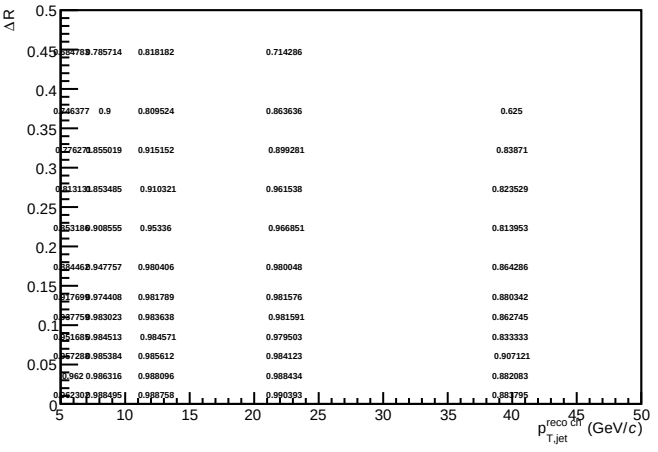
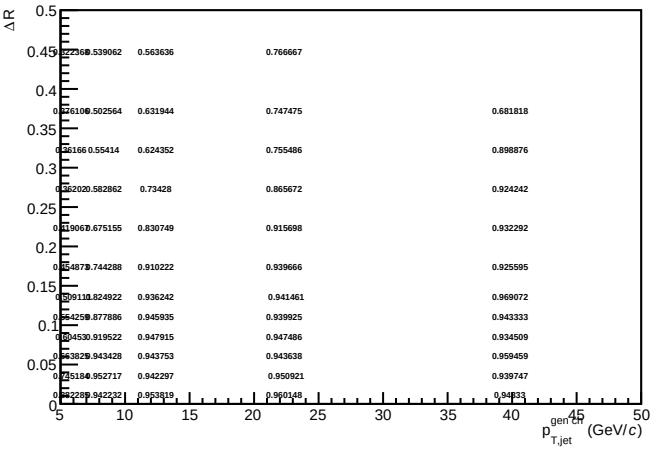
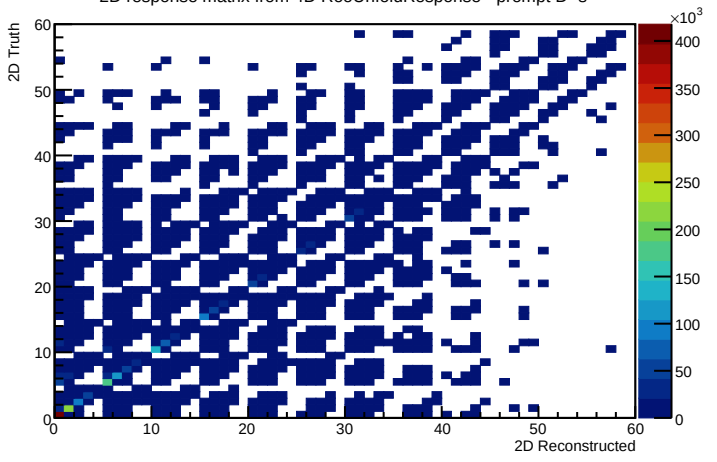
