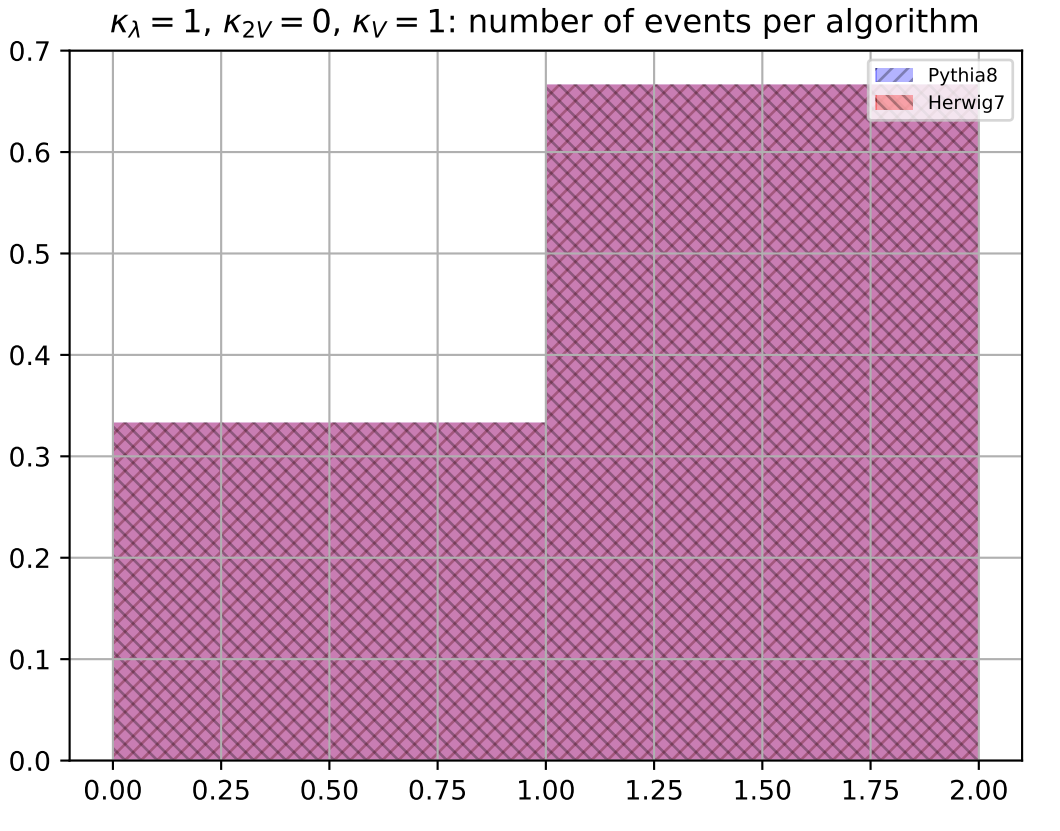
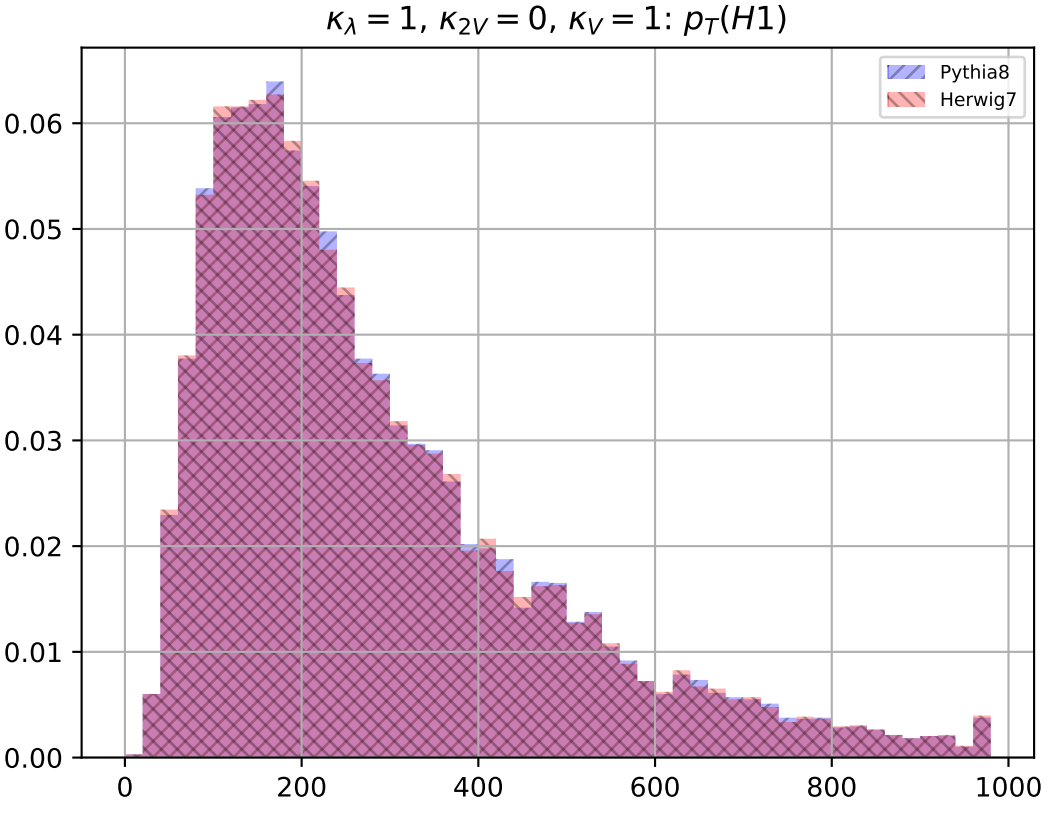
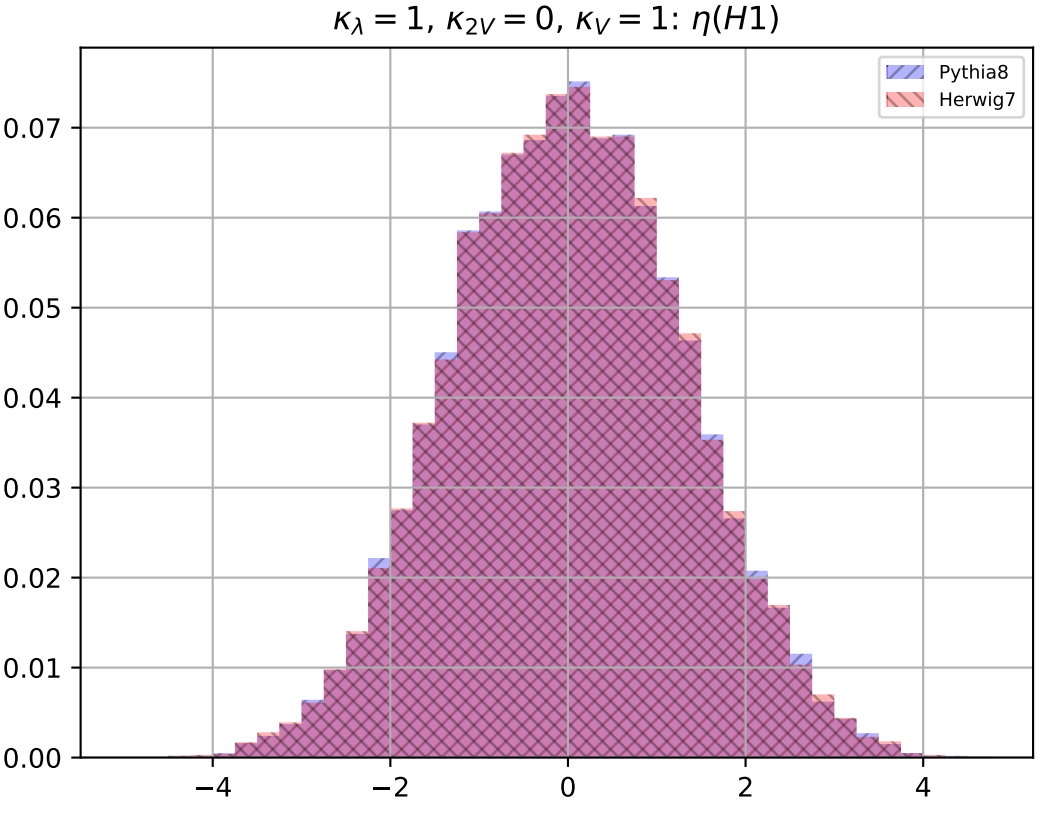
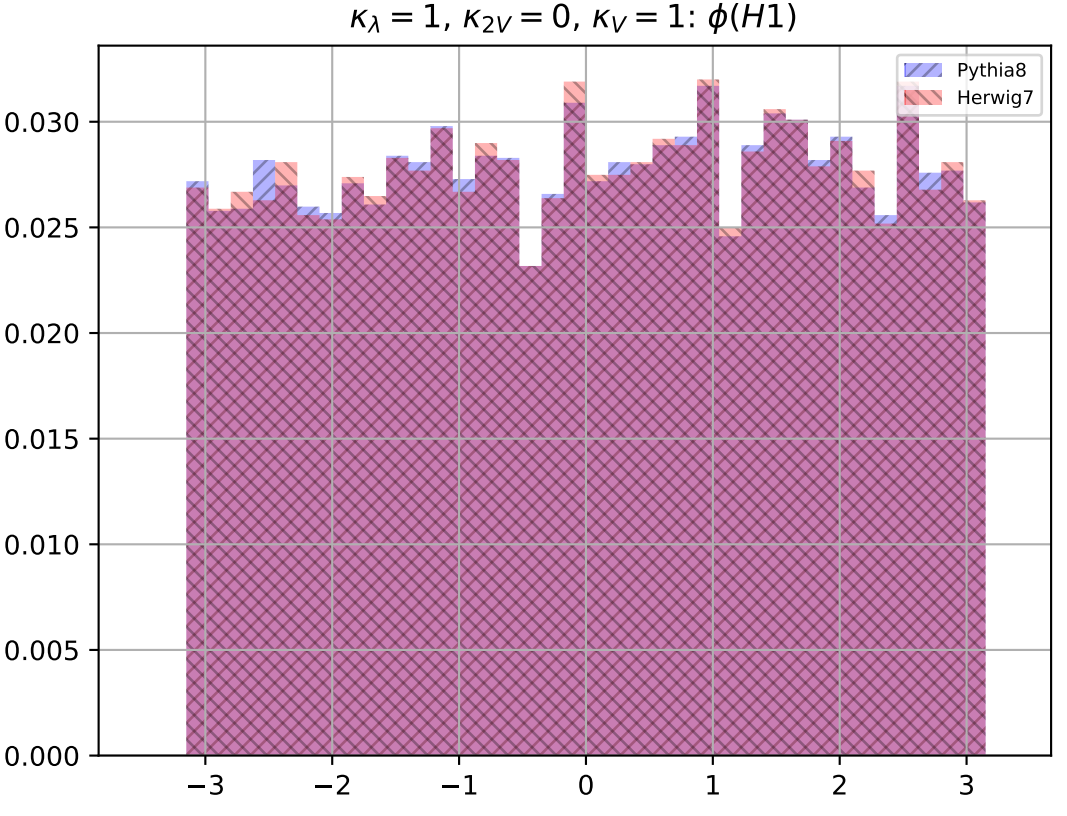
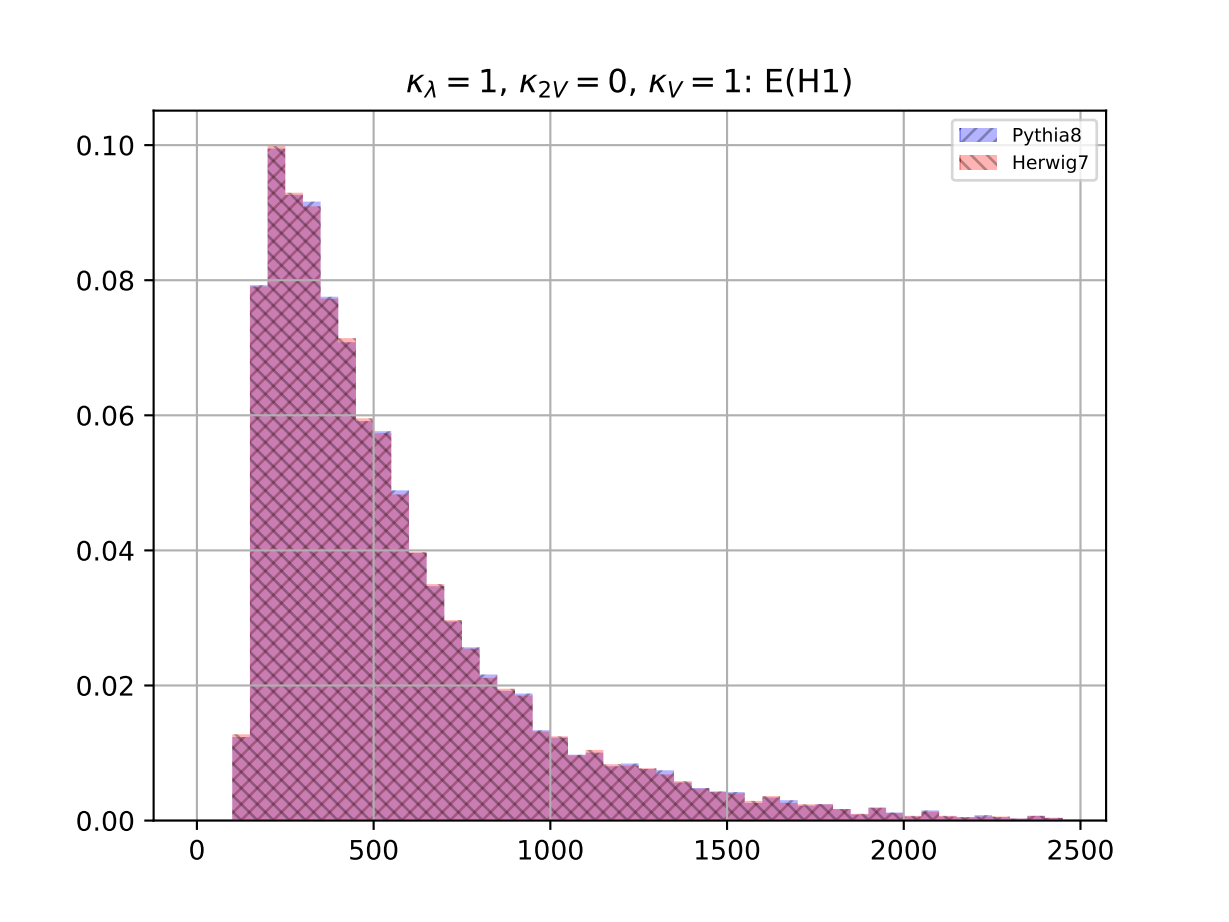

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: number of events per algorithm
Pythia8
Herwig7
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0.00
0.25
0.50
0.75
1.00
1.25
1.50
1.75
2.00

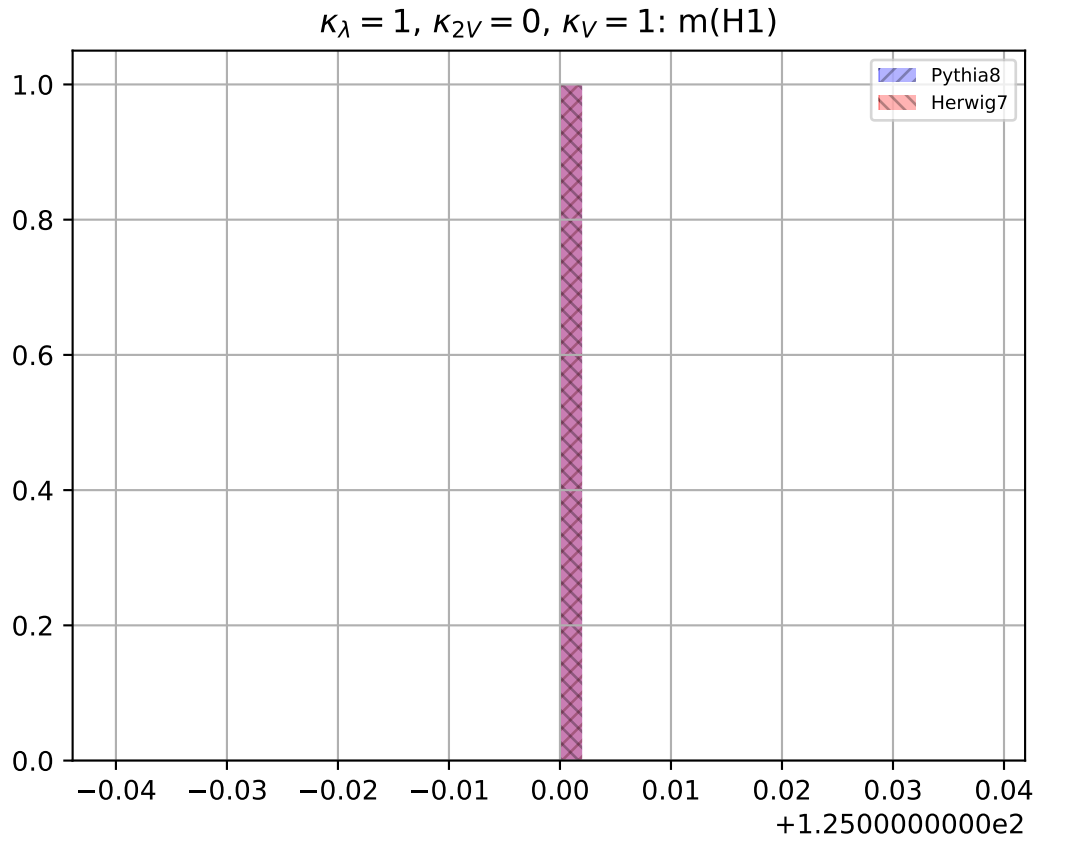
$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: worker run-time summary
Pythia8
Herwig7
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0

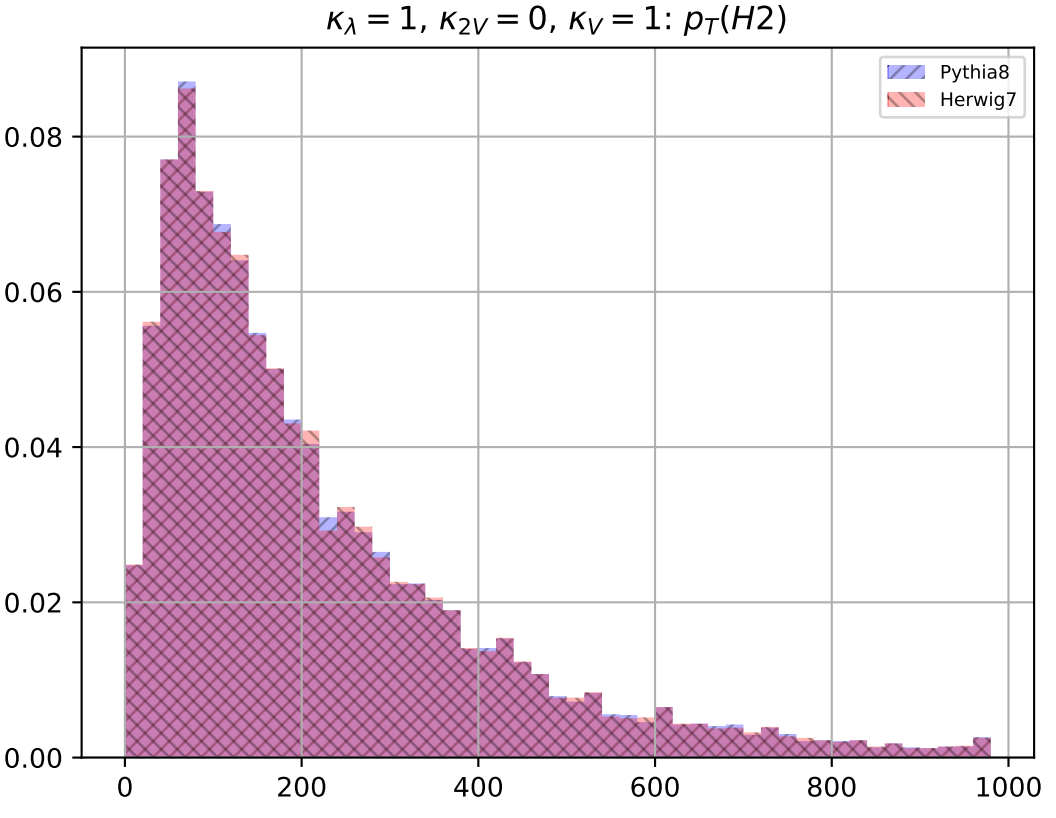

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $p_T(H1)$
Pythia8
Herwig7
0.06
0.05
0.04
0.03
0.02
0.01
0.00
0
200
400
600
800
1000

