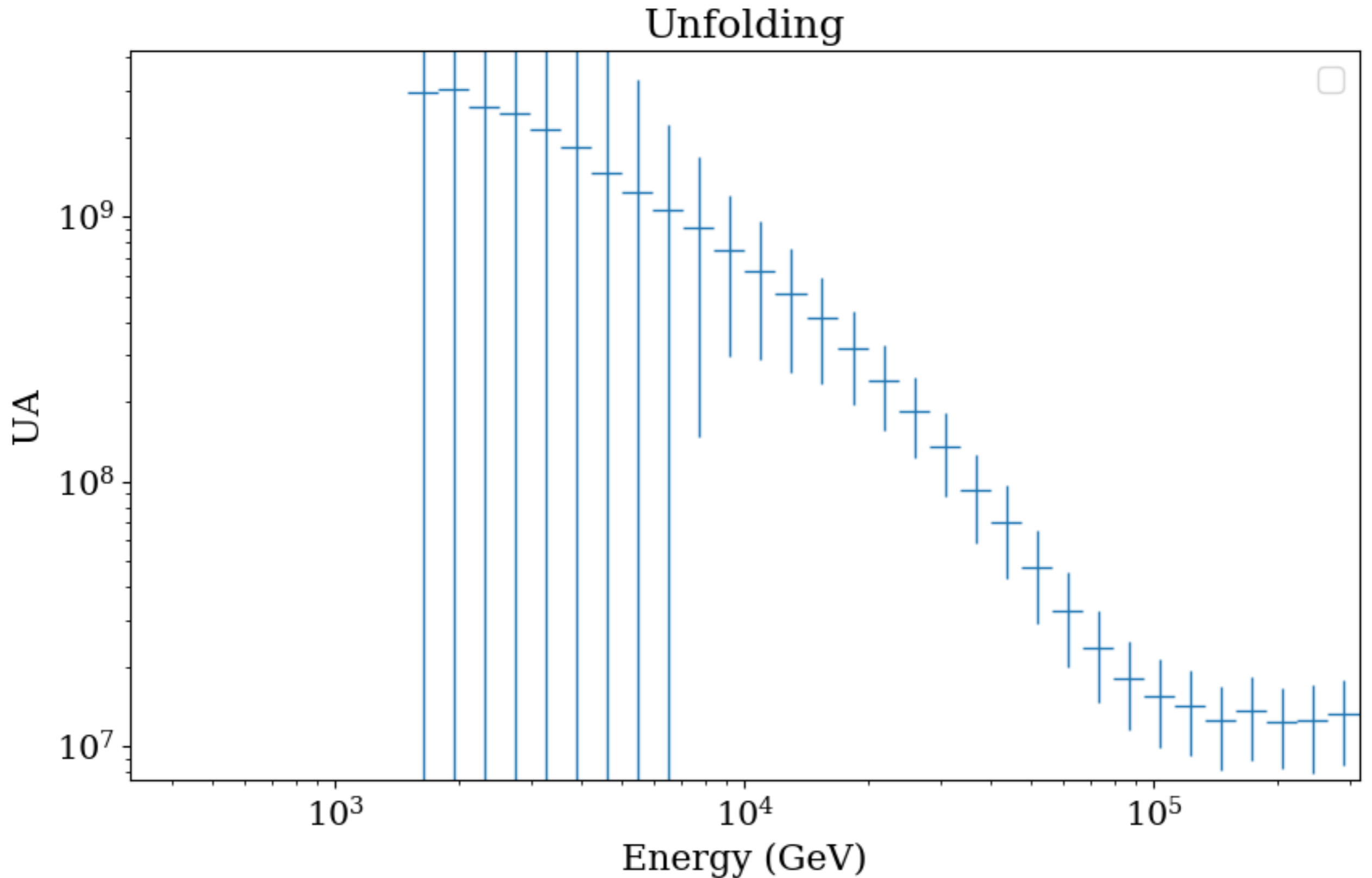
fbin: 1, Unfold output, script: PyUnfold



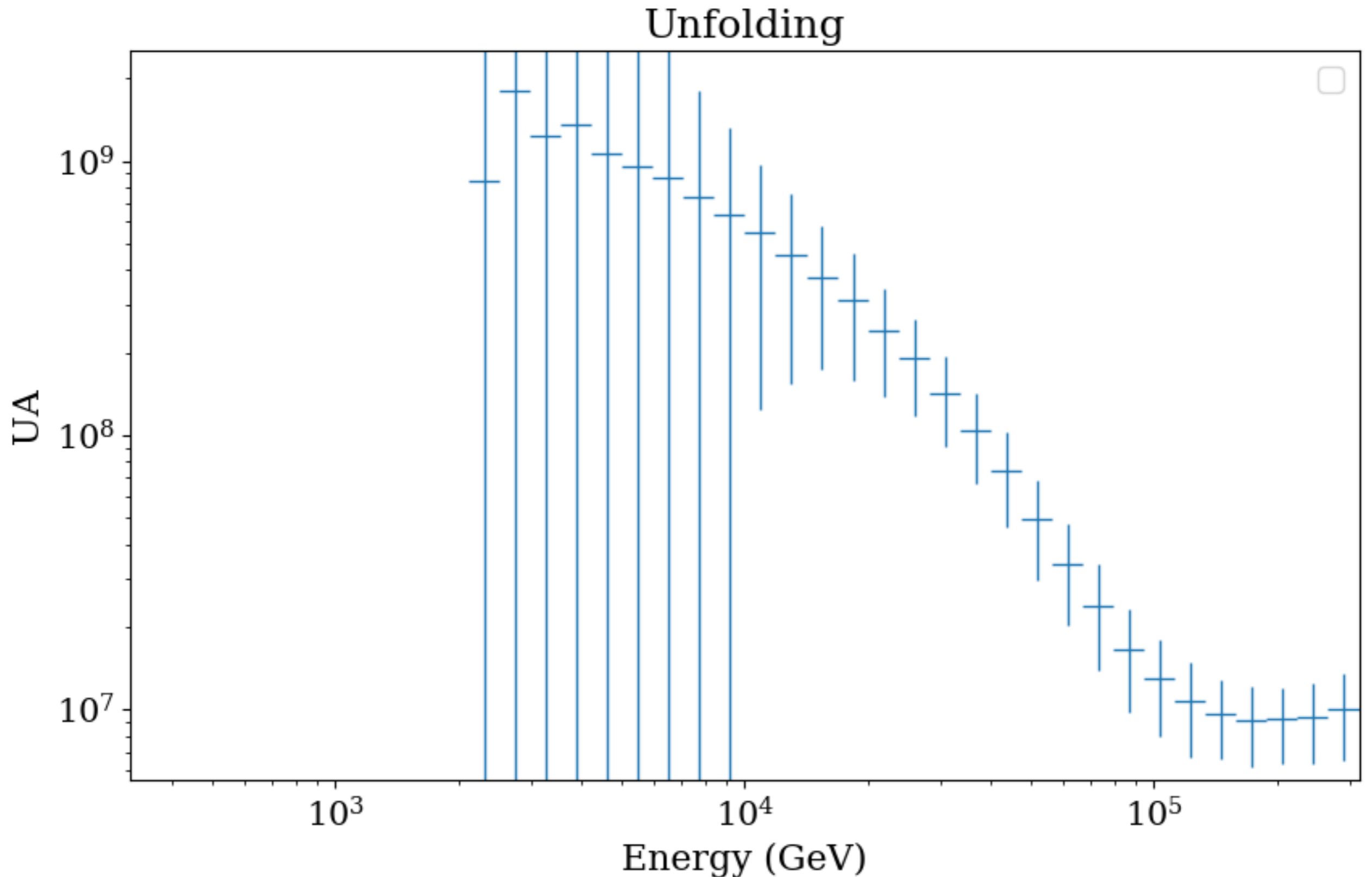
fbin: 2, Unfold output, script: PyUnfold