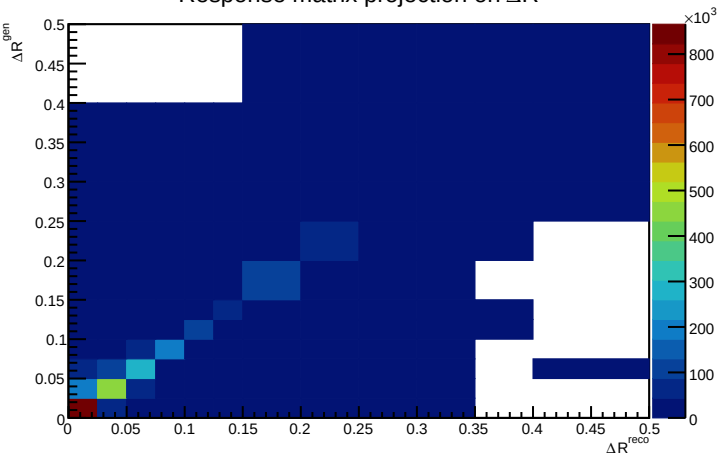
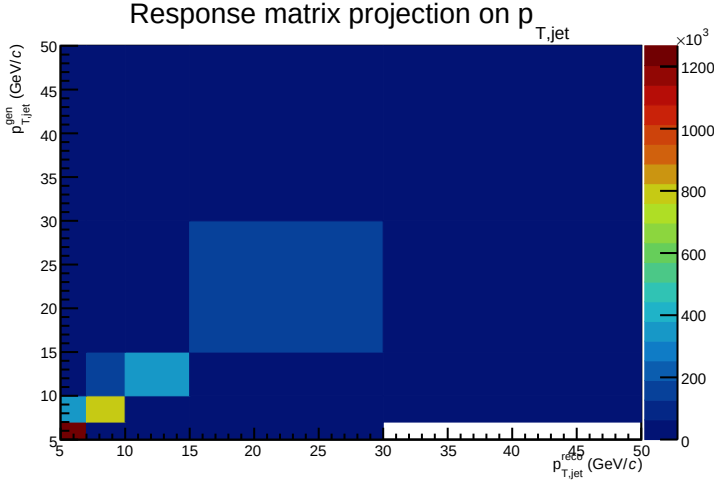
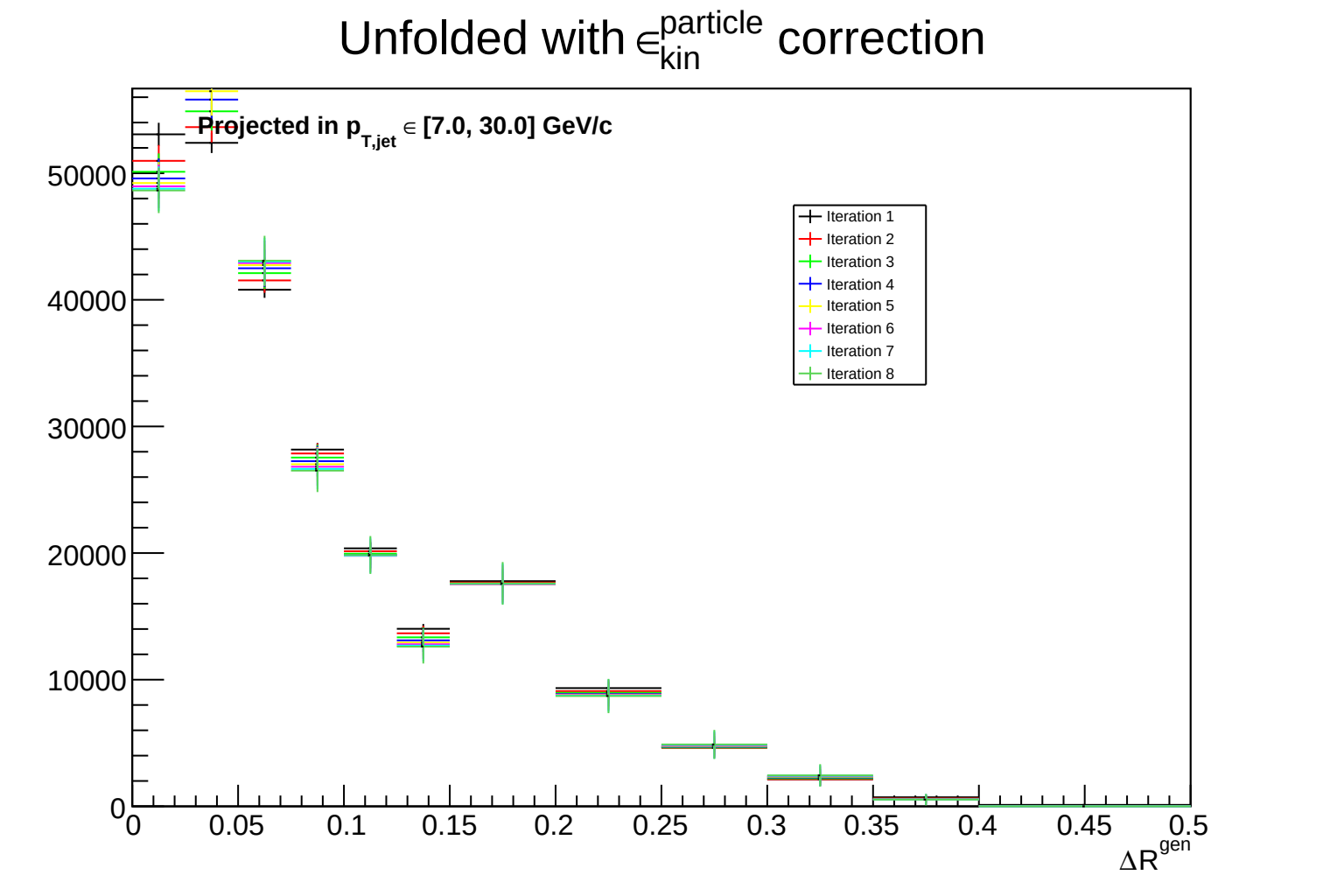