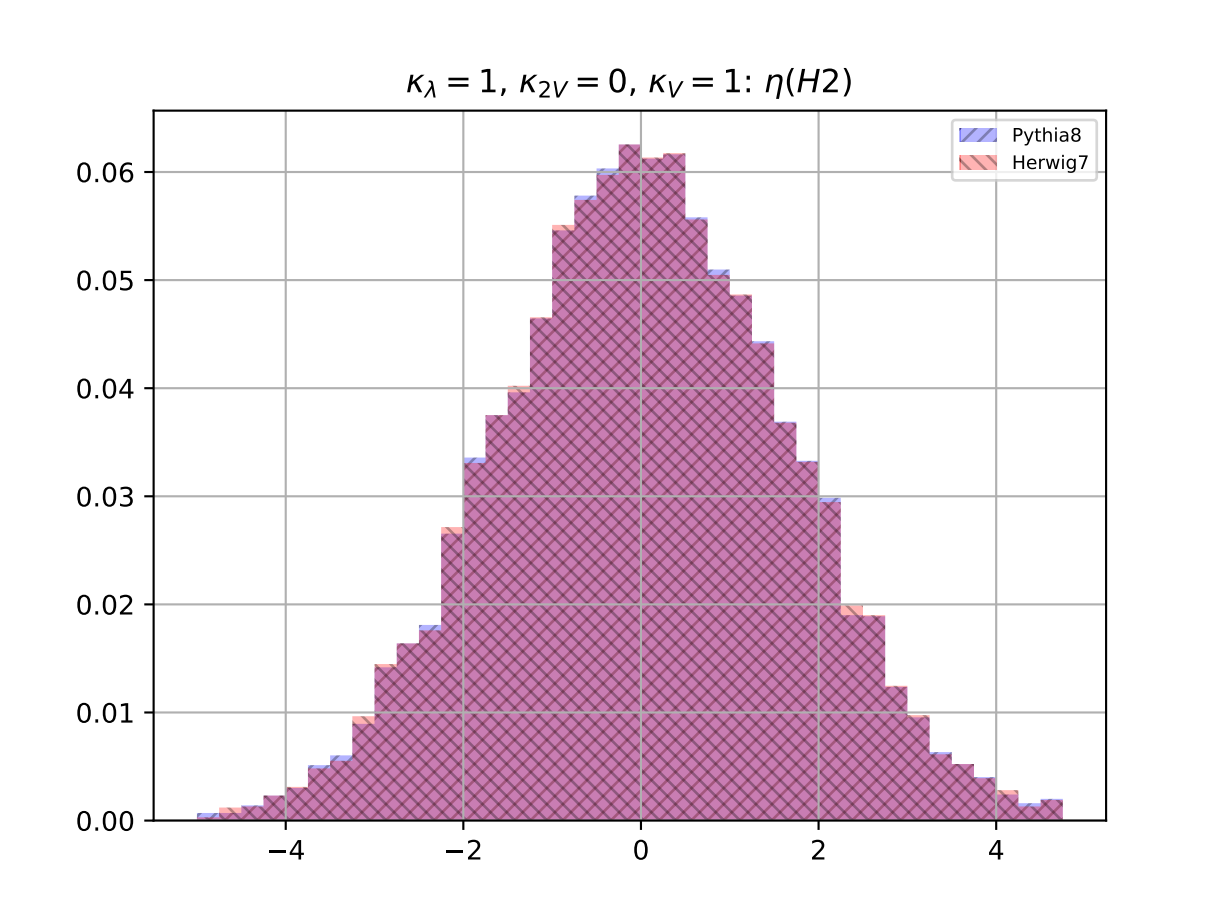

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\eta(H1)$
Pythia8
Herwig7
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
−4
−2
0
2
4

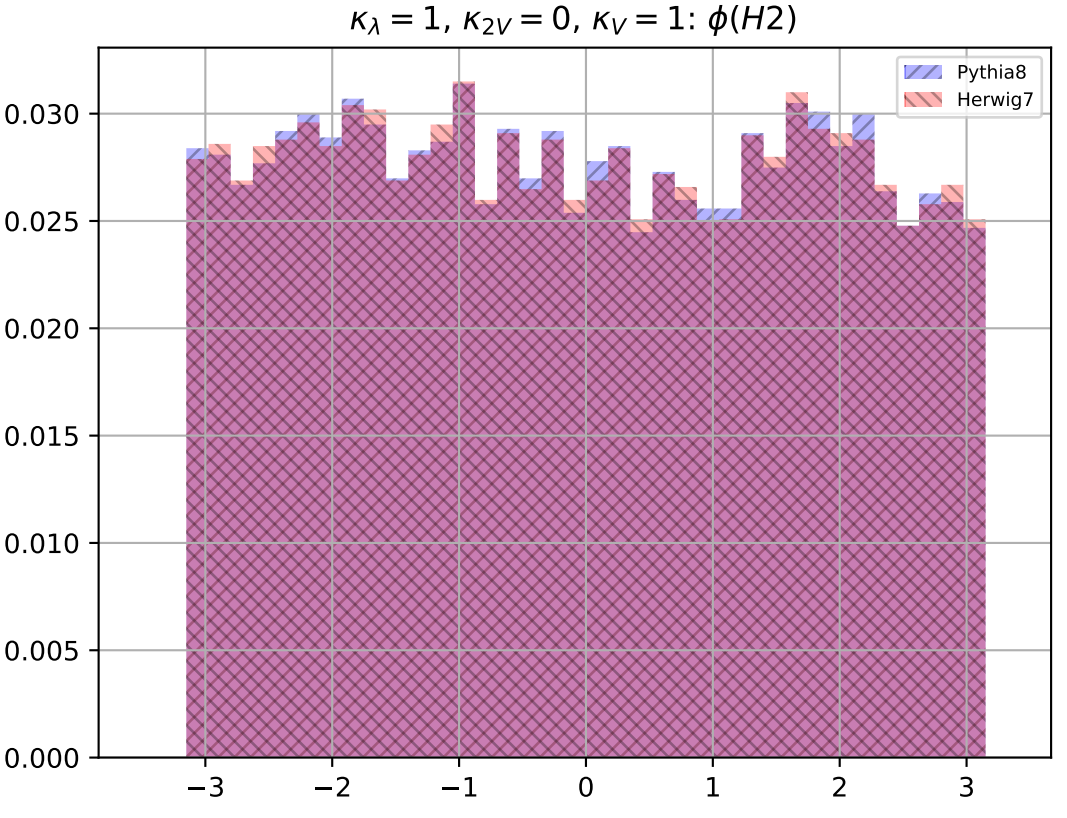

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\phi(H1)$
Pythia8
Herwig7
0.030
0.025
0.020
0.015
0.010
0.005
0.000
−3
−2
−1
0
1
2
3

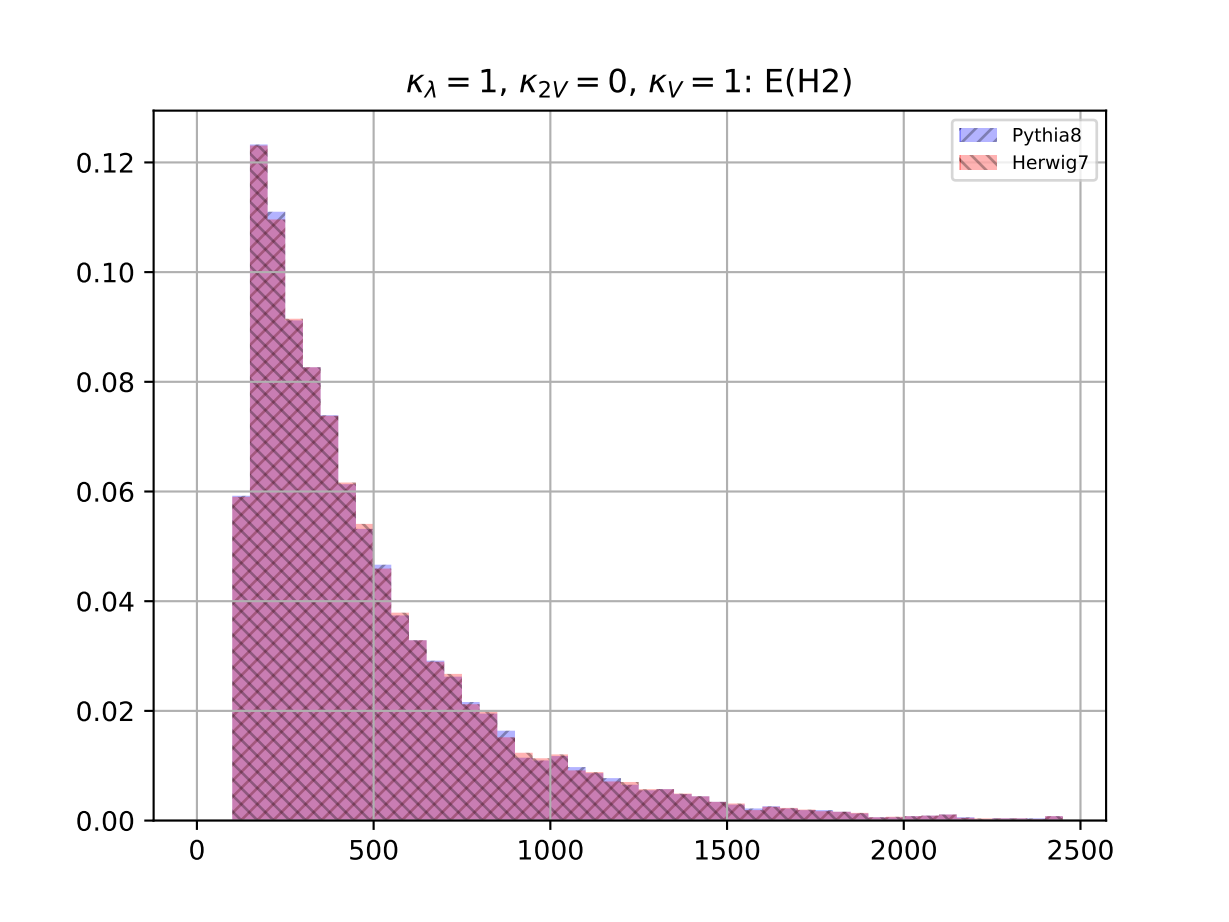

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: E(H1)
Pythia8
Herwig7
0.10
0.08
0.06
0.04
0.02
0.00
0
500
1000
1500
2000
2500

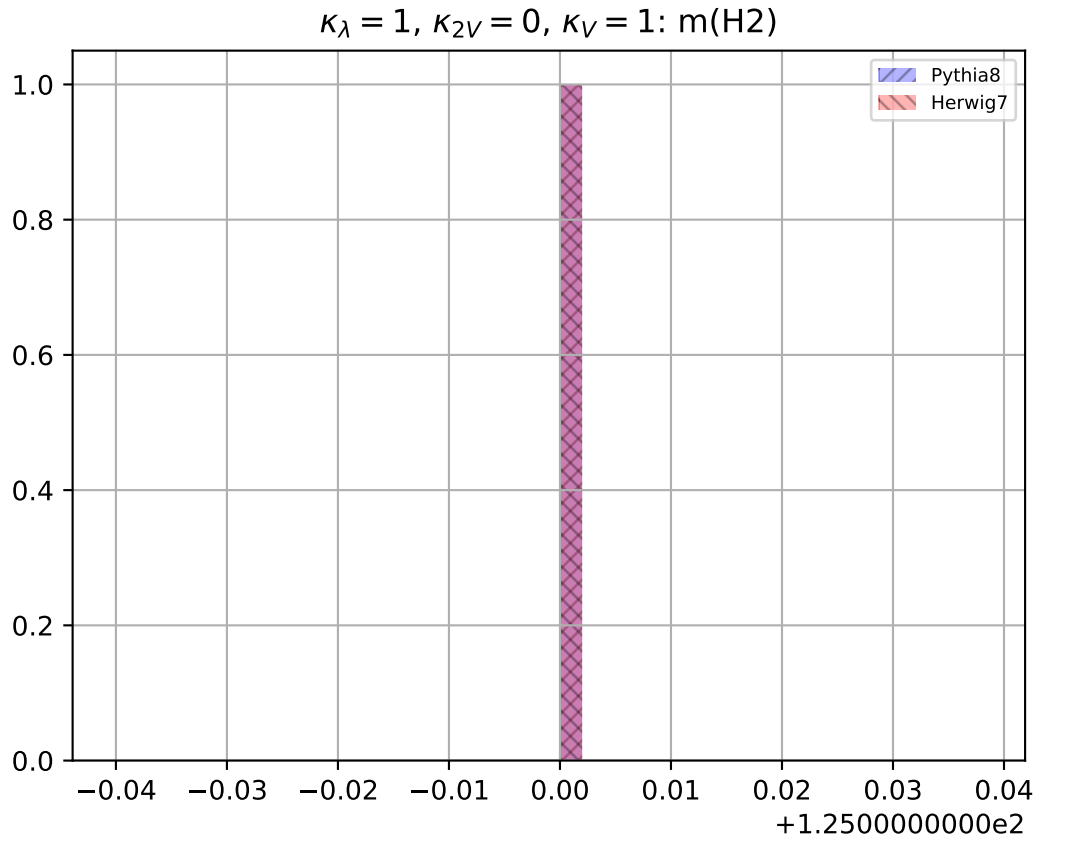

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: m(H1)
Pythia8
Herwig7
1.0
0.8
0.6
0.4
0.2
0.0
−0.04
−0.03
−0.02
−0.01
0.00
0.01
0.02
0.03
0.04
+1.2500000000e2

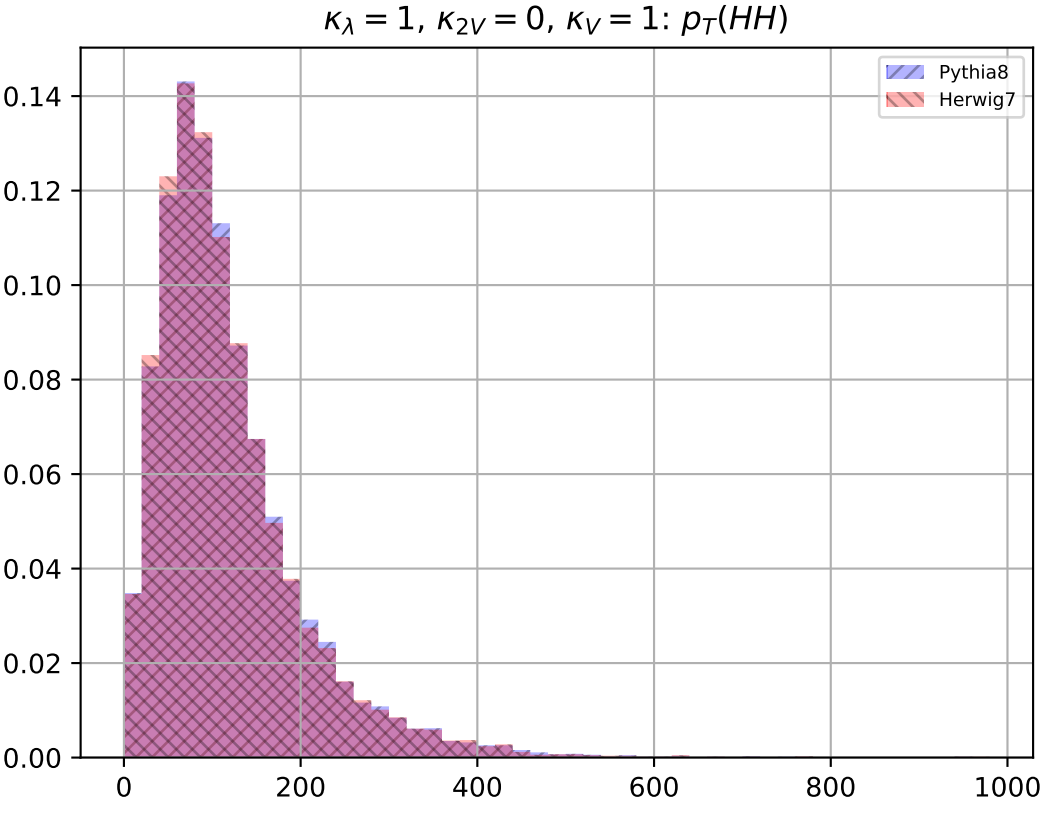

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $p_T(H2)$
Pythia8
Herwig7
0.08
0.06
0.04
0.02
0.00
0
200
400
600
800
1000

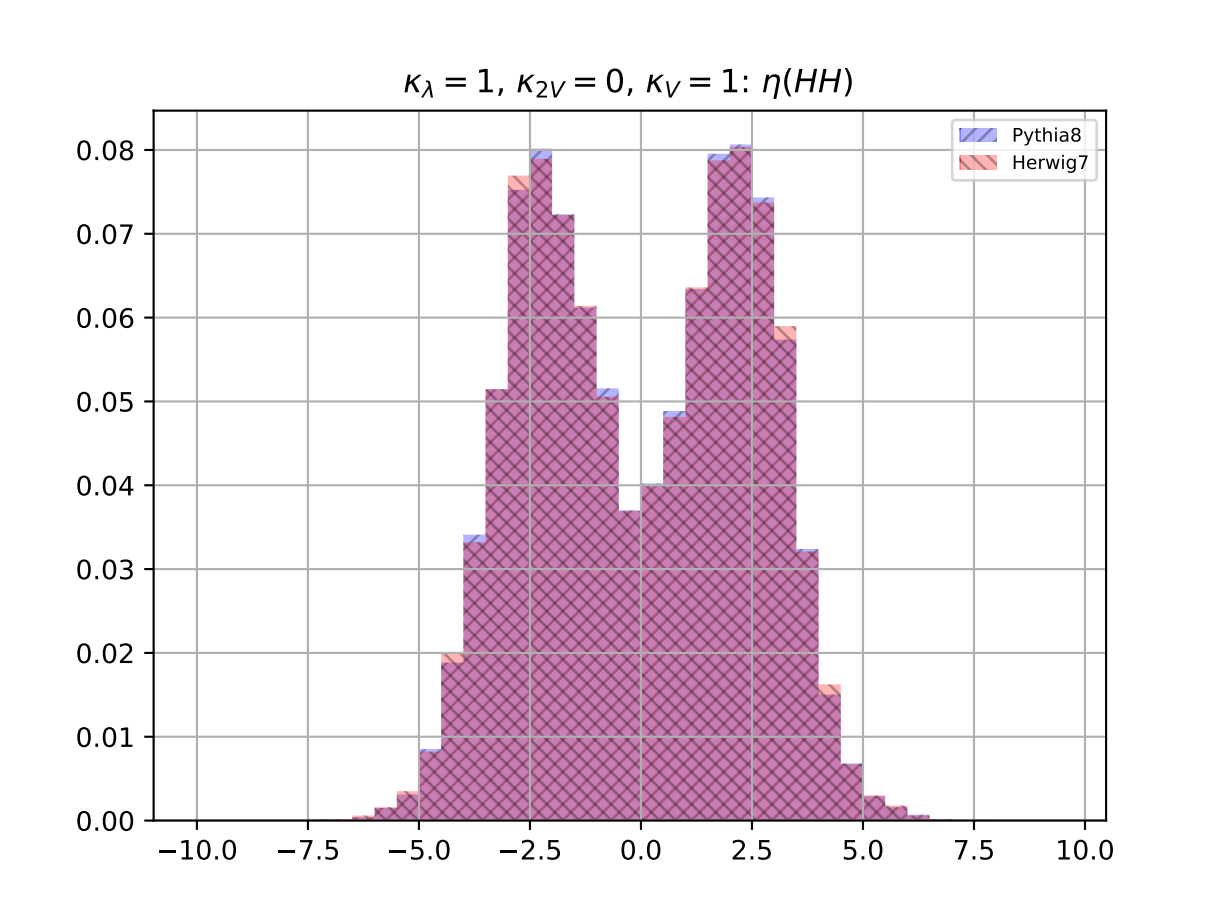

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\eta(H2)$
Pythia8
Herwig7
0.06
0.05
0.04
0.03
0.02
0.01
0.00
−4
−2
0
2
4