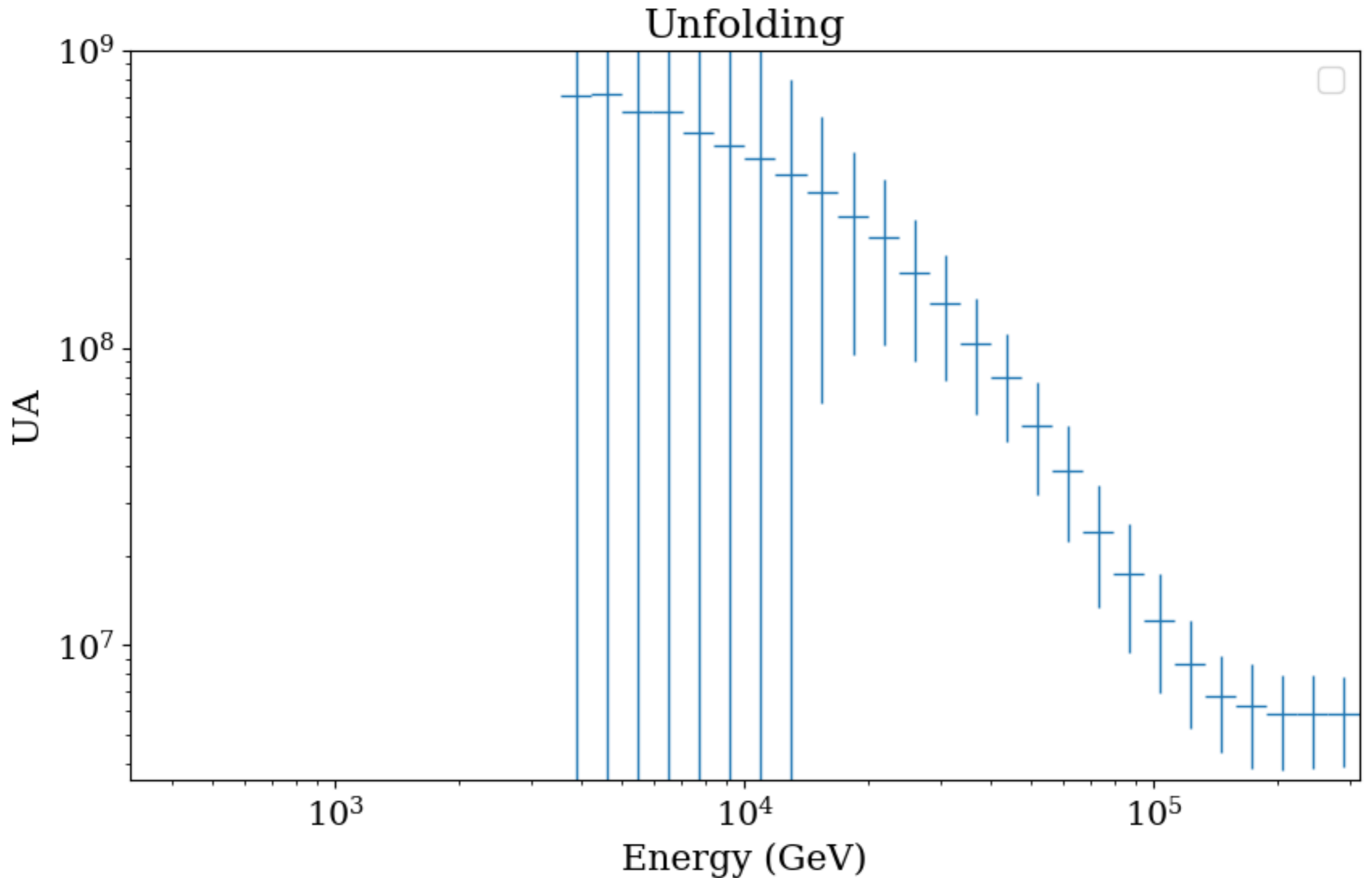




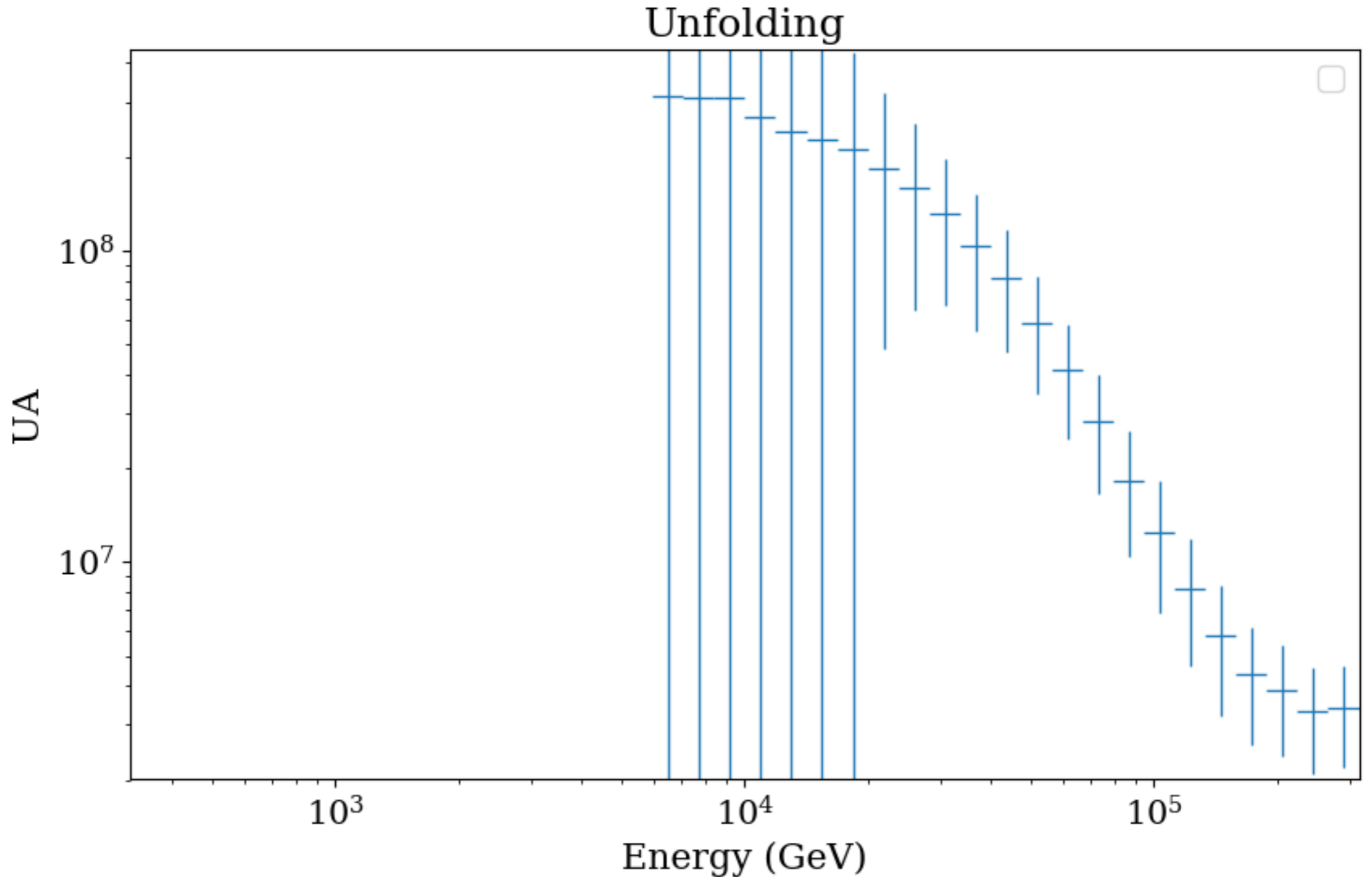


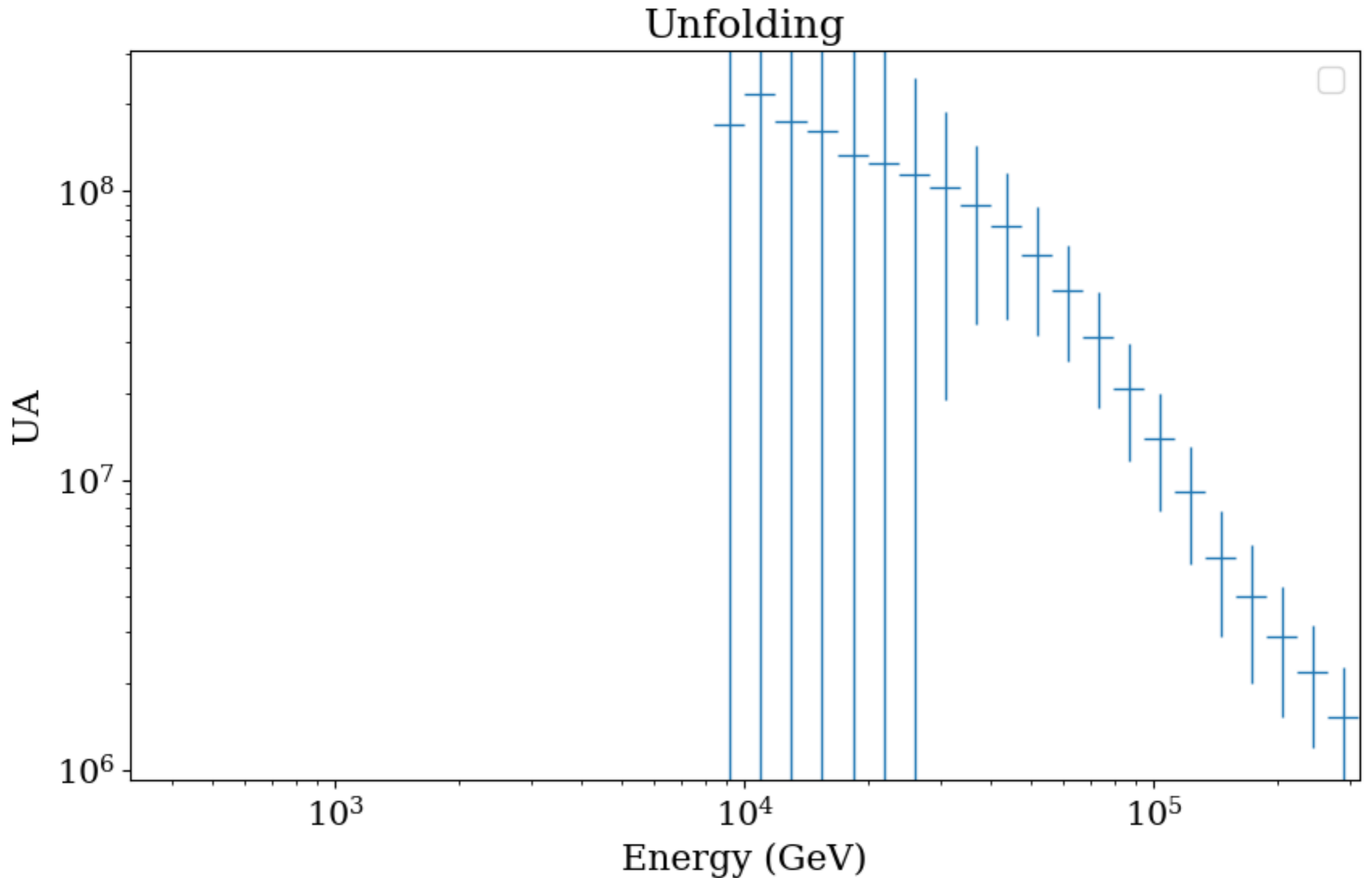
fbin: 5, Unfold output, script: PyUnfold

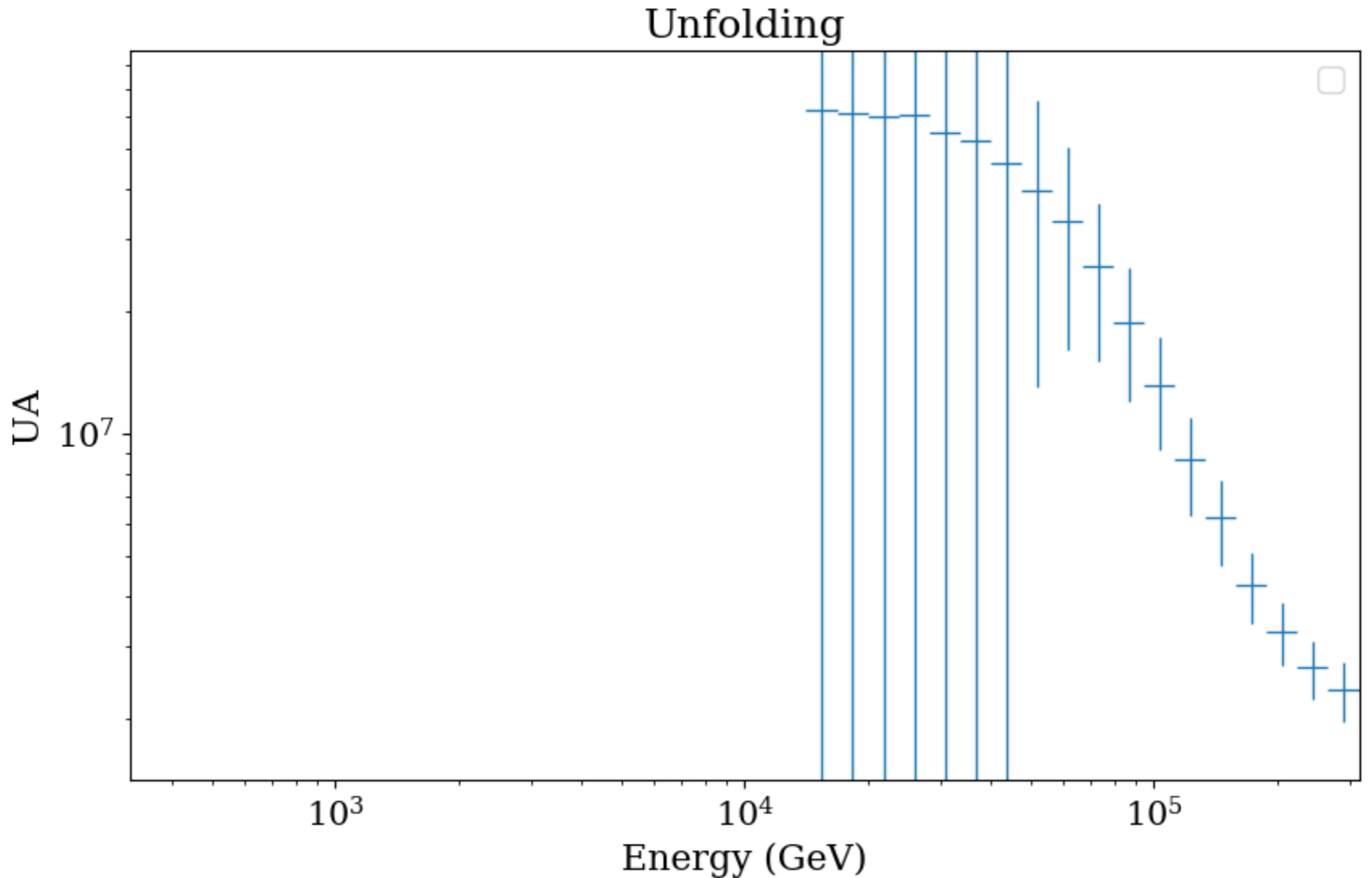




fbin: 7, Unfold output, script: PyUnfold







Bins:

1. fbin in nHitSP20/nChAvail in step of 0.1 from 0.05 to 1.00
2. ebin is logNNeconomyV2 in step of 0.25 from $10^{2.5}$ - $10^{5.25}$

ebin	min ebin	max ebin	min ebin (GeV)	max bin (Gev)
0	2.50	2.75	316.23	562.34
1	2.75	3.00	562.34	1000.00
2	3.00	3.25	1000.00	1778.28
3	3.25	3.50	1778.28	3162.28
4	3.50	3.75	3162.28	5623.41
5	3.75	4.00	5623.41	10000.00
6	4.00	4.25	10000.00	17782.79
7	4.25	4.50	17782.79	31622.78
8	4.50	4.75	31622.78	56234.13
9	4.75	5.00	56234.13	100000.00
10	5.00	5.25	100000.00	177827.94
11	5.25	5.50	177827.94	316227.77

fbin	min fbin	max bin
0	0.05	0.1
1	0.1	0.2
2	0.2	0.3
3	0.3	0.4
4	0.4	0.5
5	0.5	0.6
6	0.6	0.7
7	0.7	0.8
8	0.8	0.9
9	0.9	1.0