Detector level kinematic efficiency (prompt D^0's)
ΔR
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
5
10
15
20
25
30
35
40
45
50
$p_{T,jet}^{reco\ ch}$ (GeV/c)
0.785714
0.818182
0.714286
0.9
0.809524
0.863636
0.625
0.855019
0.915152
0.899281
0.83871
0.853485
0.910321
0.961538
0.823529
0.908555
0.95336
0.966851
0.813953
0.947757
0.980406
0.980048
0.864286
0.974408
0.981789
0.981576
0.880342
0.983023
0.983638
0.981591
0.862745
0.984513
0.984571
0.979503
0.833333
0.985384
0.985612
0.984123
0.907121
0.986316
0.988096
0.988434
0.882083
0.988495
0.988758
0.990393
0.883795

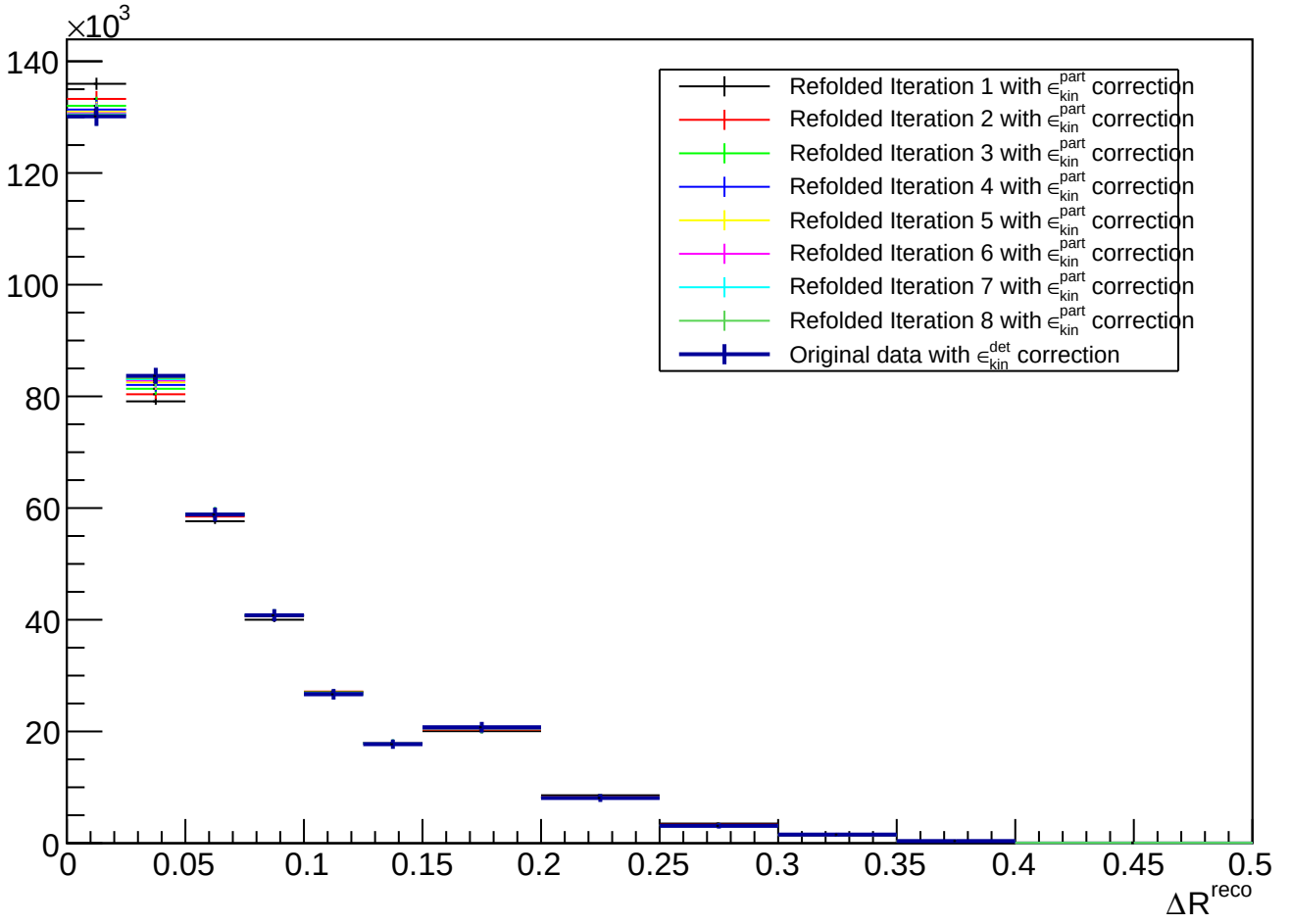

Particle level kinematic efficiency (prompt D^0's)
ΔR
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
5
10
15
20
25
30
35
40
45
50
$p_{T,jet}^{gen\ ch}$ (GeV/c)
0.539062
0.563636
0.766667
0.502564
0.631944
0.747475
0.681818
0.55414
0.624352
0.755486
0.898876
0.582862
0.73428
0.865672
0.924242
0.675155
0.830749
0.915698
0.932292
0.744288
0.910222
0.939666
0.925595
0.824922
0.936242
0.941461
0.969072
0.877886
0.945935
0.939925
0.943333
0.919522
0.947915
0.947486
0.934509
0.943428
0.943753
0.943638
0.959459
0.952717
0.942297
0.950921
0.939747
0.942232
0.953819
0.960148
0.94833