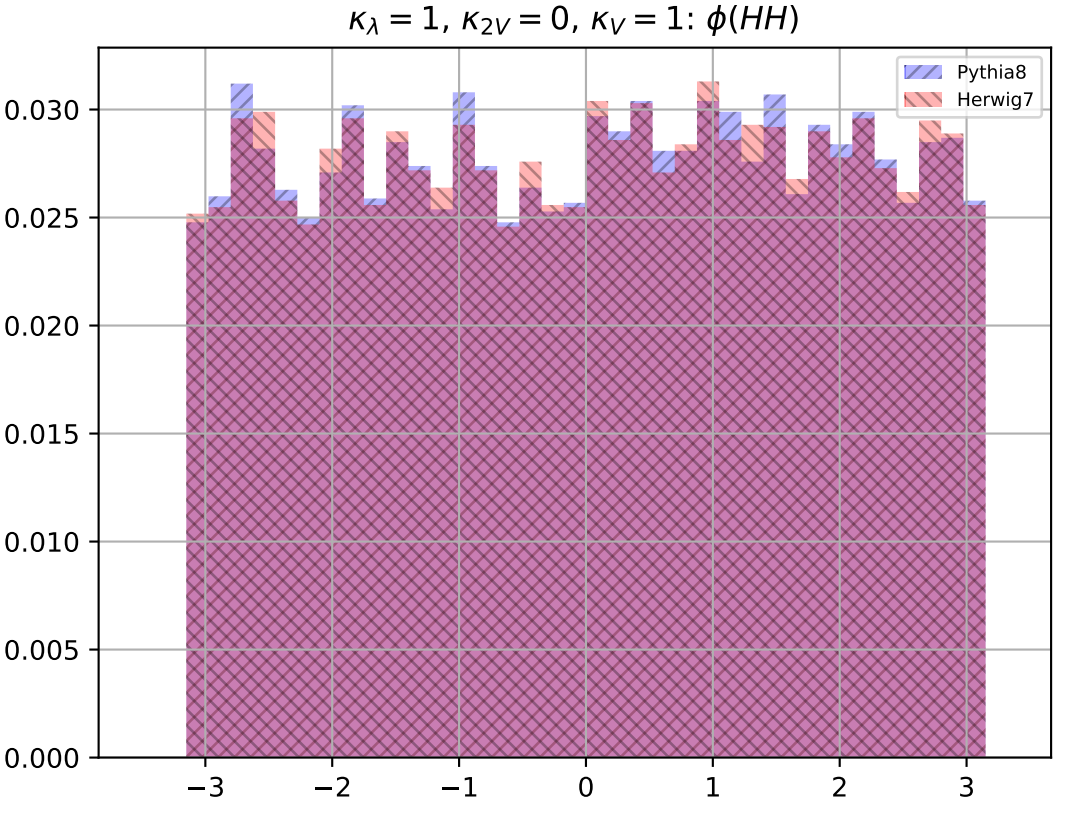

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\phi(H2)$
Pythia8
Herwig7
0.030
0.025
0.020
0.015
0.010
0.005
0.000
−3
−2
−1
0
1
2
3

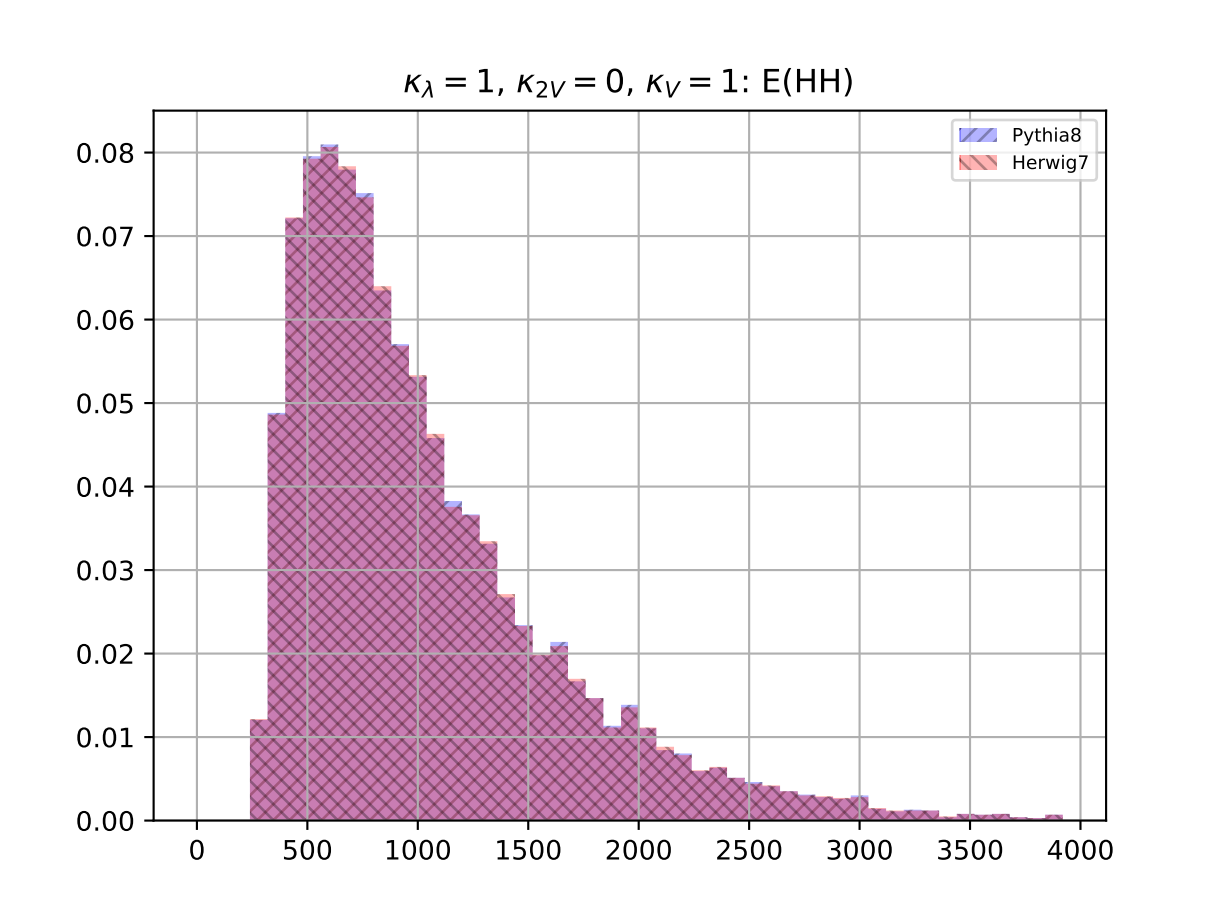

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: E(H2)
Pythia8
Herwig7
0.12
0.10
0.08
0.06
0.04
0.02
0.00
0
500
1000
1500
2000
2500

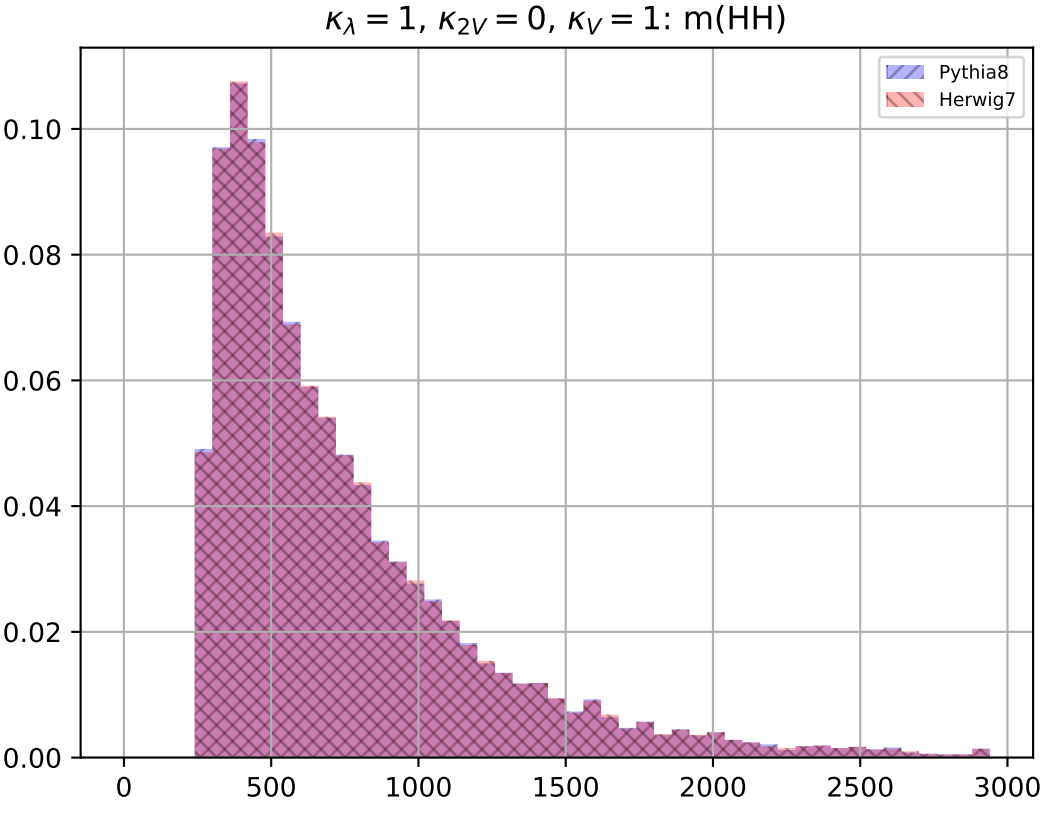

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: m(H2)
Pythia8
Herwig7
1.0
0.8
0.6
0.4
0.2
0.0
−0.04
−0.03
−0.02
−0.01
0.00
0.01
0.02
0.03
0.04
+1.2500000000e2

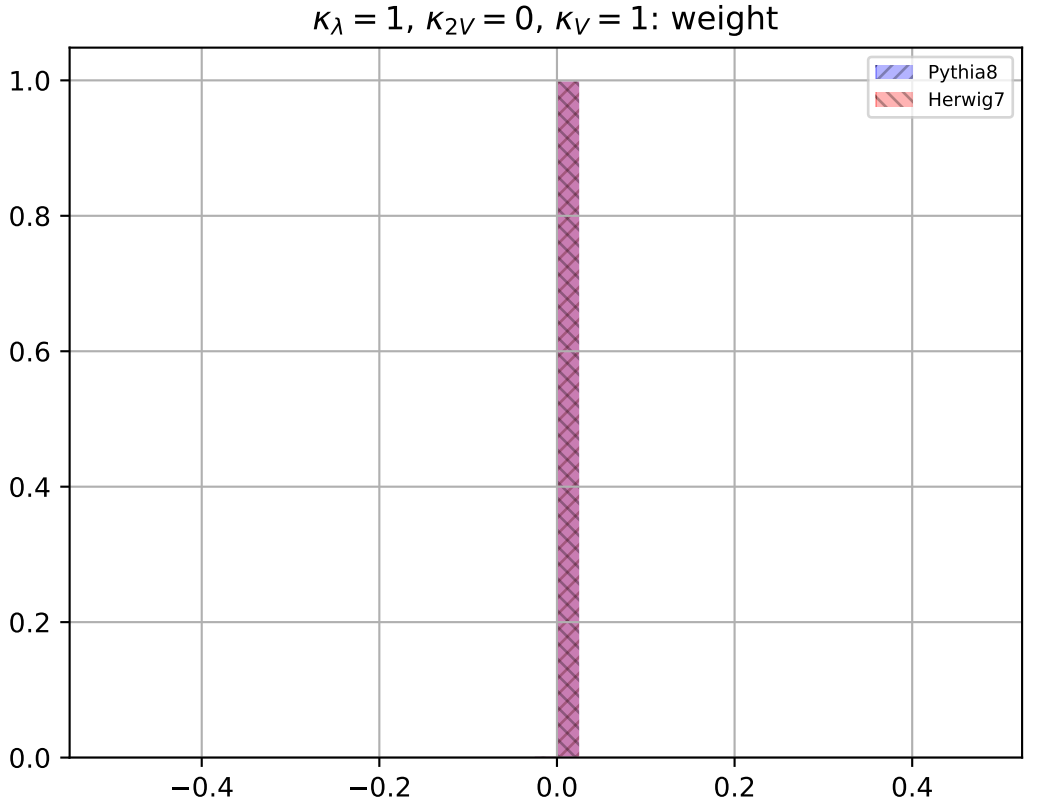

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $p_T(HH)$
Pythia8
Herwig7
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
0
200
400
600
800
1000

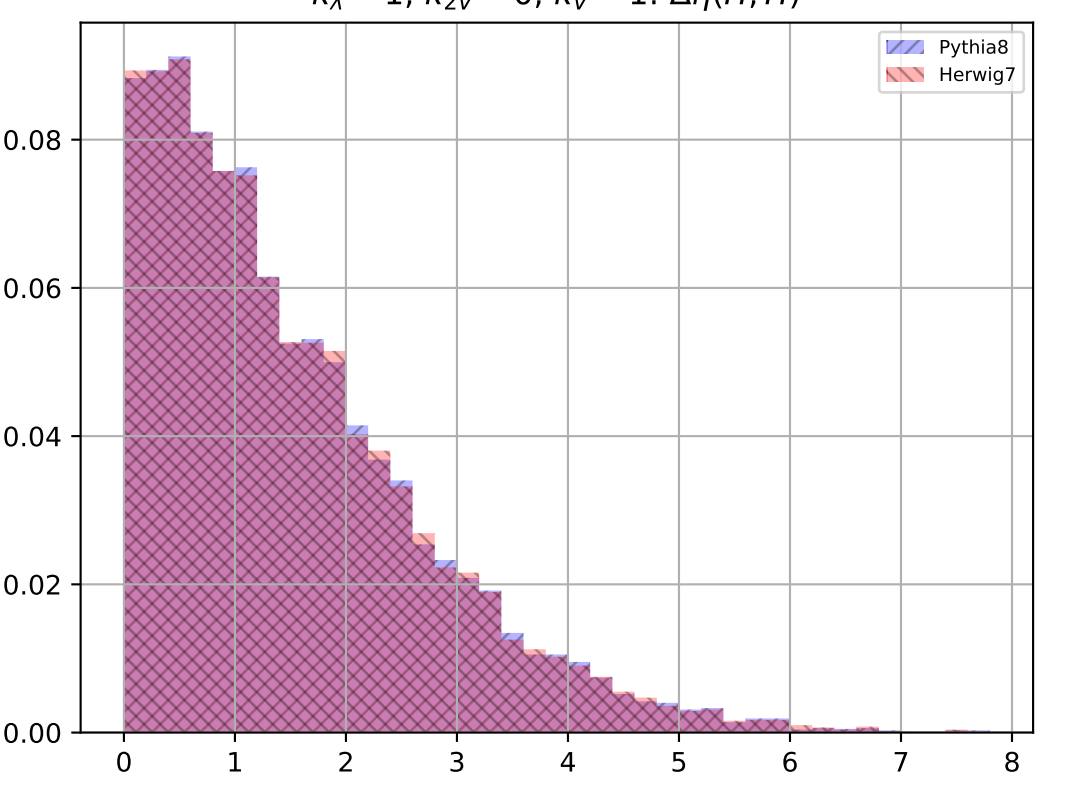

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\eta(HH)$
Pythia8
Herwig7
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
−10.0
−7.5
−5.0
−2.5
0.0
2.5
5.0
7.5
10.0

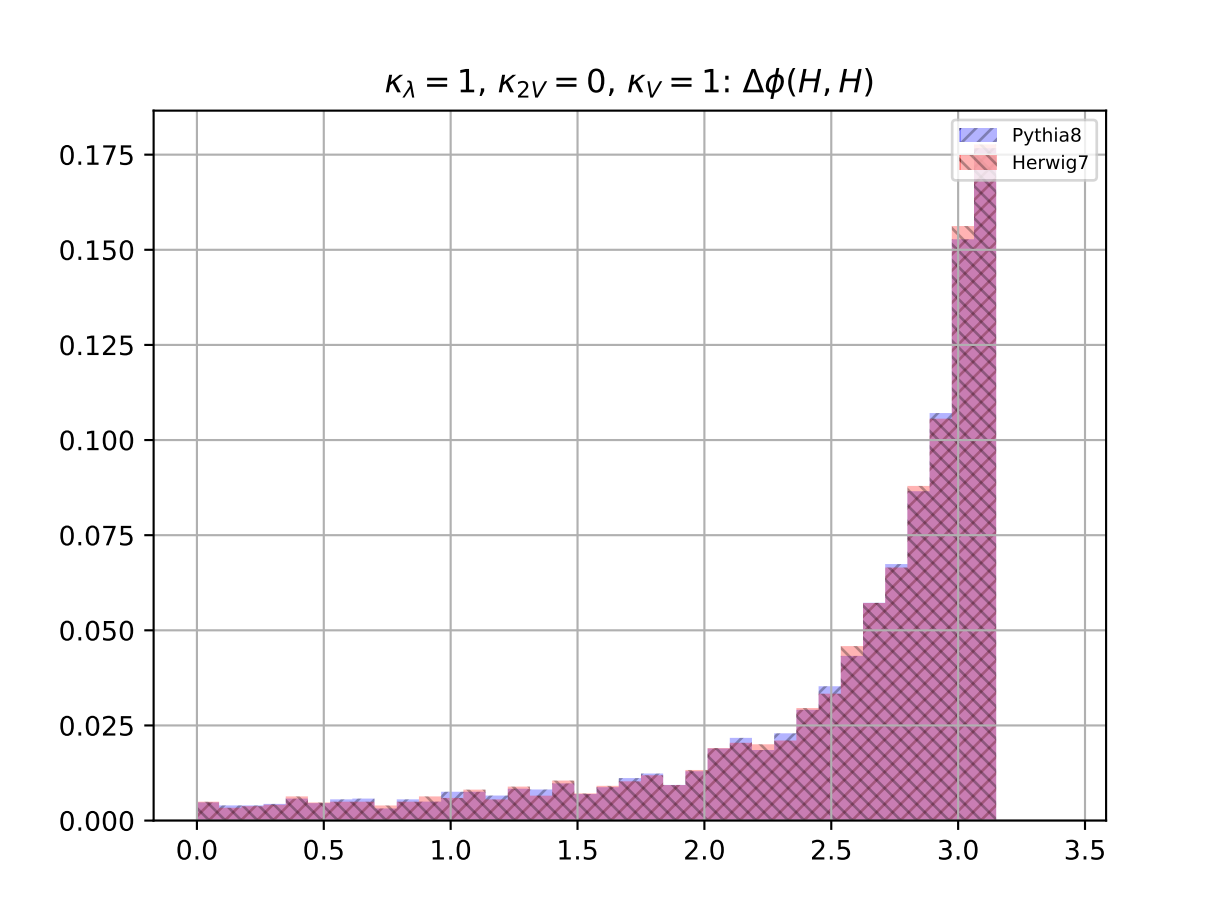

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\phi(HH)$
Pythia8
Herwig7
0.030
0.025
0.020
0.015
0.010
0.005
0.000
−3
−2
−1
0
1
2
3

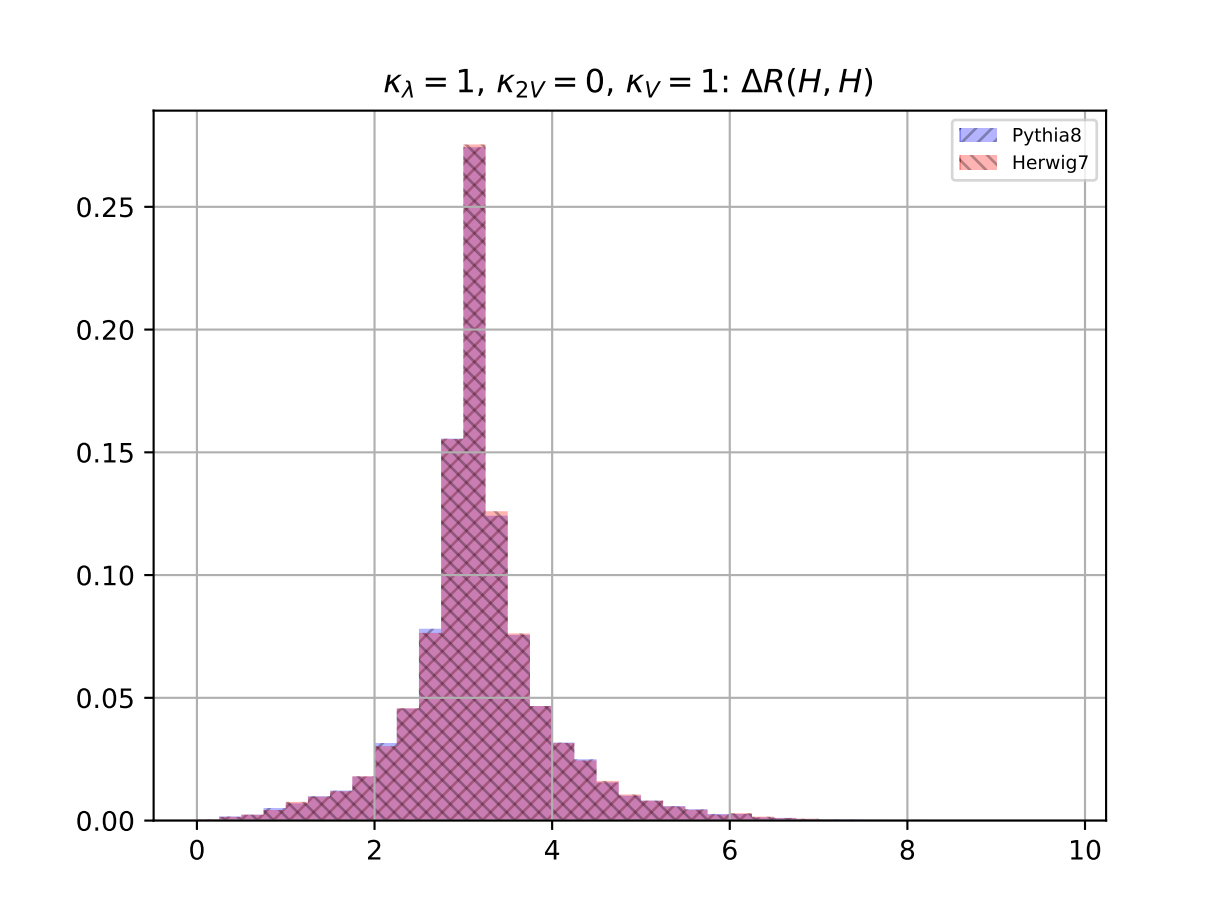

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: E(HH)
Pythia8
Herwig7
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
0
500
1000
1500
2000
2500
3000
3500
4000

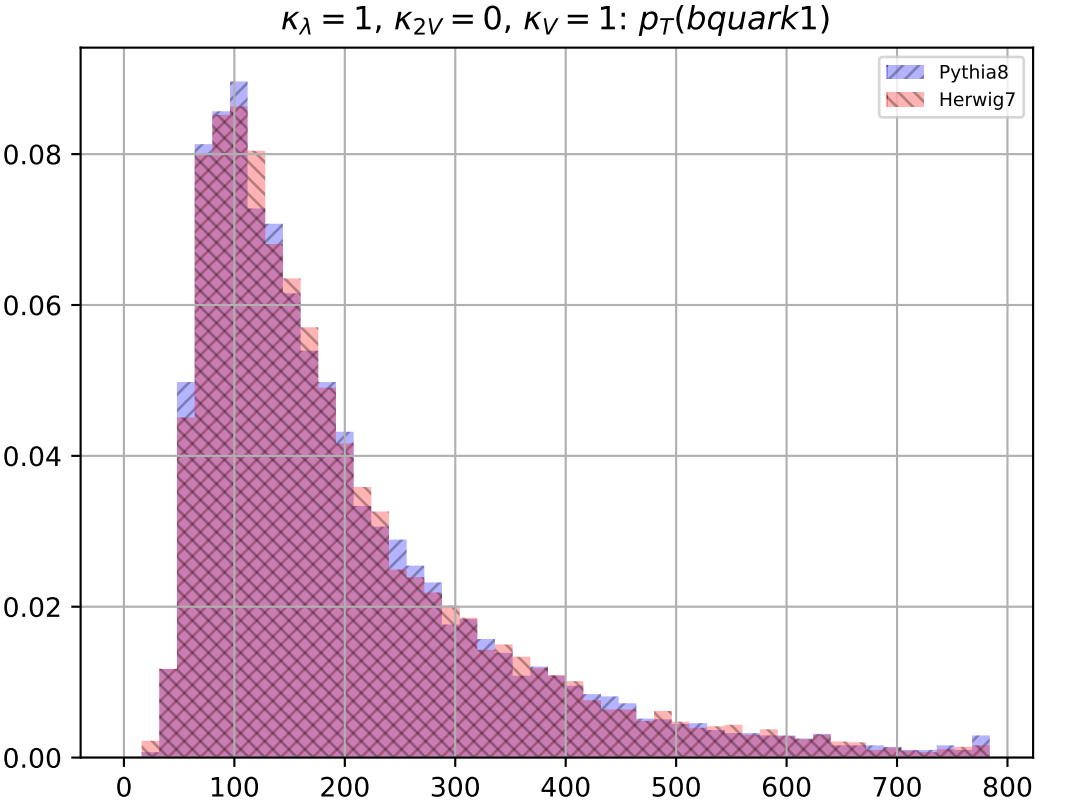

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: m(HH)
Pythia8
Herwig7
0.10
0.08
0.06
0.04
0.02
0.00
0
500
1000
1500
2000
2500
3000

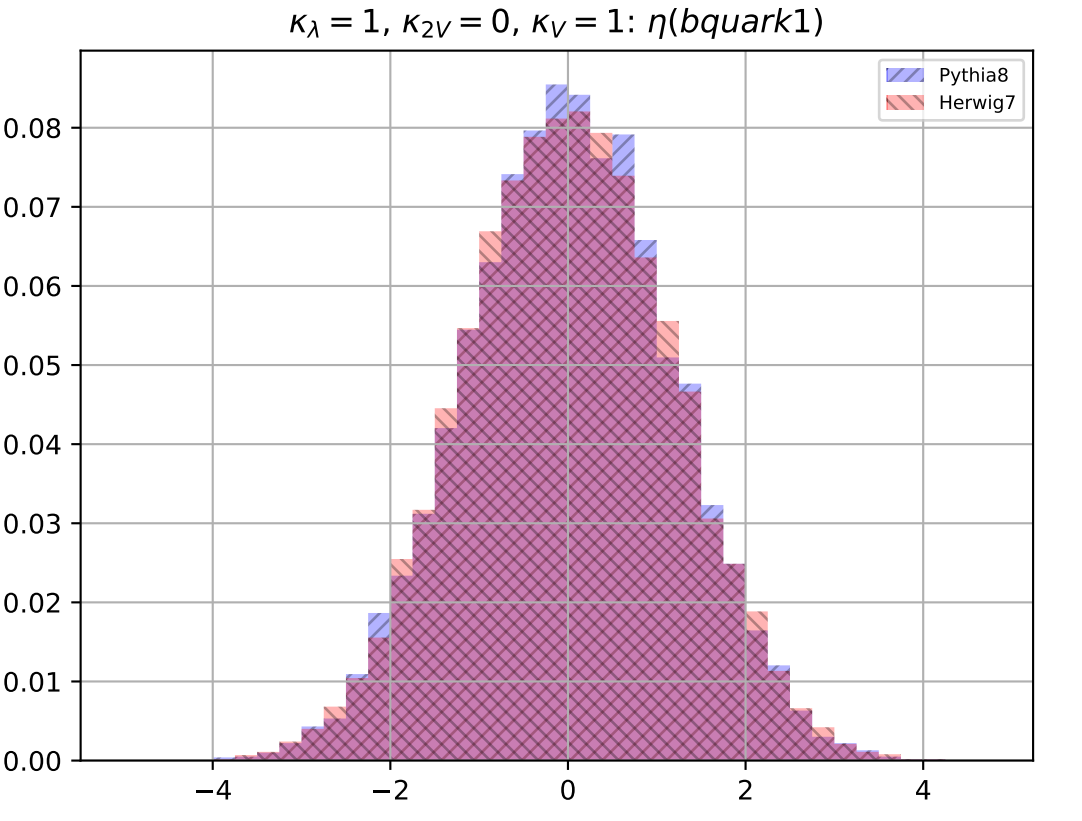

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: weight
Pythia8
Herwig7
1.0
0.8
0.6
0.4
0.2
0.0
−0.4
−0.2
0.0
0.2
0.4

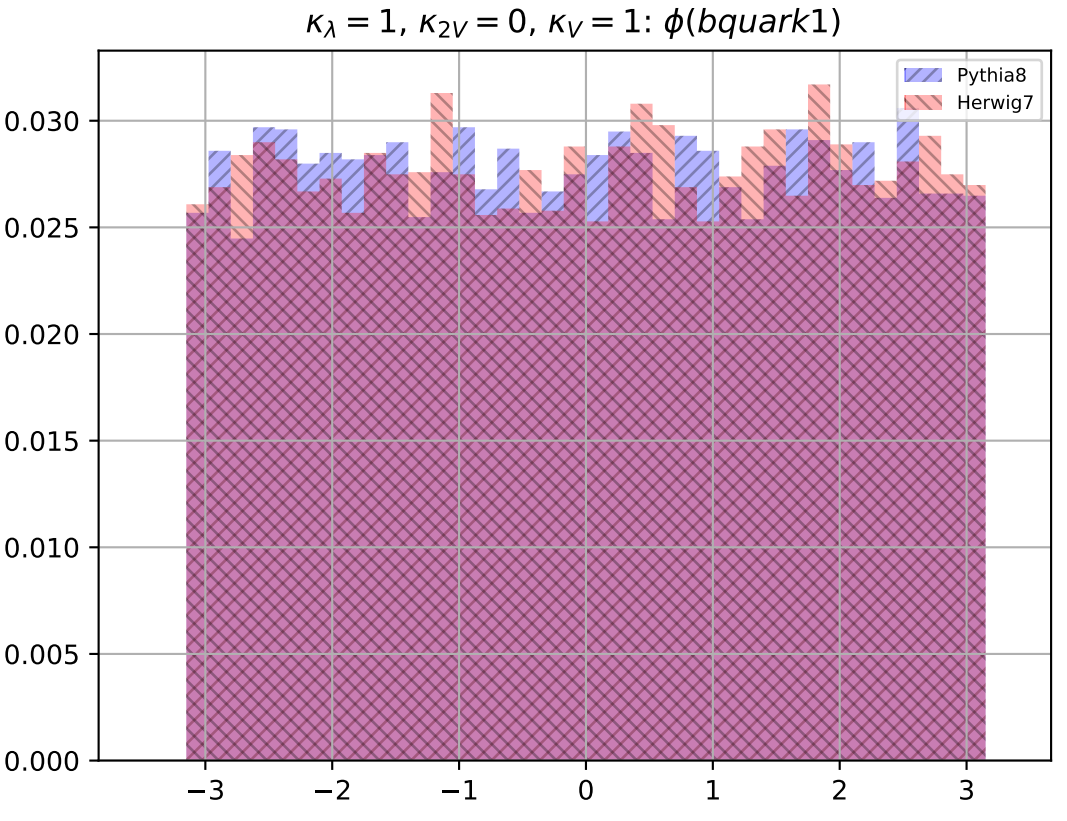

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\Delta\eta(H, H)$
Pythia8
Herwig7
0.00
0.02
0.04
0.06
0.08
0
1
2
3
4
5
6
7
8

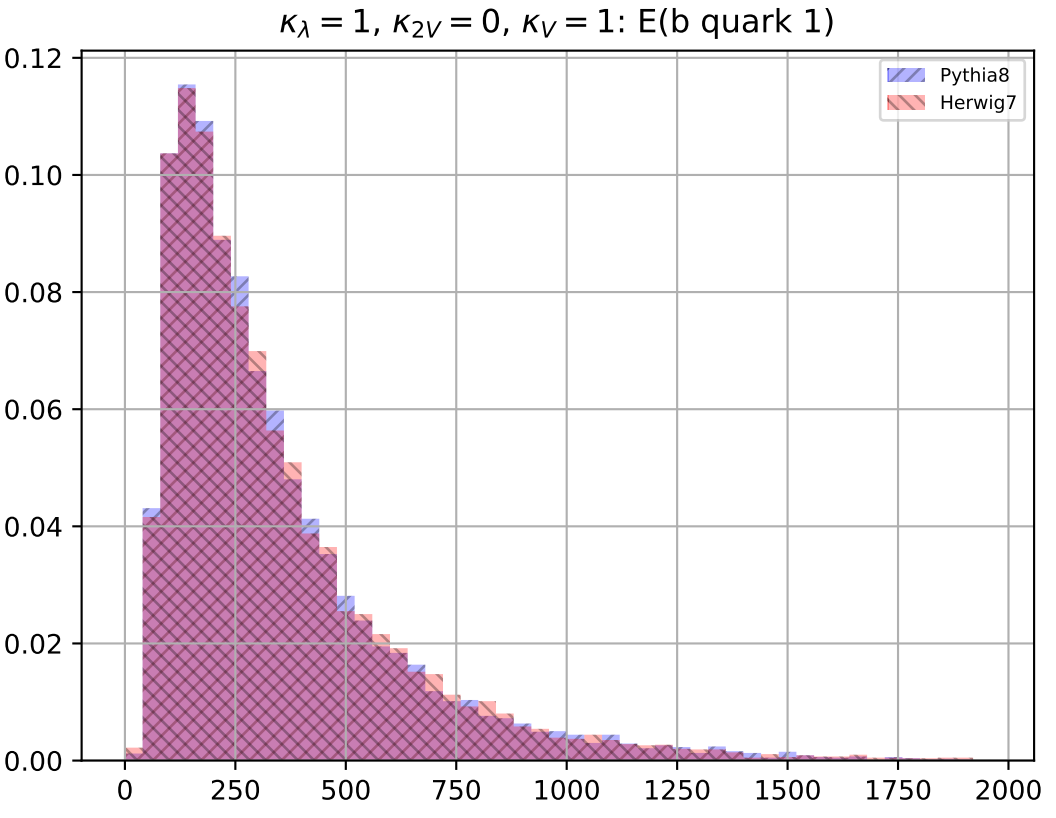

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\Delta\phi(H, H)$
Pythia8
Herwig7
0.175
0.150
0.125
0.100
0.075
0.050
0.025
0.000
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5

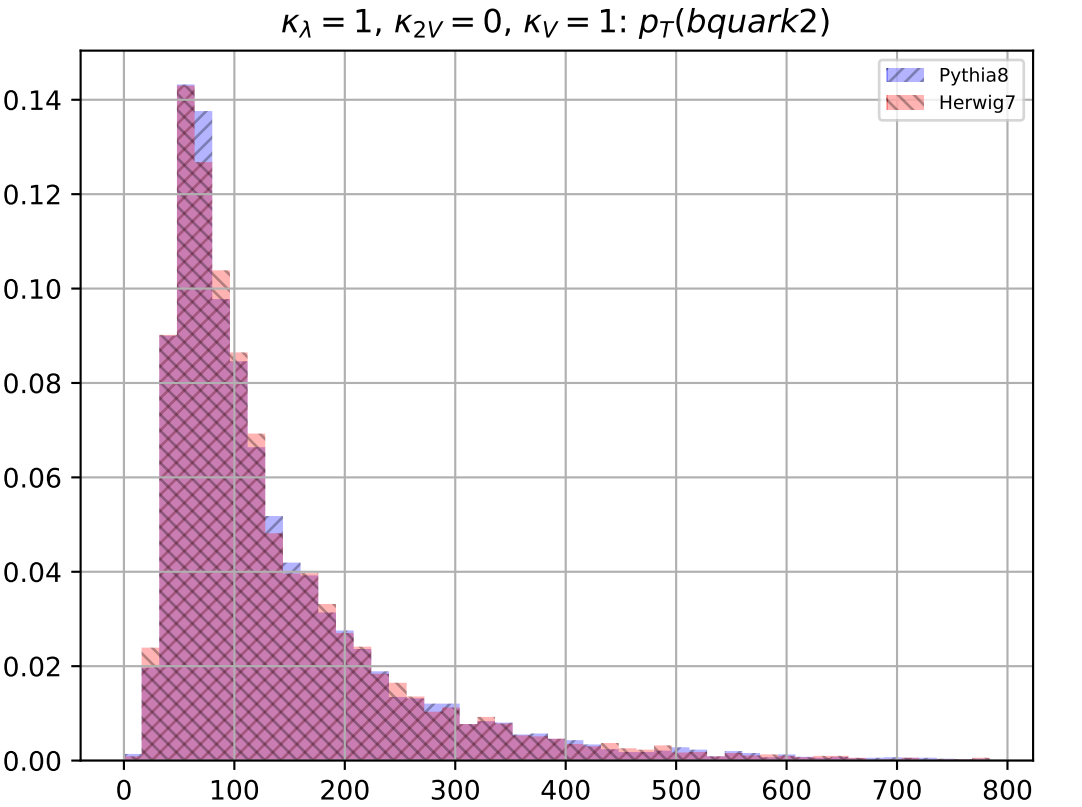

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\Delta R(H, H)$
Pythia8
Herwig7
0.25
0.20
0.15
0.10
0.05
0.00
0
2
4
6
8
10

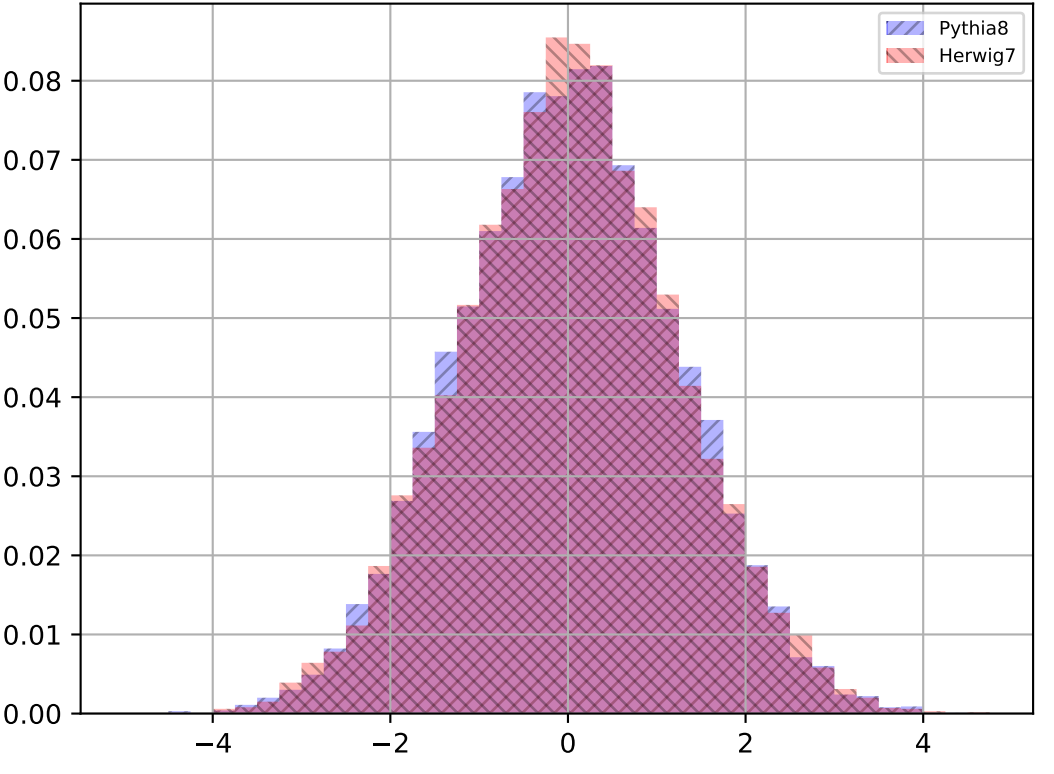

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $p_T(bquark1)$
Pythia8
Herwig7
0.08
0.06
0.04
0.02
0.00
0
100
200
300
400
500
600
700
800

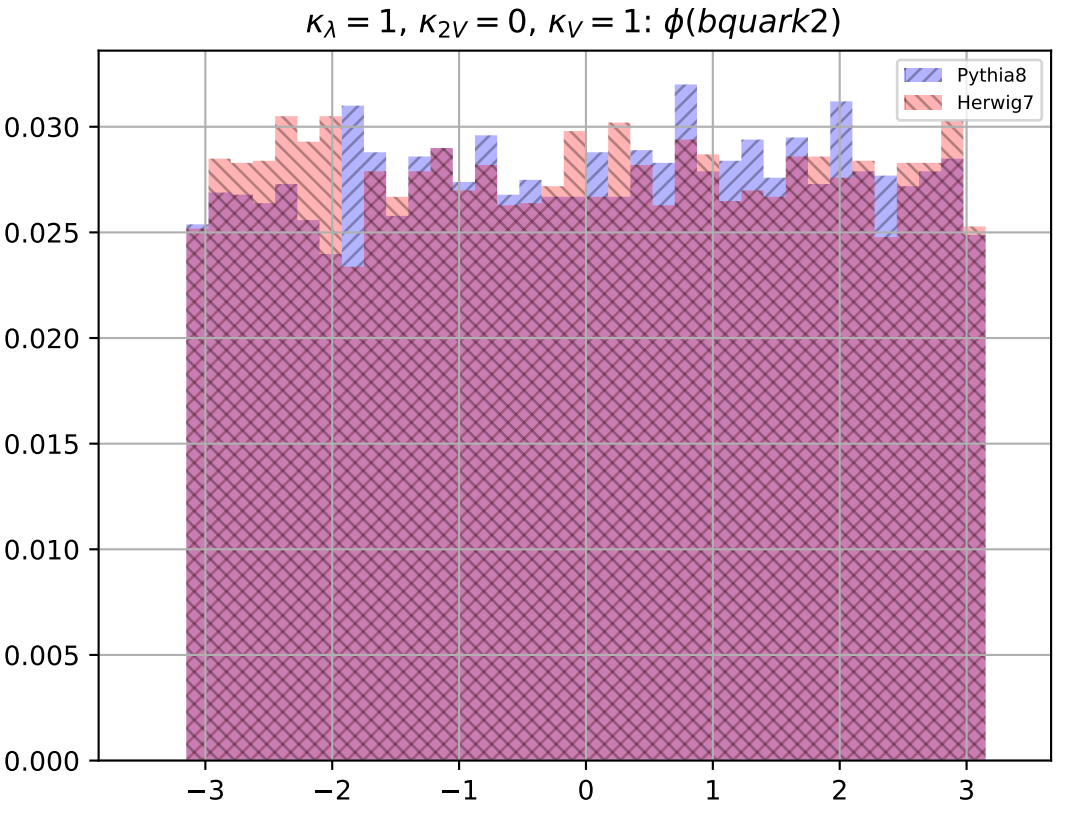

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\eta(bquark1)$
Pythia8
Herwig7
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
−4
−2
0
2
4