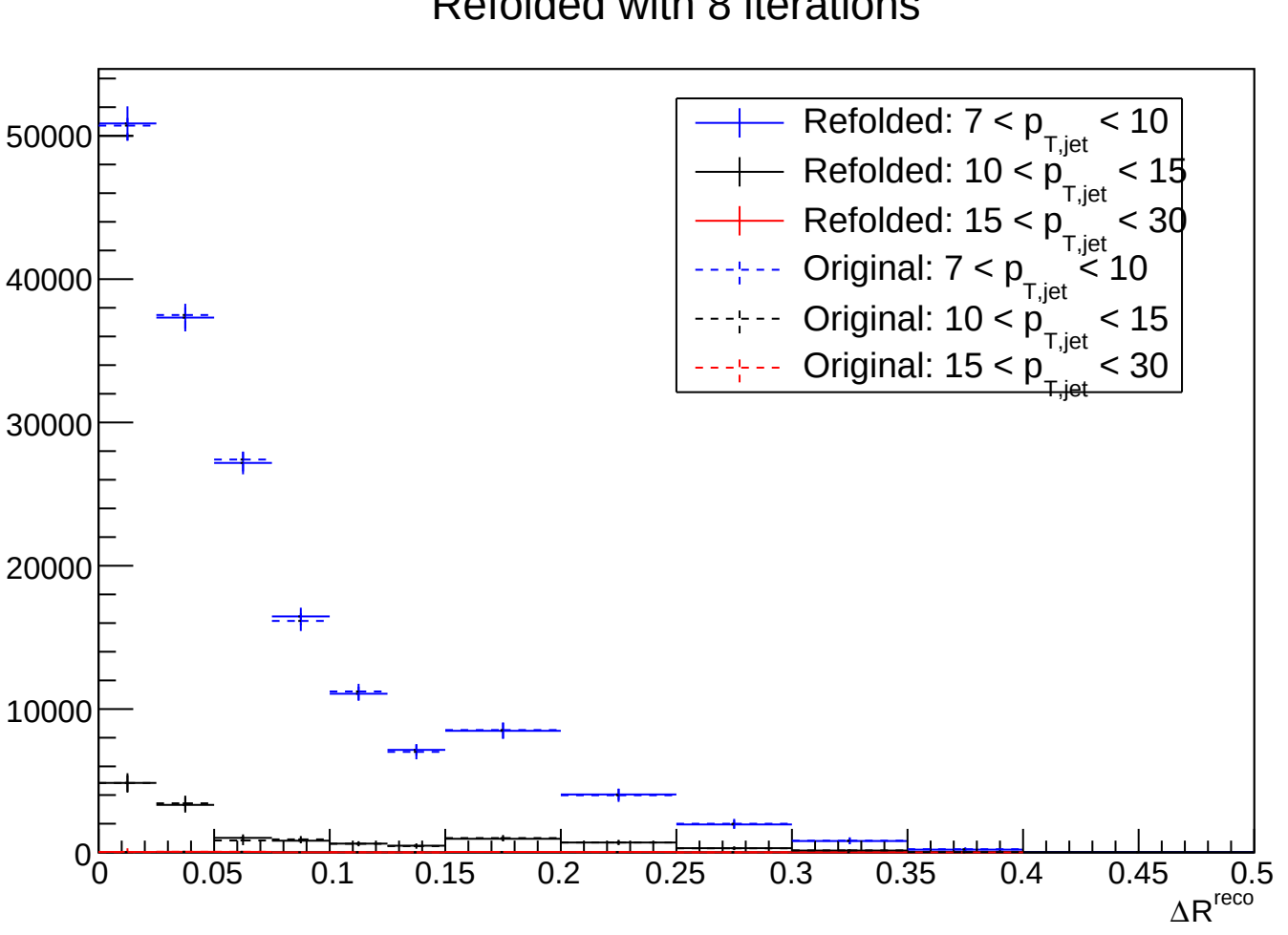

2D response matrix from 4D RooUnfoldResponse - prompt D0s
2D Truth
2D Reconstructed
×10^3