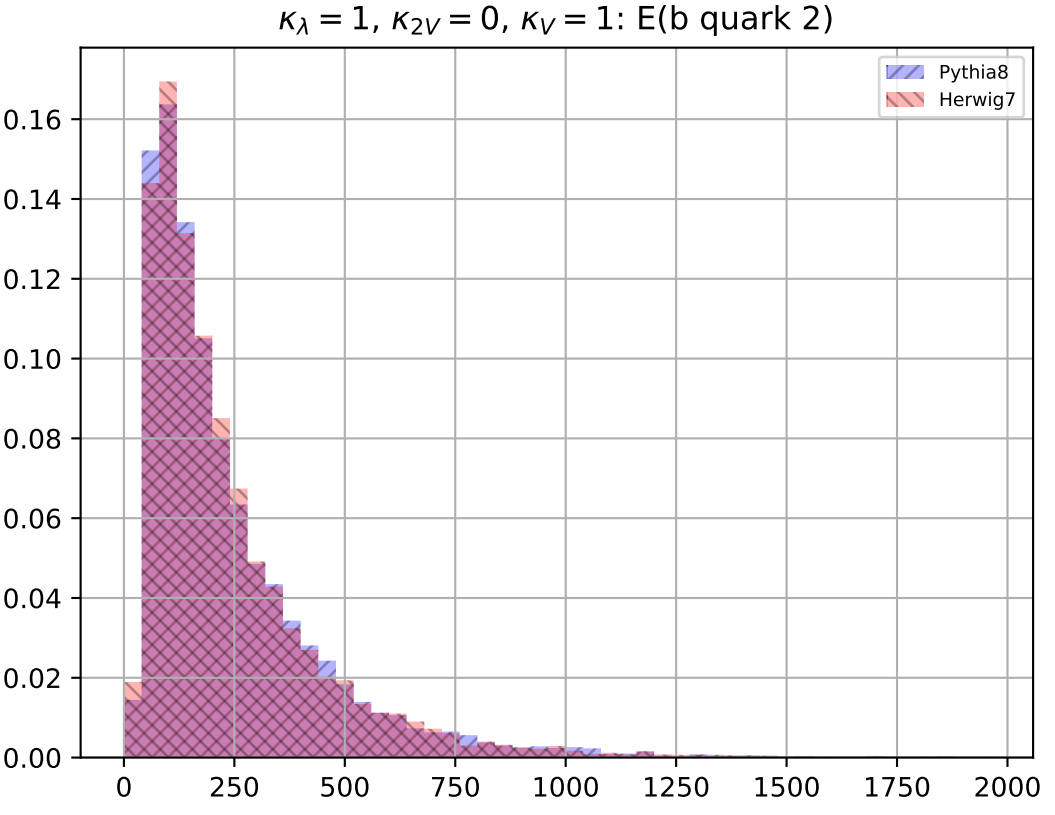

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\phi(bquark1)$
Pythia8
Herwig7
0.030
0.025
0.020
0.015
0.010
0.005
0.000
−3
−2
−1
0
1
2
3

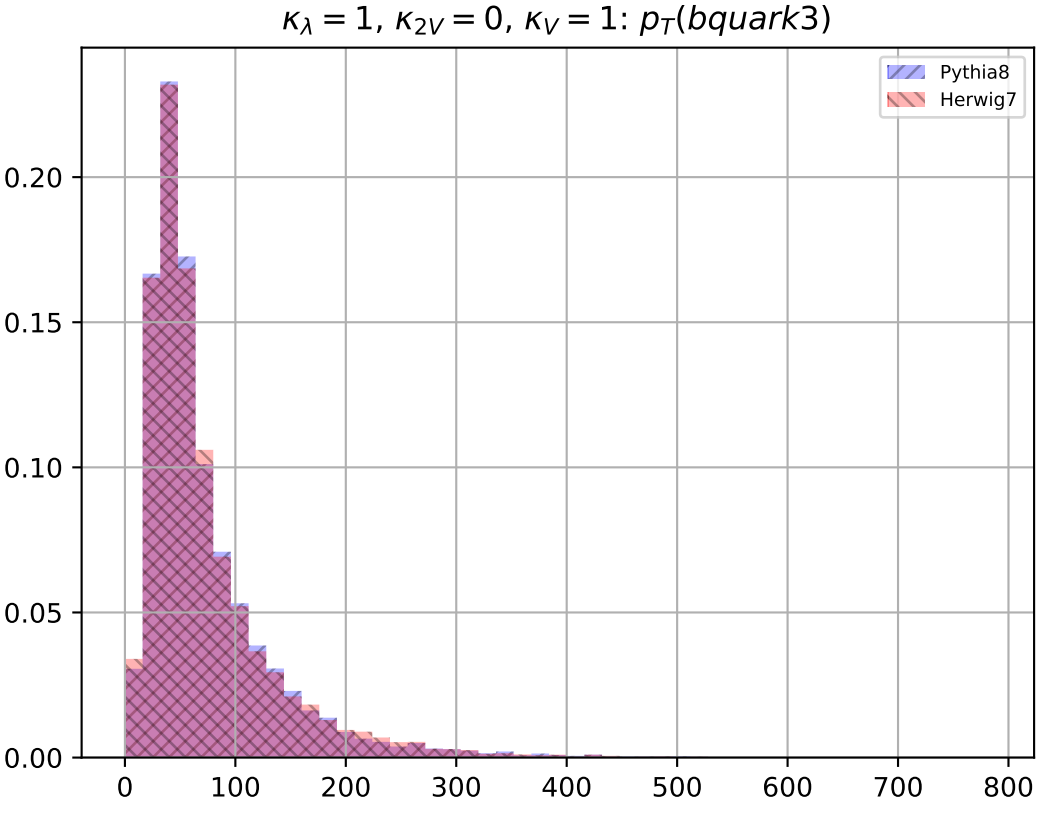

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: E(b quark 1)
Pythia8
Herwig7
0.12
0.10
0.08
0.06
0.04
0.02
0.00
0
250
500
750
1000
1250
1500
1750
2000

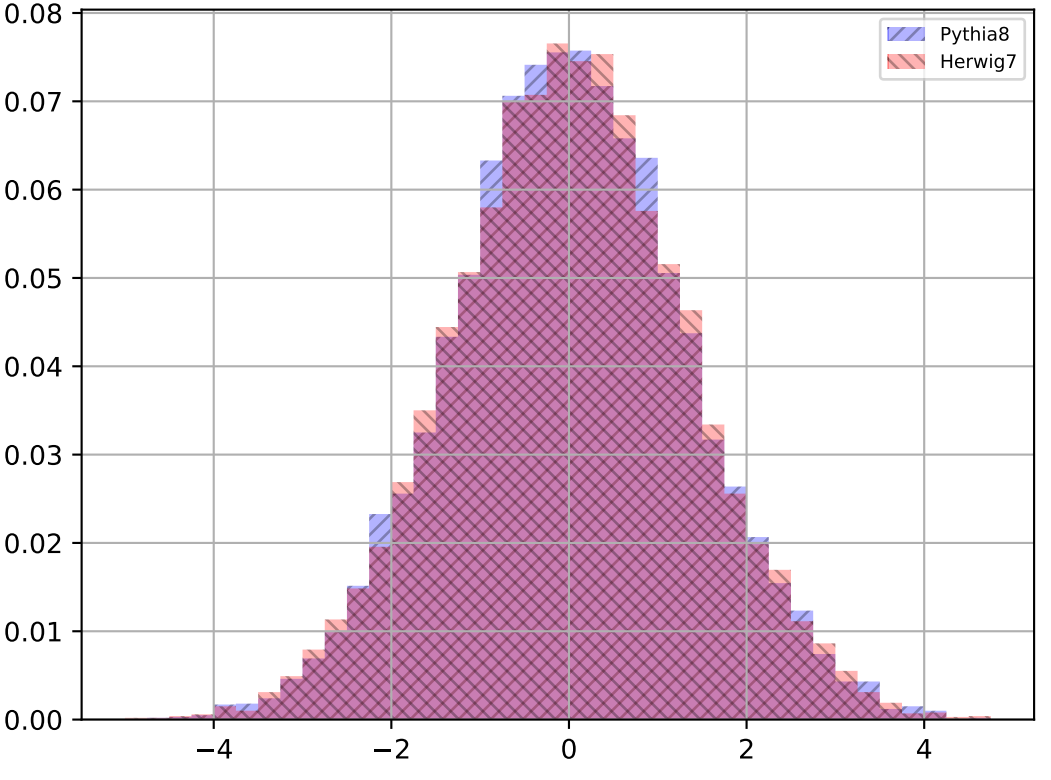

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $p_T(bquark2)$
Pythia8
Herwig7
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
0
100
200
300
400
500
600
700
800

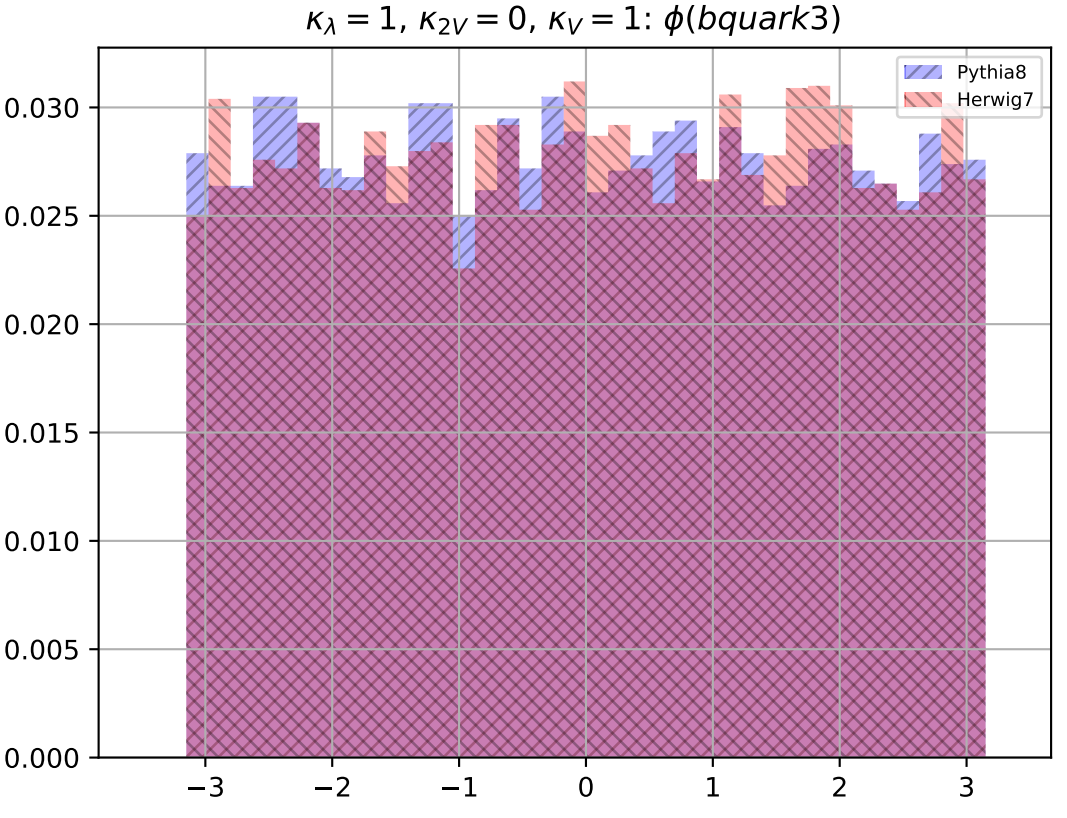

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\eta(bquark2)$
Pythia8
Herwig7
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
−4
−2
0
2
4

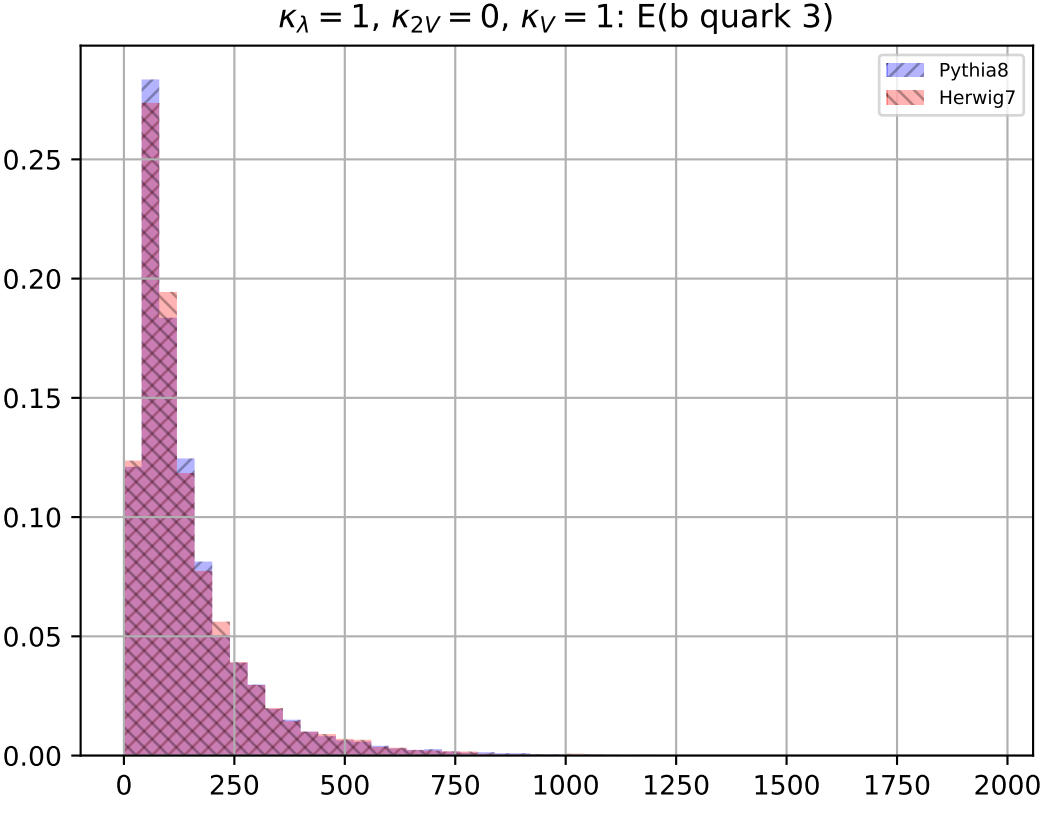

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\phi(bquark2)$
Pythia8
Herwig7
0.030
0.025
0.020
0.015
0.010
0.005
0.000
−3
−2
−1
0
1
2
3

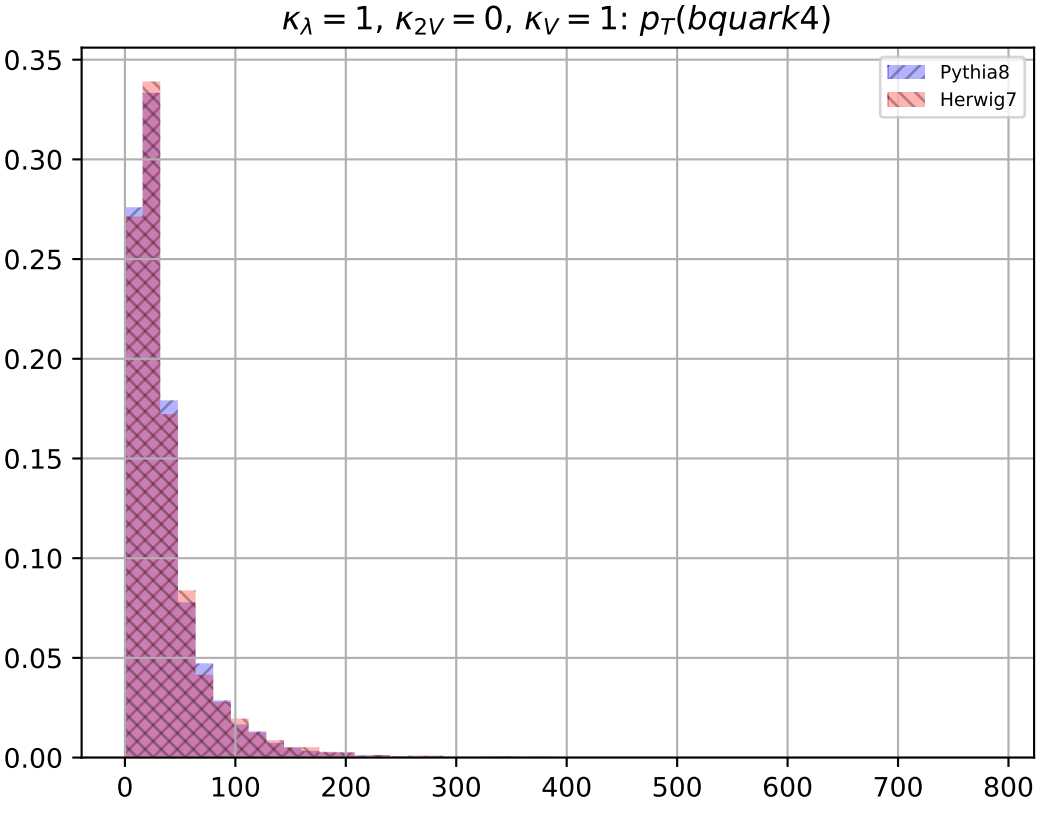

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: E(b quark 2)
Pythia8
Herwig7
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
0
250
500
750
1000
1250
1500
1750
2000

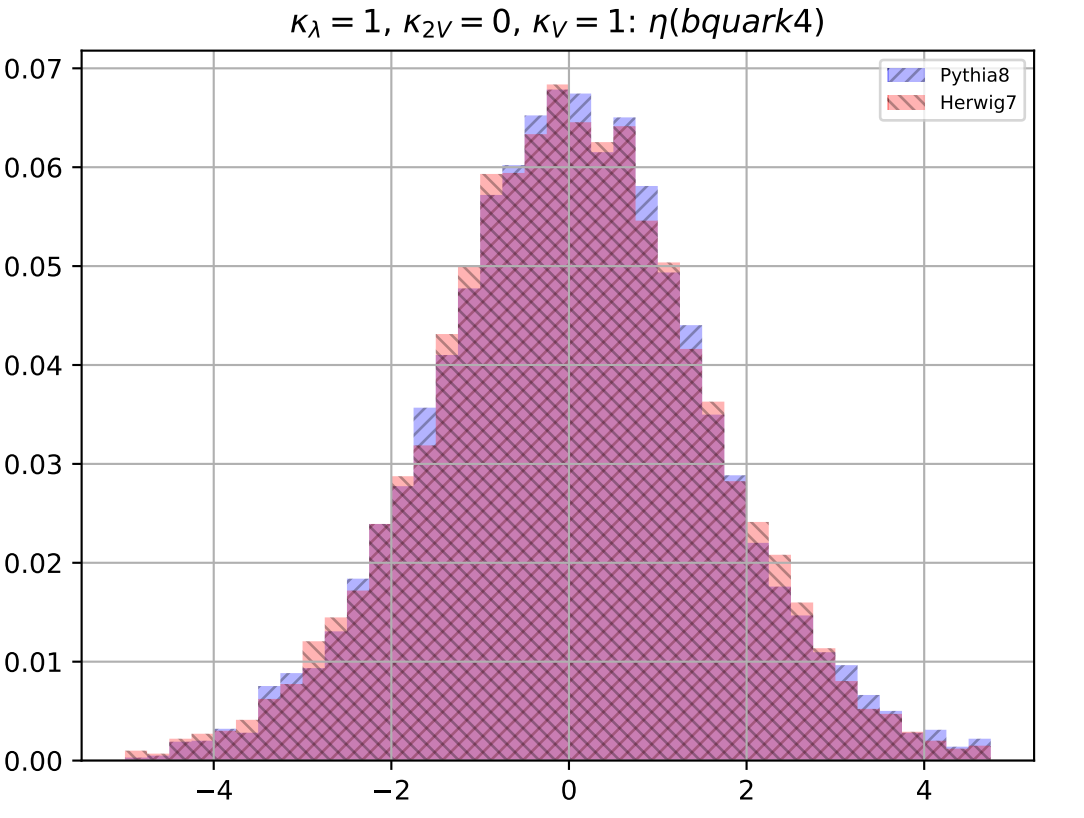

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $p_T(bquark3)$
Pythia8
Herwig7
0.20
0.15
0.10
0.05
0.00
0
100
200
300
400
500
600
700
800