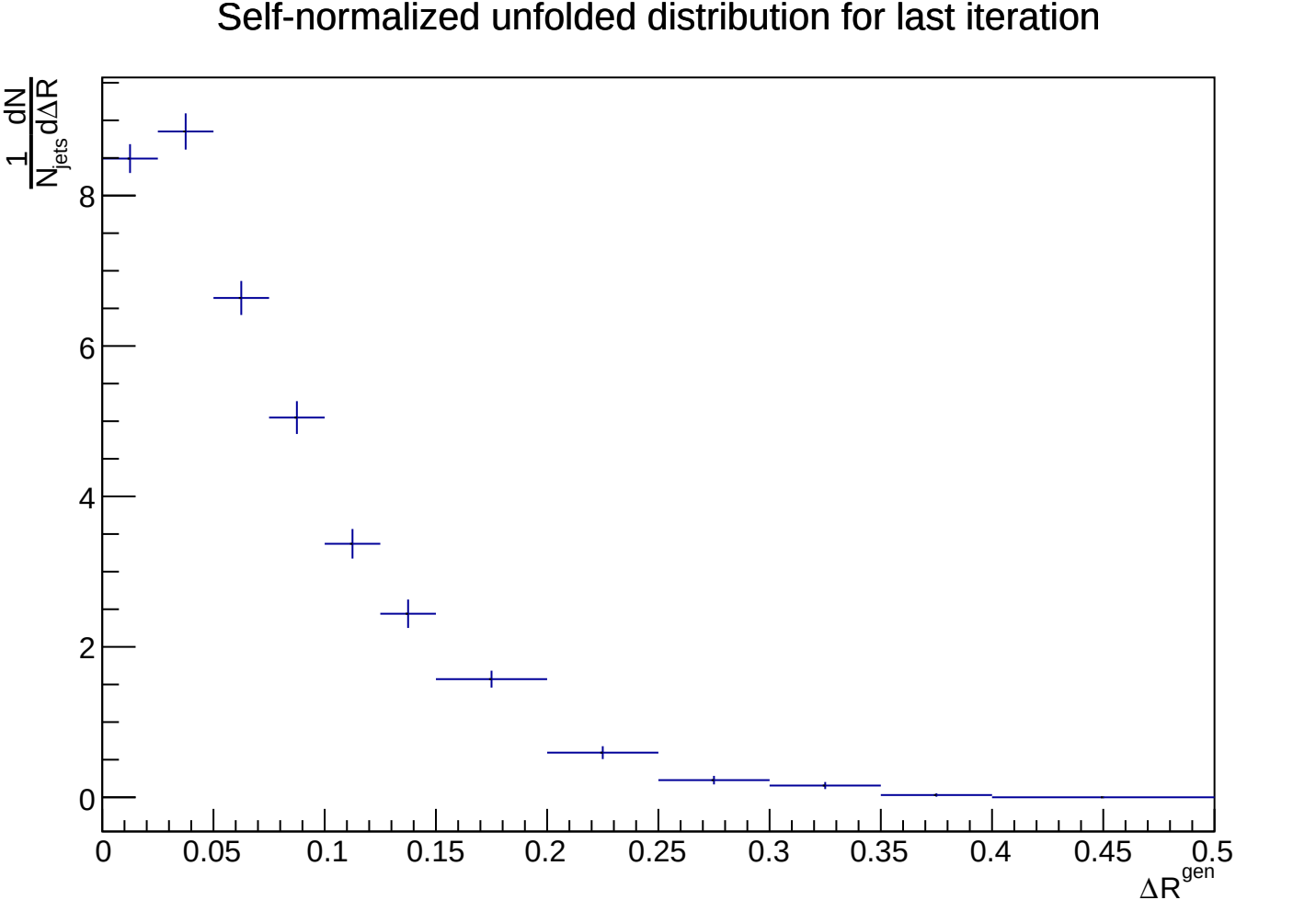

Response matrix projection on ΔR
ΔR^gen
ΔR^reco
×10^3