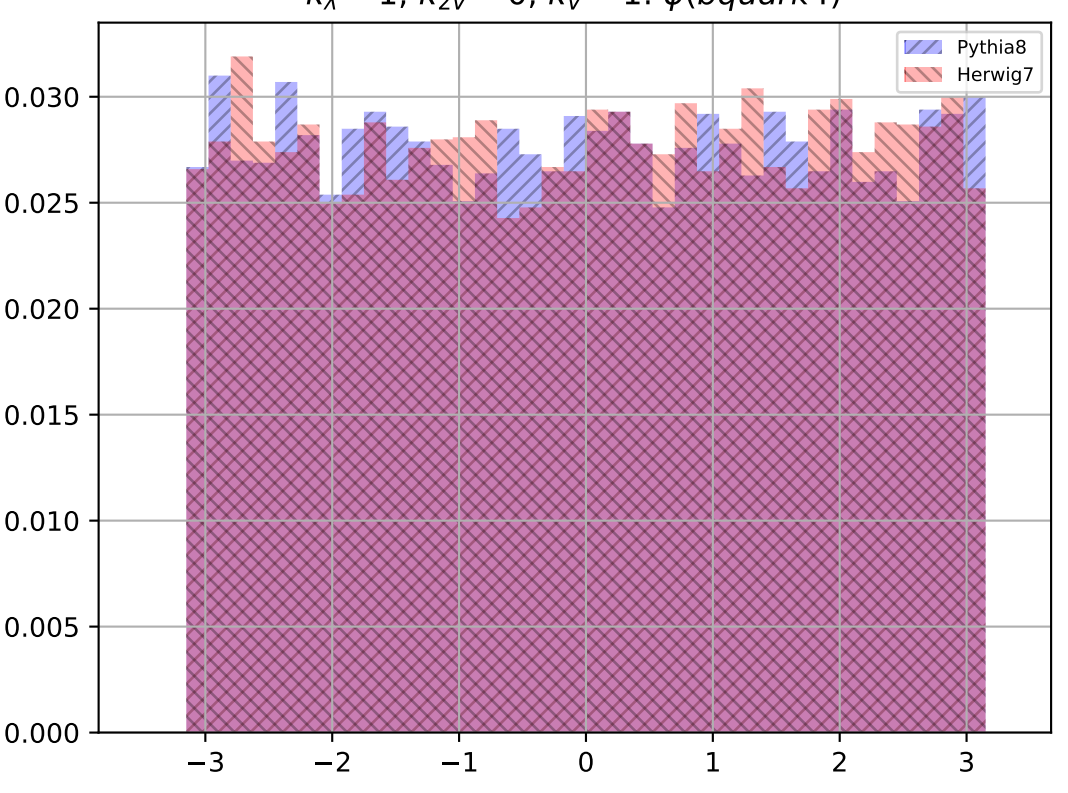

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\eta(bquark3)$
Pythia8
Herwig7
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
−4
−2
0
2
4

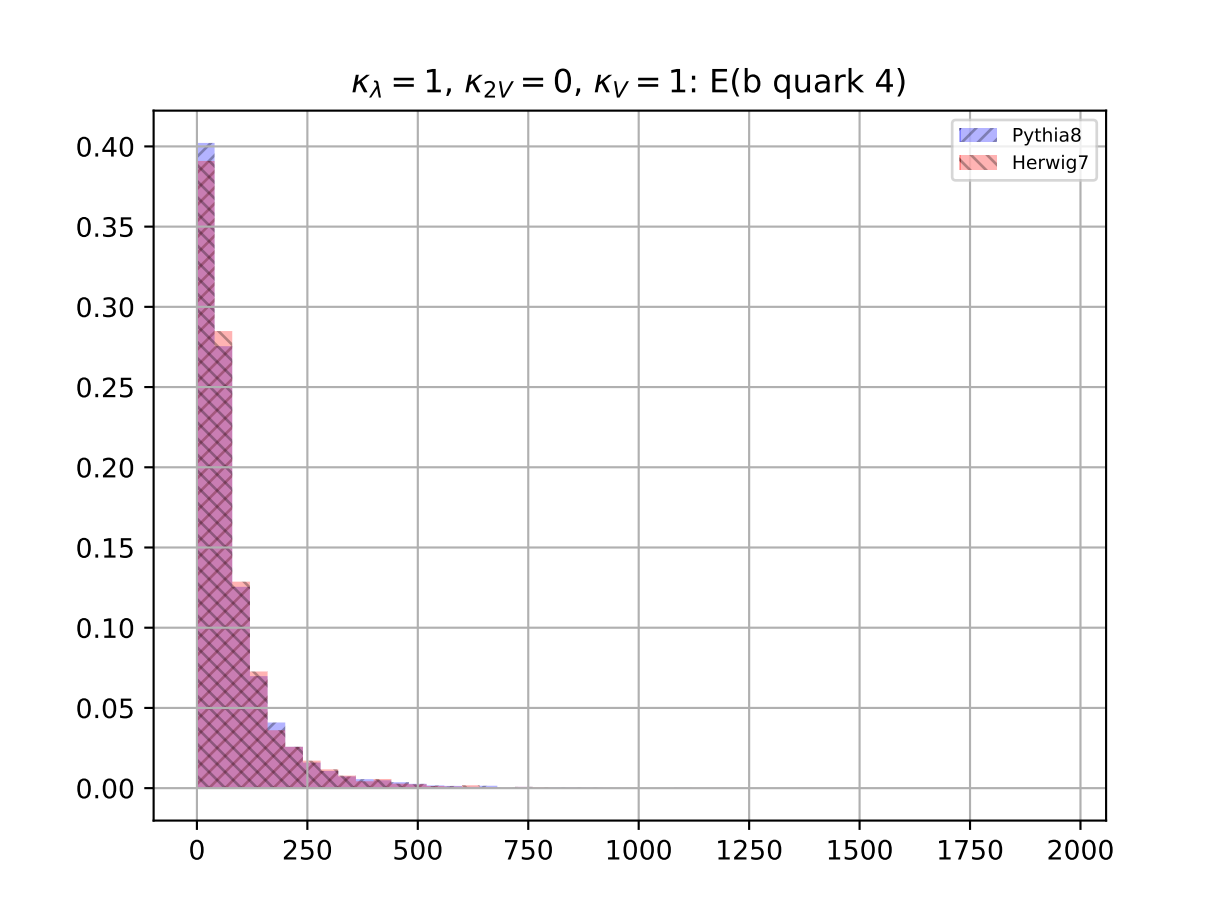

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\phi(bquark3)$
Pythia8
Herwig7
0.030
0.025
0.020
0.015
0.010
0.005
0.000
−3
−2
−1
0
1
2
3

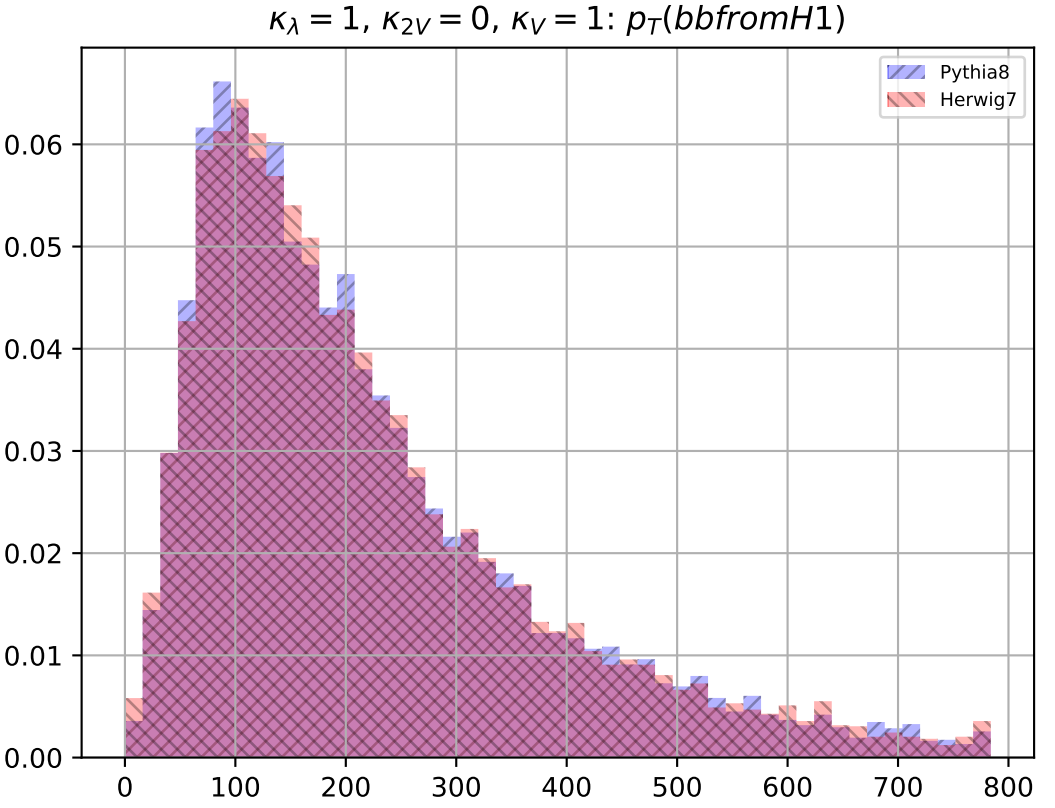

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: E(b quark 3)
Pythia8
Herwig7
0.25
0.20
0.15
0.10
0.05
0.00
0
250
500
750
1000
1250
1500
1750
2000

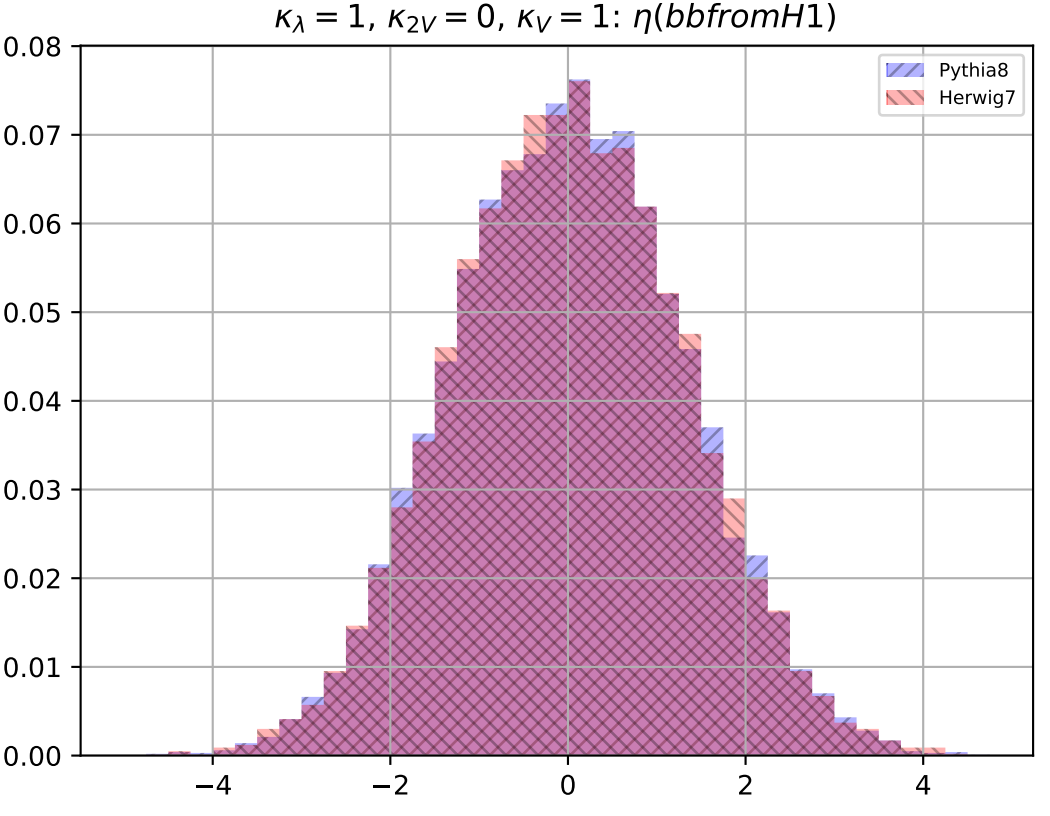

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $p_T(bquark4)$
Pythia8
Herwig7
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
0
100
200
300
400
500
600
700
800

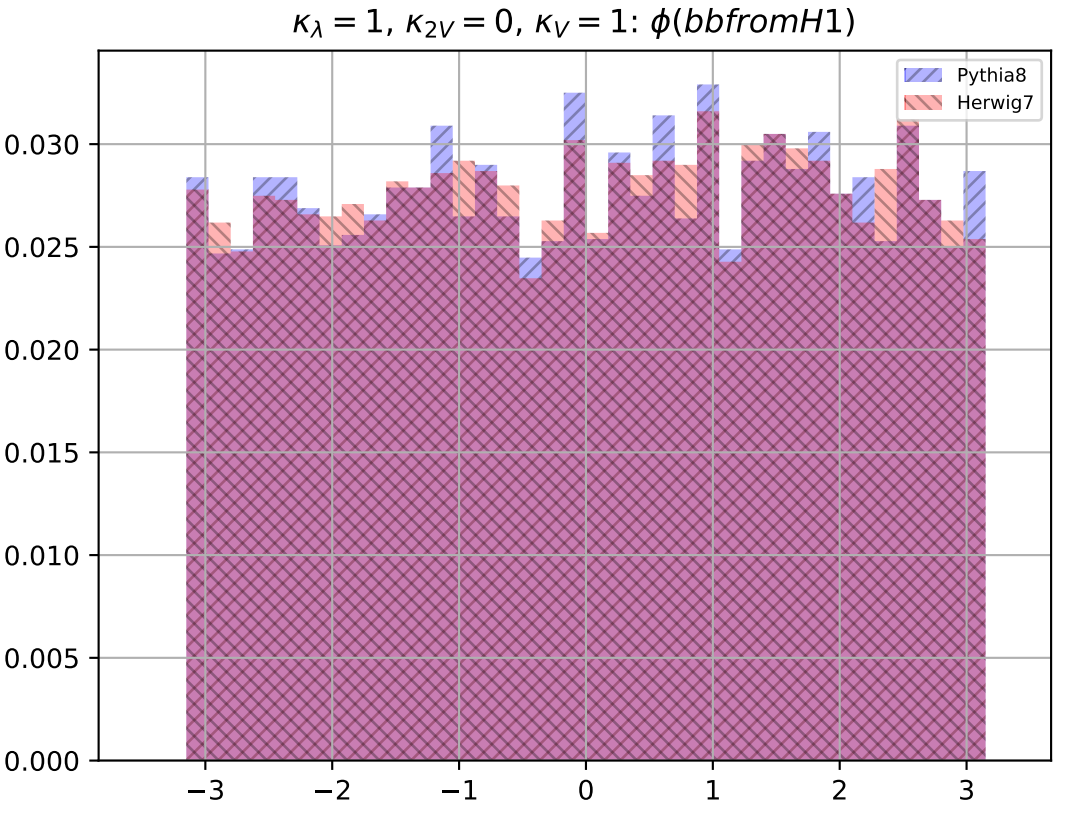

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\eta(bquark4)$
Pythia8
Herwig7
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
−4
−2
0
2
4

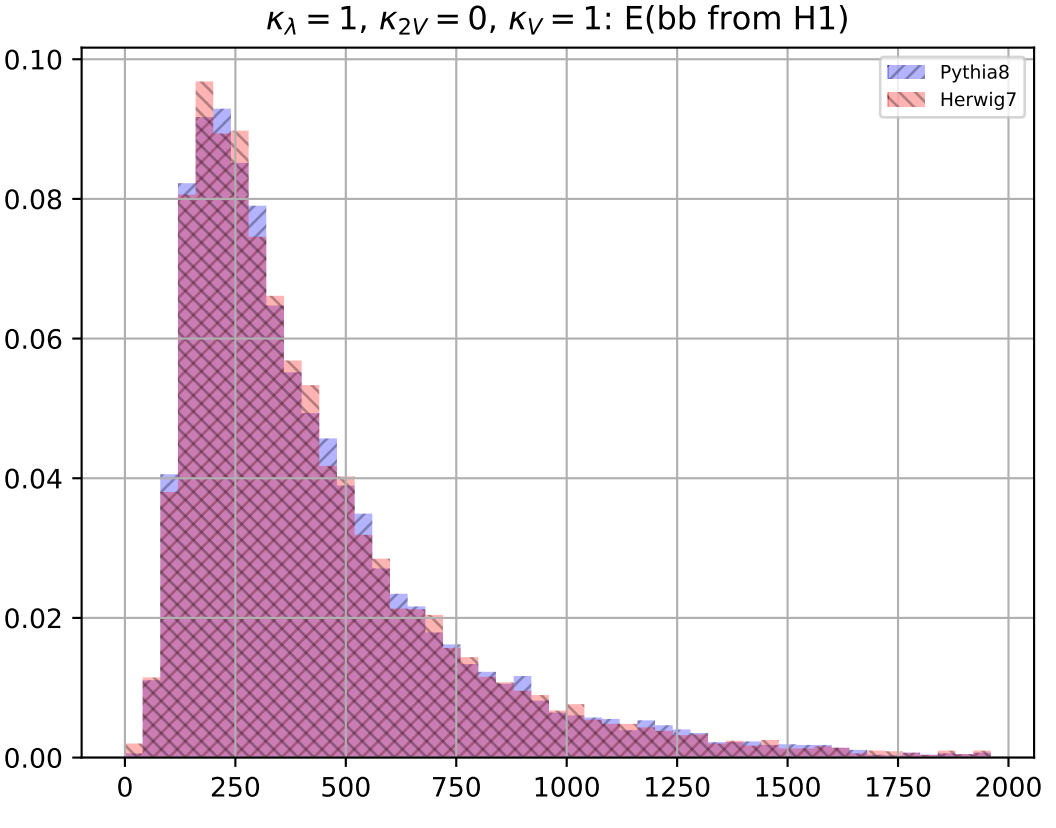

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\phi(bquark4)$
Pythia8
Herwig7
0.030
0.025
0.020
0.015
0.010
0.005
0.000
−3
−2
−1
0
1
2
3