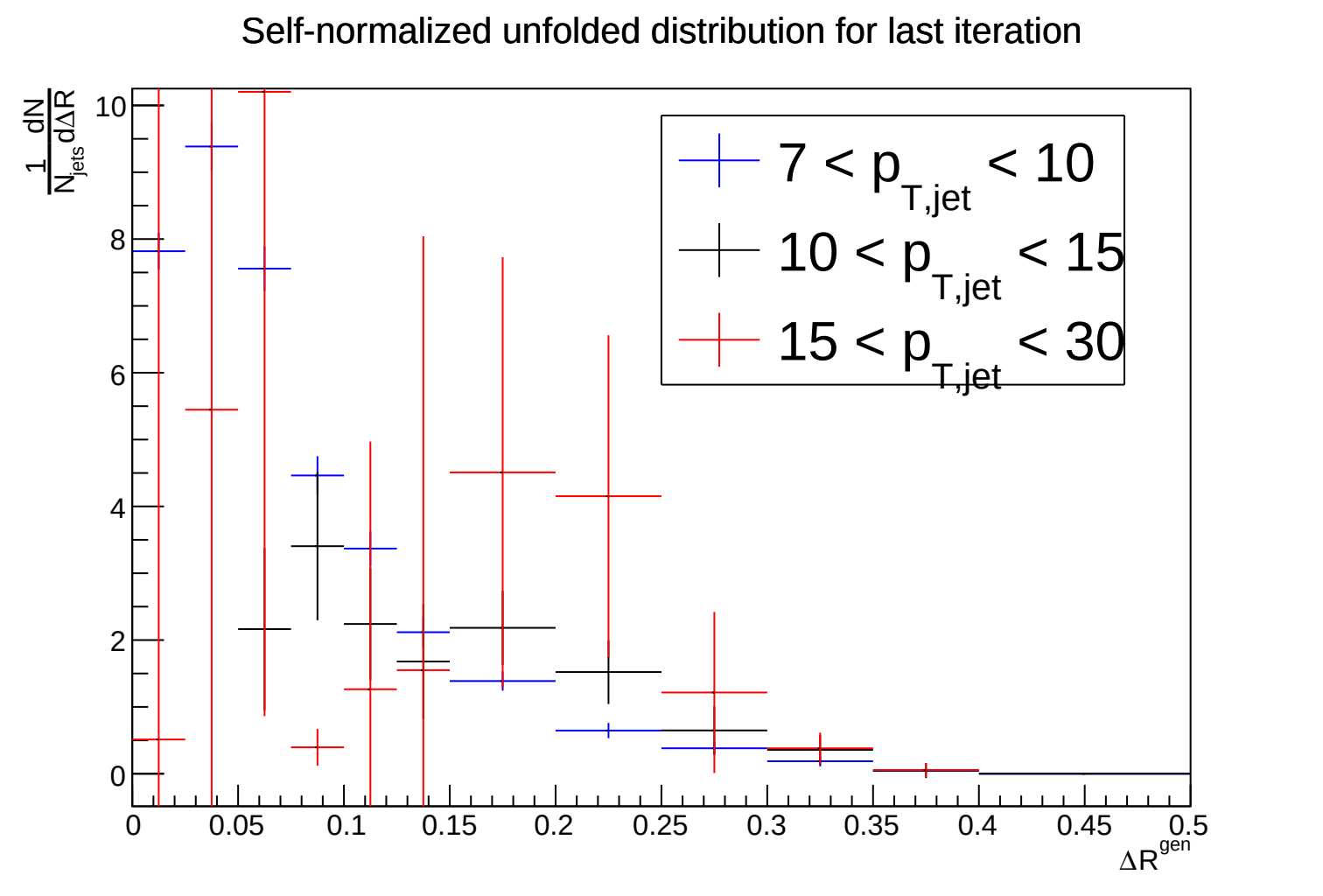

Response matrix projection on p T,jet
p^gen T,jet (GeV/c)
p^reco T,jet (GeV/c)
×10^3

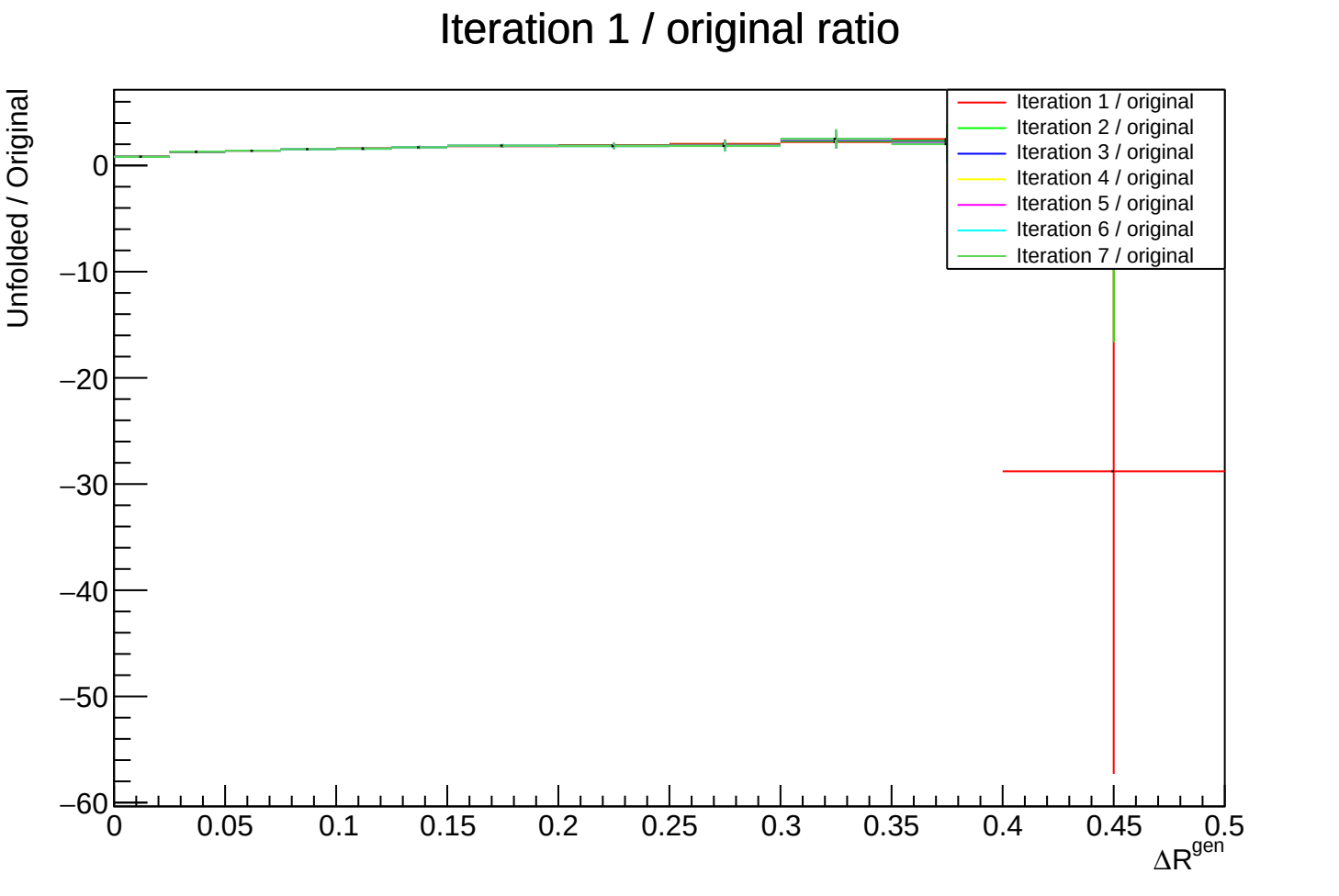

Unfolded with $\in_{kin}^{particle}$ correction
Projected in $p_{T,jet} \in$ [7.0, 30.0] GeV/c
Iteration 1
Iteration 2
Iteration 3
Iteration 4
Iteration 5
Iteration 6
Iteration 7
Iteration 8
50000
40000
30000
20000
10000
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
ΔR^{gen}


Refolding test
×10^3
140
120
100
80
60
40
20
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
ΔR^reco
Refolded Iteration 1 with ∈_kin^part correction
Refolded Iteration 2 with ∈_kin^part correction
Refolded Iteration 3 with ∈_kin^part correction
Refolded Iteration 4 with ∈_kin^part correction
Refolded Iteration 5 with ∈_kin^part correction
Refolded Iteration 6 with ∈_kin^part correction
Refolded Iteration 7 with ∈_kin^part correction
Refolded Iteration 8 with ∈_kin^part correction
Original data with ∈_kin^det correction


Refolded with 8 iterations
Refolded: 7 < p_T,jet < 10
Refolded: 10 < p_T,jet < 15
Refolded: 15 < p_T,jet < 30
Original: 7 < p_T,jet < 10
Original: 10 < p_T,jet < 15
Original: 15 < p_T,jet < 30
50000
40000
30000
20000
10000
0
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
ΔR^reco


Self-normalized unfolded distribution for last iteration
$\frac{1}{N_{jets}}\frac{dN}{d\Delta R}$
0
2
4
6
8
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
ΔR^{gen}


Self-normalized unfolded distribution for last iteration
$\frac{1}{N_{jets}}\frac{dN}{d\Delta R}$
$7 < p_{T,jet} < 10$
$10 < p_{T,jet} < 15$
$15 < p_{T,jet} < 30$
ΔR^{gen}
0
2
4
6
8
10
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5


Iteration 1 / original ratio
Unfolded / Original
Iteration 1 / original
Iteration 2 / original
Iteration 3 / original
Iteration 4 / original
Iteration 5 / original
Iteration 6 / original
Iteration 7 / original
0
−10
−20
−30
−40
−50
−60
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
ΔR^gen