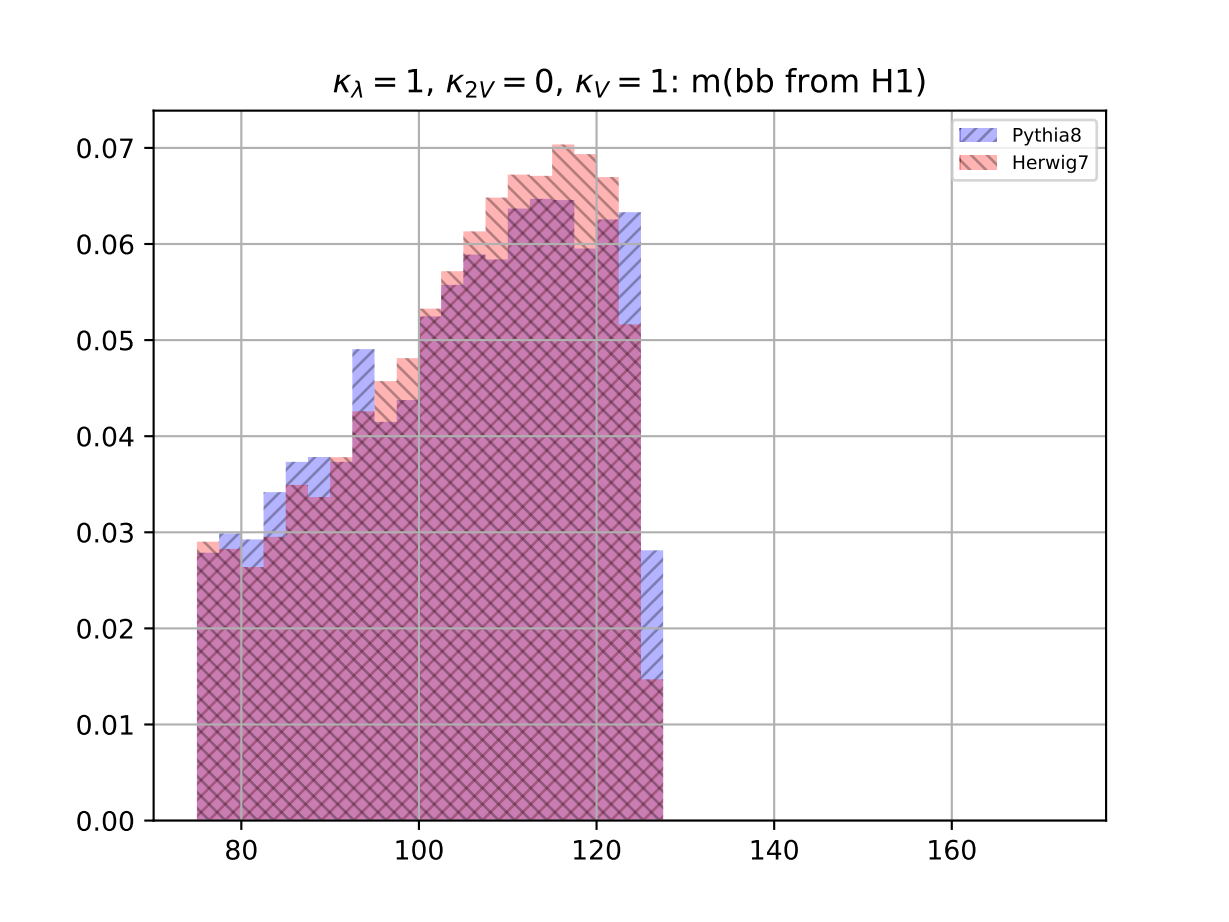

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: E(b quark 4)
Pythia8
Herwig7
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
0
250
500
750
1000
1250
1500
1750
2000

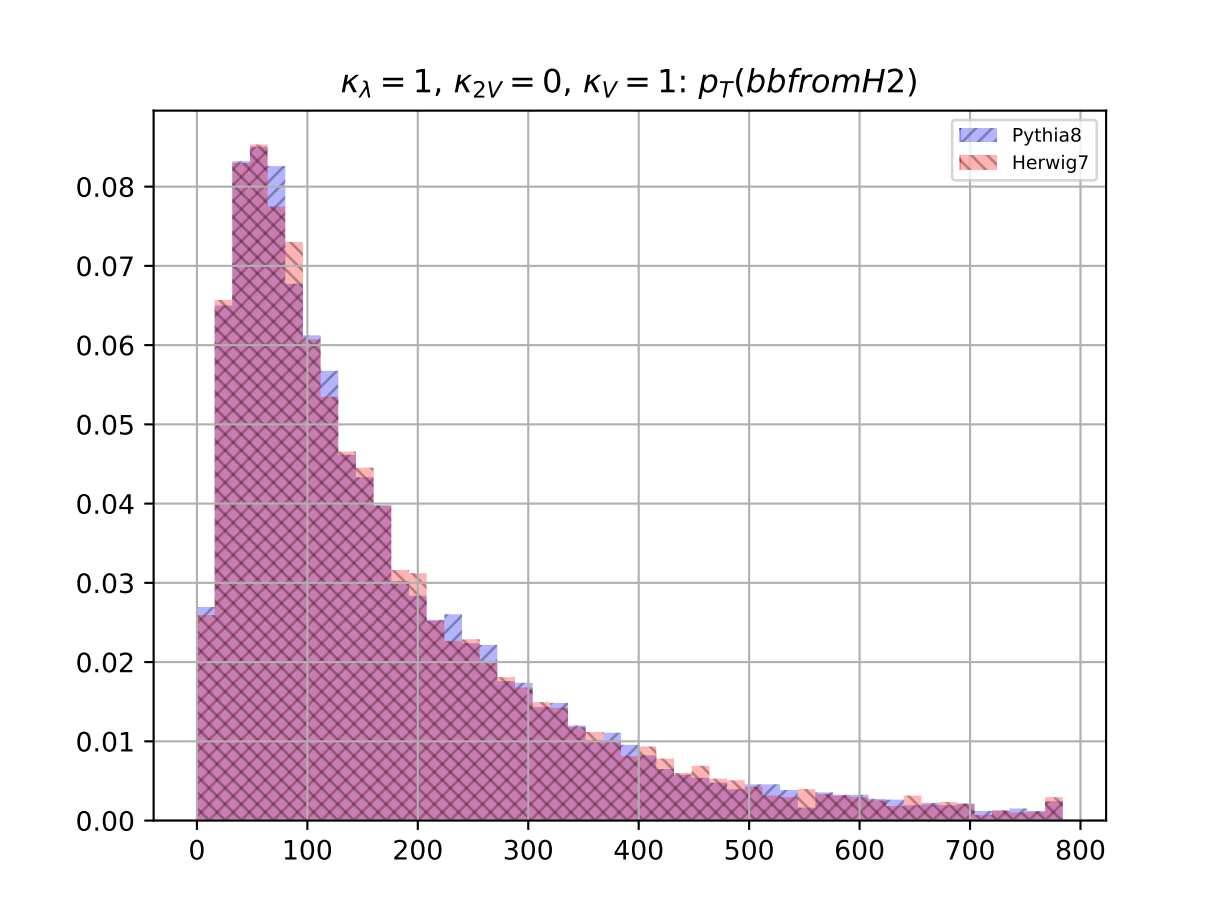

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $p_T(bbfromH1)$
Pythia8
Herwig7
0.06
0.05
0.04
0.03
0.02
0.01
0.00
0
100
200
300
400
500
600
700
800

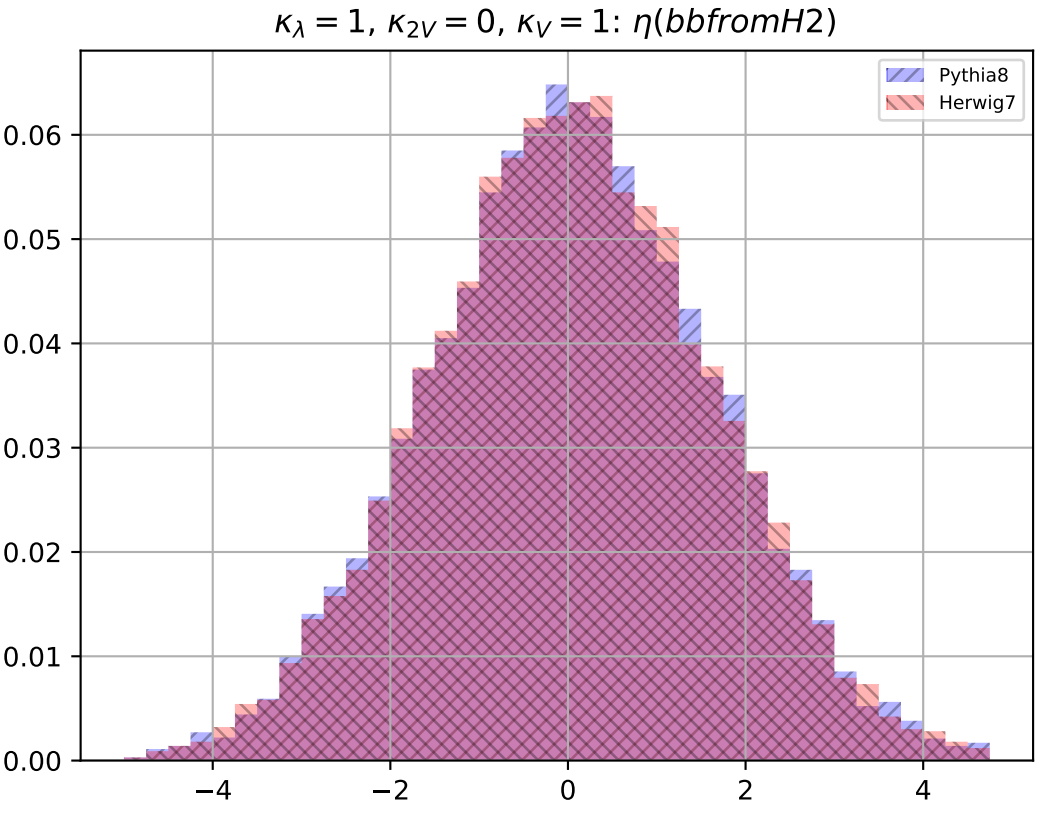

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\eta(bbfromH1)$
Pythia8
Herwig7
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
−4
−2
0
2
4

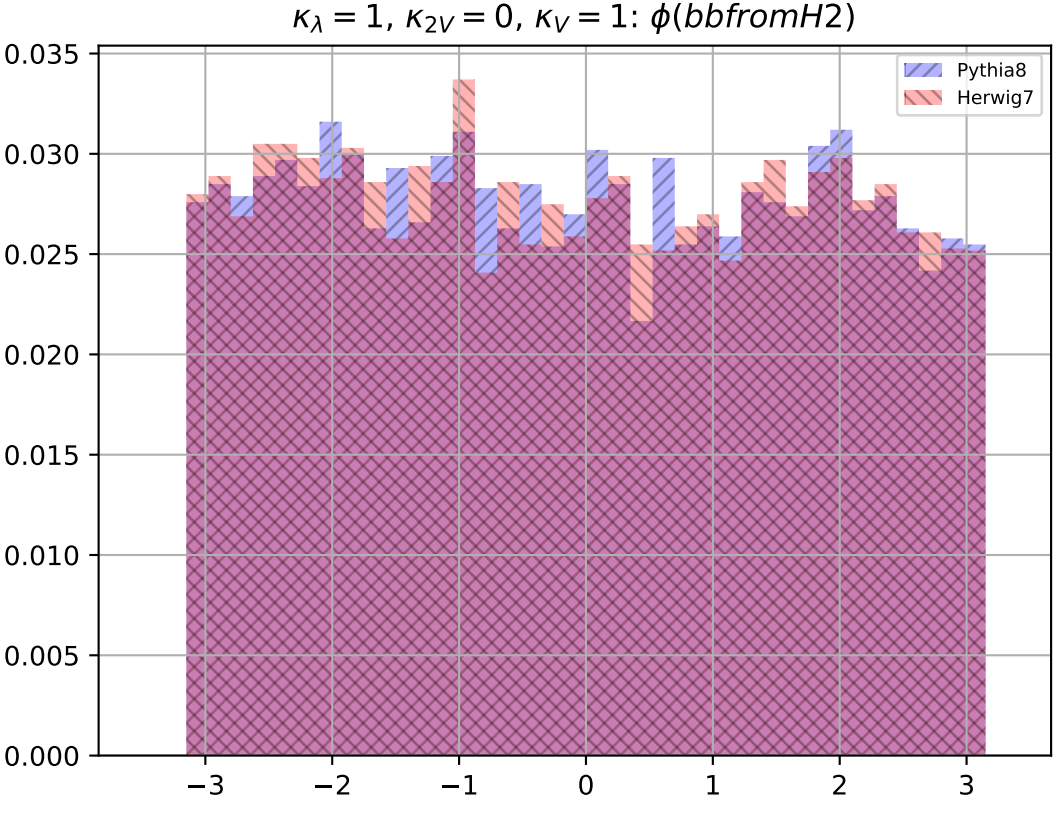

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\phi(bbfromH1)$
Pythia8
Herwig7
0.030
0.025
0.020
0.015
0.010
0.005
0.000
−3
−2
−1
0
1
2
3

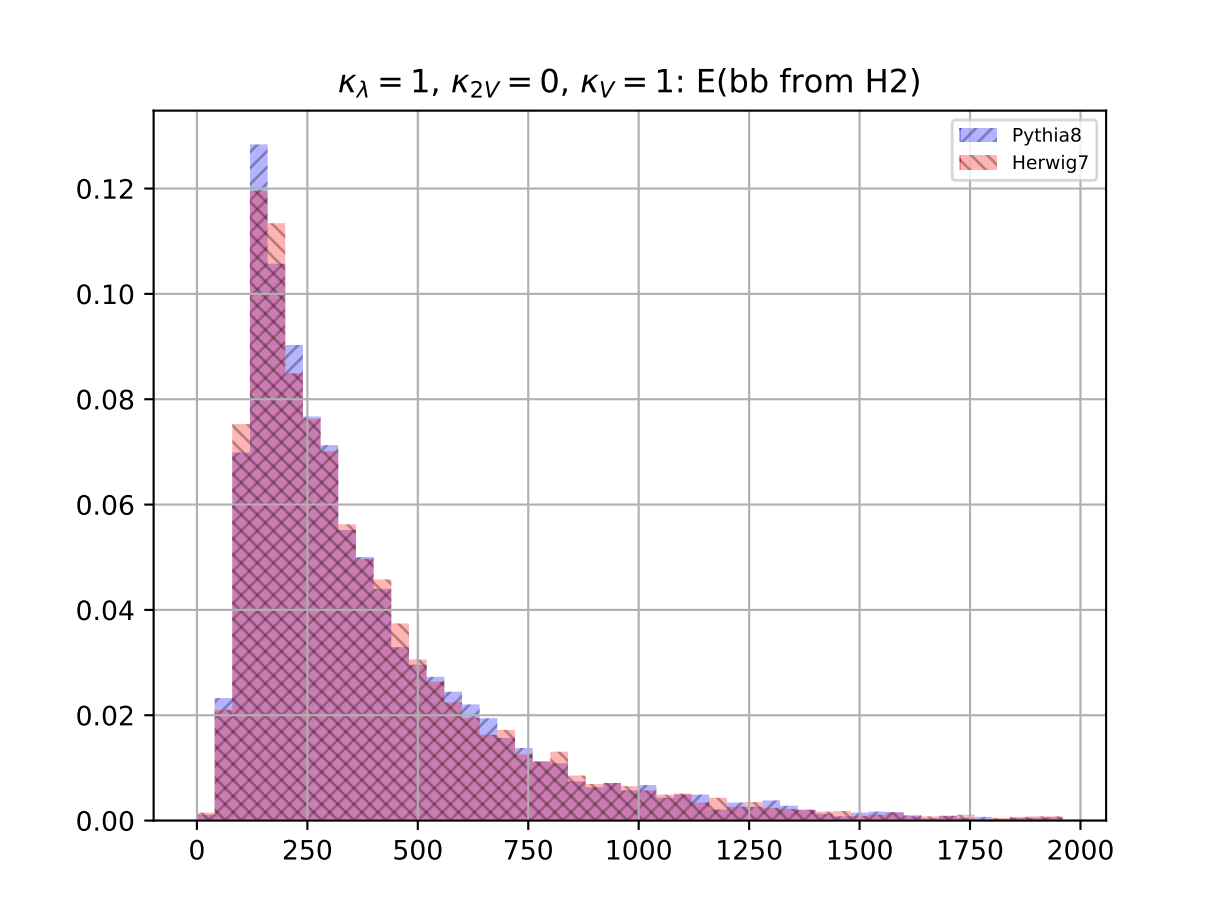

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: E(bb from H1)
Pythia8
Herwig7
0.10
0.08
0.06
0.04
0.02
0.00
0
250
500
750
1000
1250
1500
1750
2000

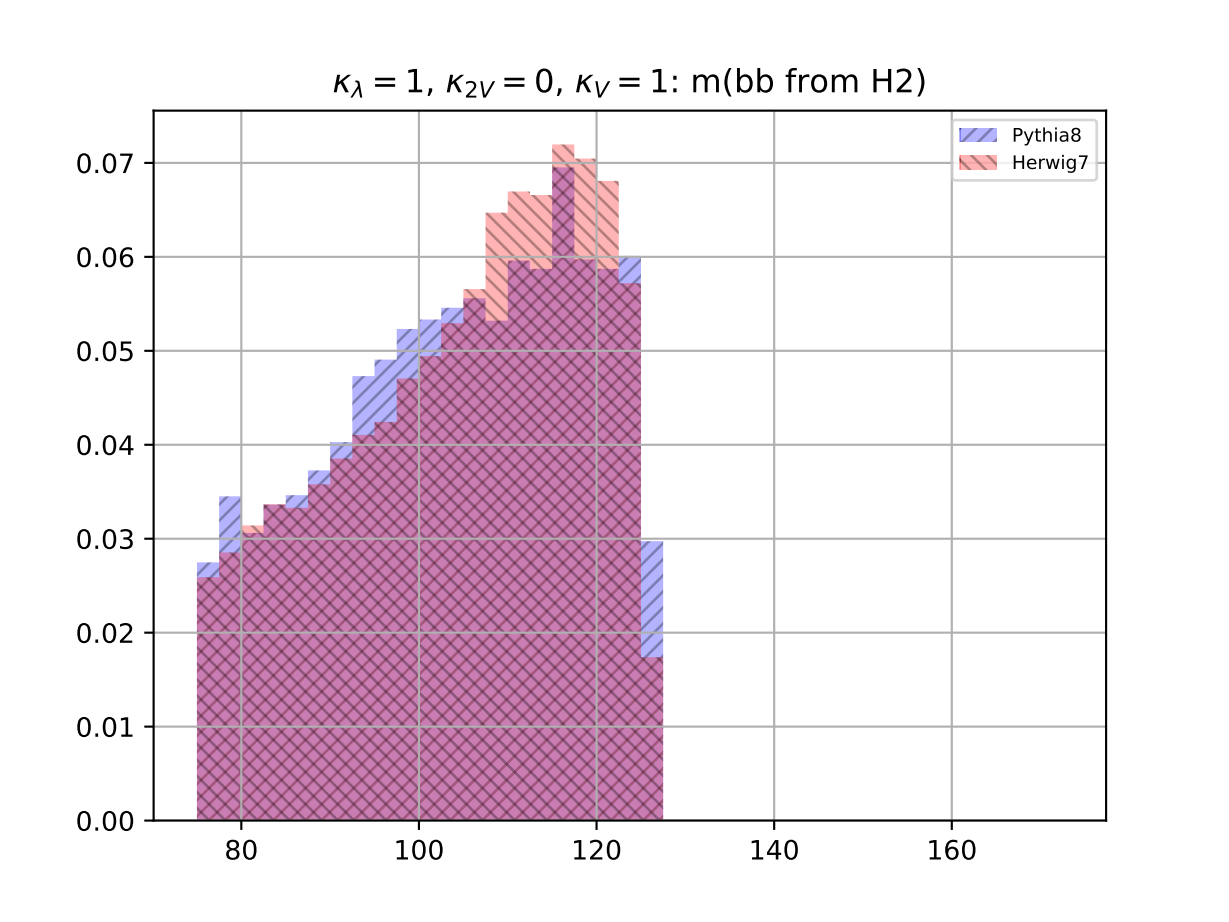

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: m(bb from H1)
Pythia8
Herwig7
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
80
100
120
140
160

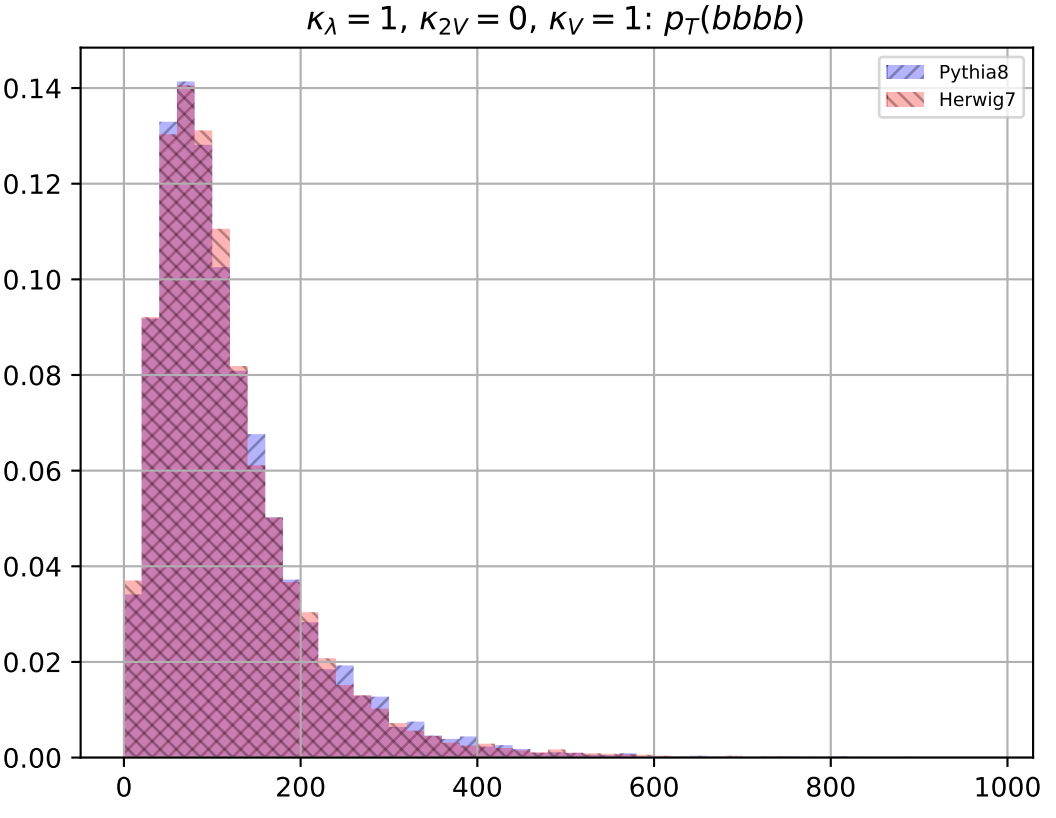

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $p_T(bbfromH2)$
Pythia8
Herwig7
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0
100
200
300
400
500
600
700
800

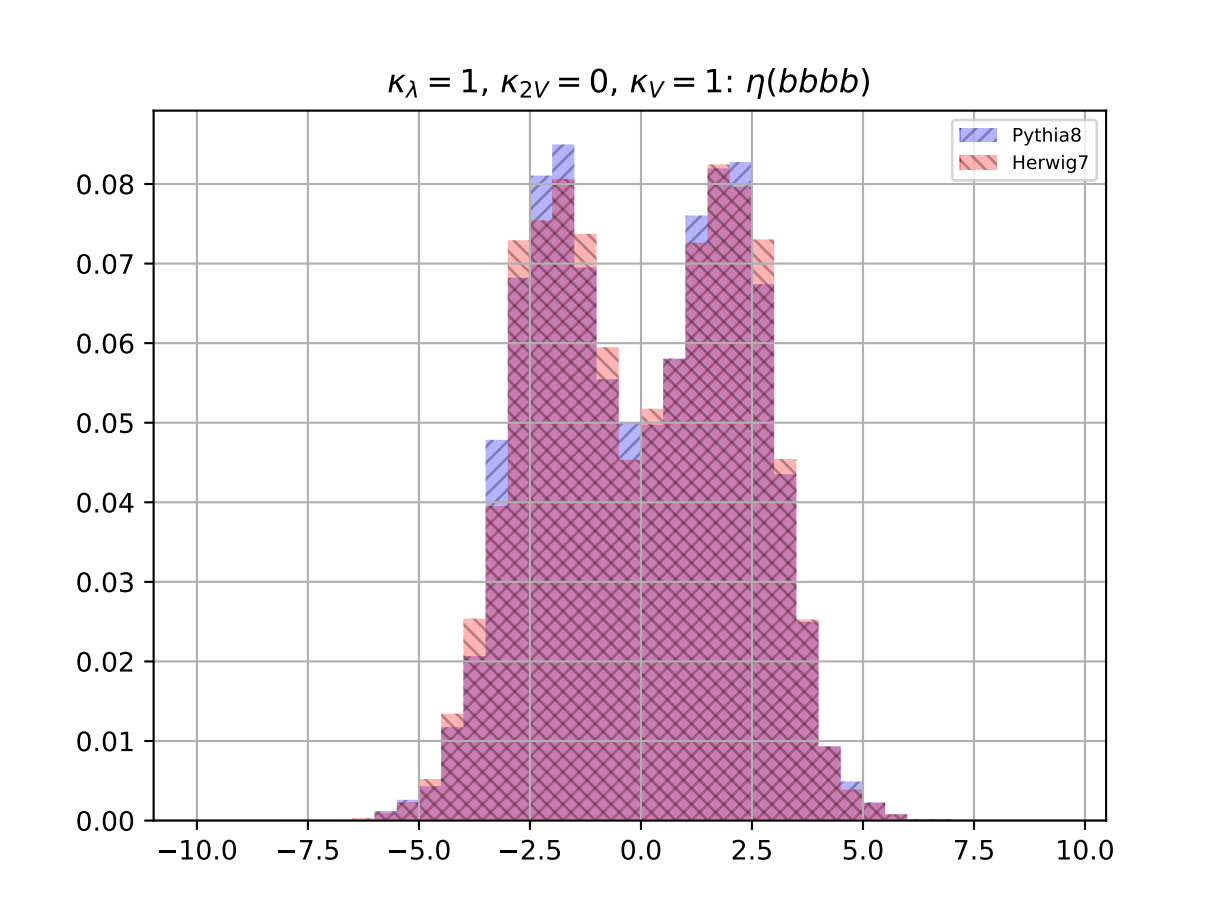

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\eta(bbfromH2)$
Pythia8
Herwig7
0.06
0.05
0.04
0.03
0.02
0.01
0.00
−4
−2
0
2
4

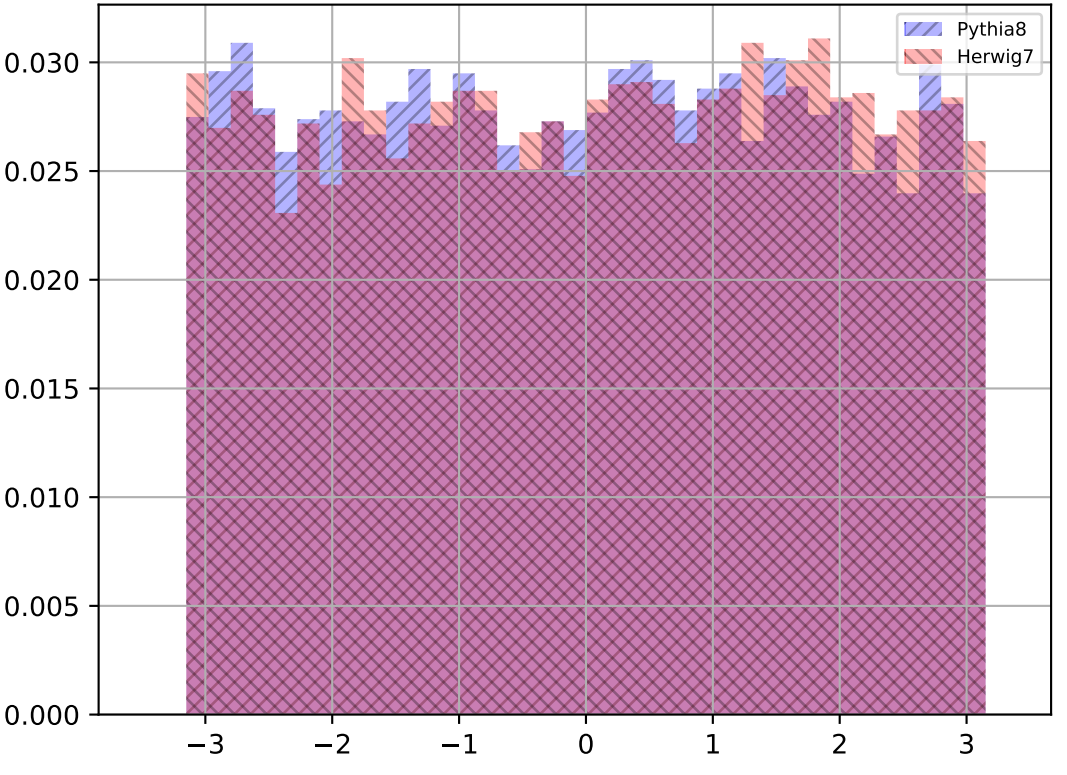

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\phi(bbfromH2)$
Pythia8
Herwig7
0.035
0.030
0.025
0.020
0.015
0.010
0.005
0.000
−3
−2
−1
0
1
2
3

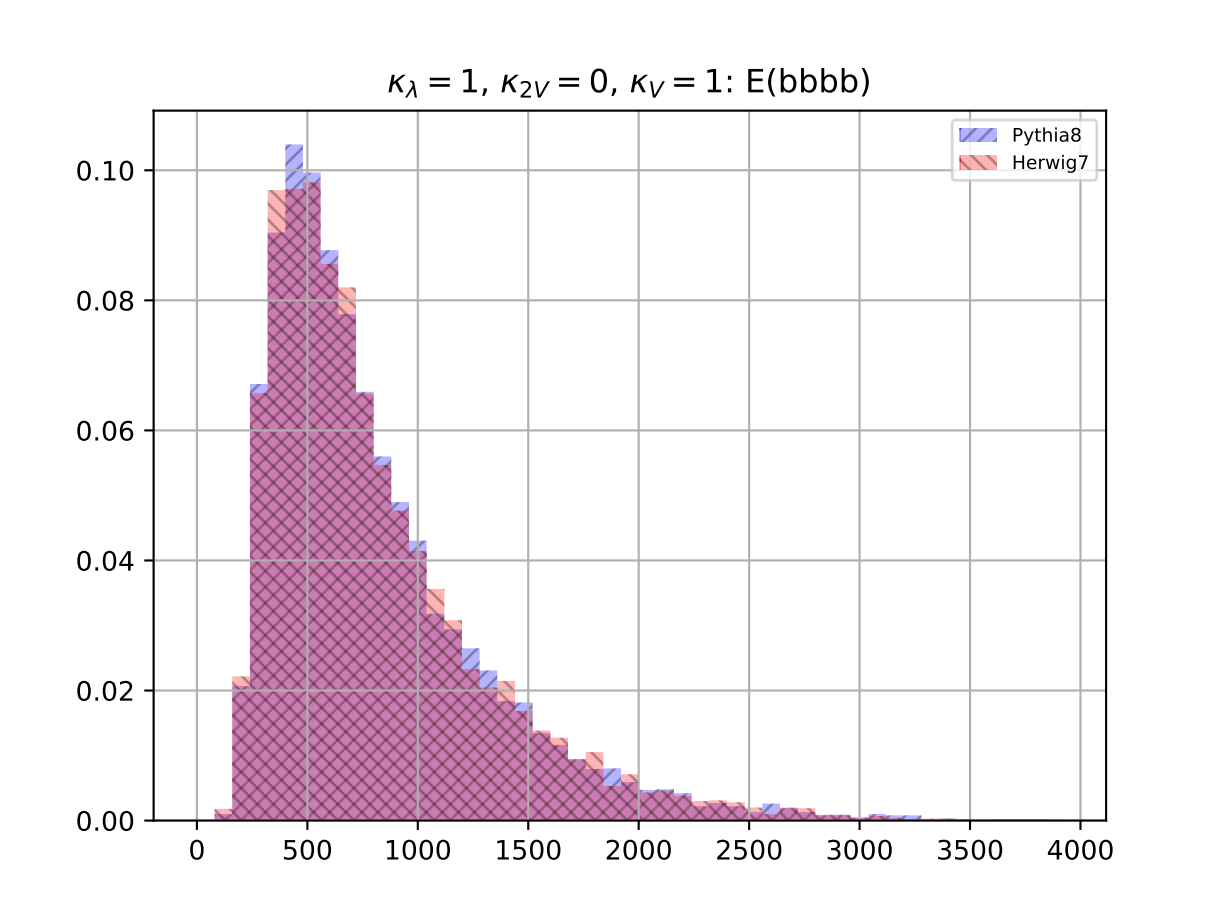

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: E(bb from H2)
Pythia8
Herwig7
0.12
0.10
0.08
0.06
0.04
0.02
0.00
0
250
500
750
1000
1250
1500
1750
2000

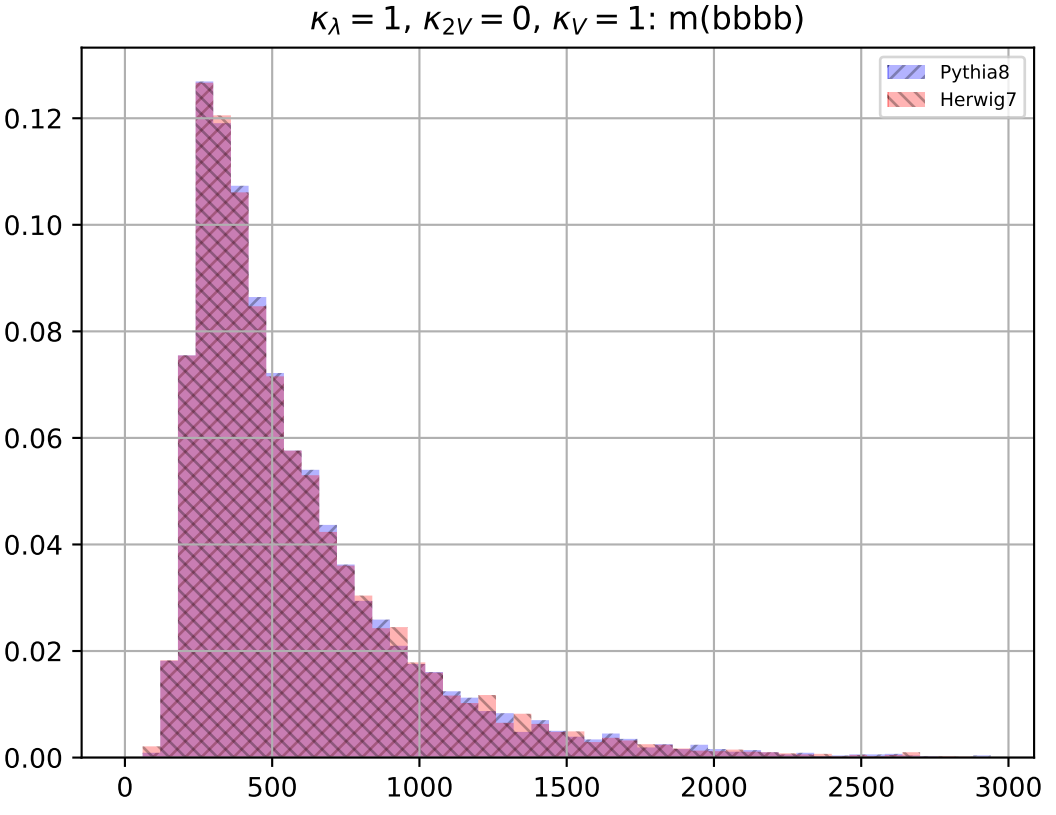

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: m(bb from H2)
Pythia8
Herwig7
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
80
100
120
140
160

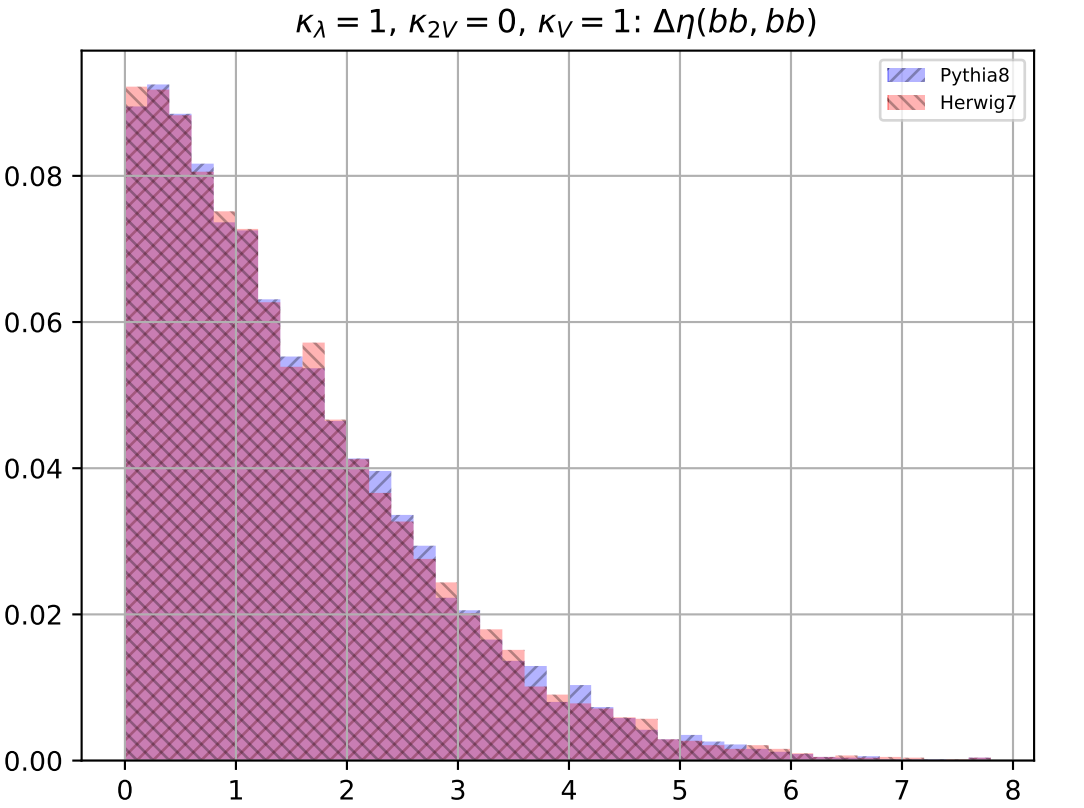

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $p_T(bbbb)$
Pythia8
Herwig7
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
0
200
400
600
800
1000

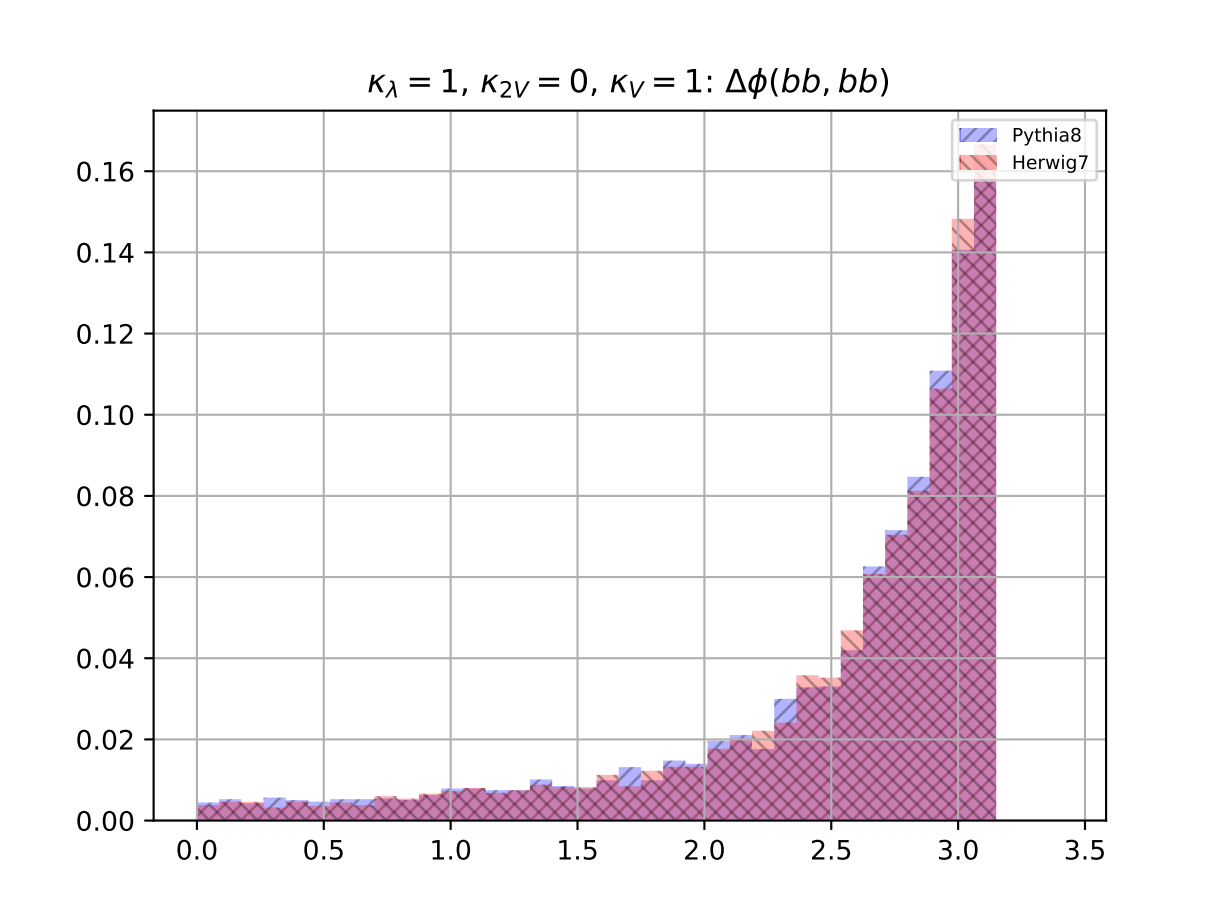

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\eta(bbbb)$
Pythia8
Herwig7
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
−10.0
−7.5
−5.0
−2.5
0.0
2.5
5.0
7.5
10.0

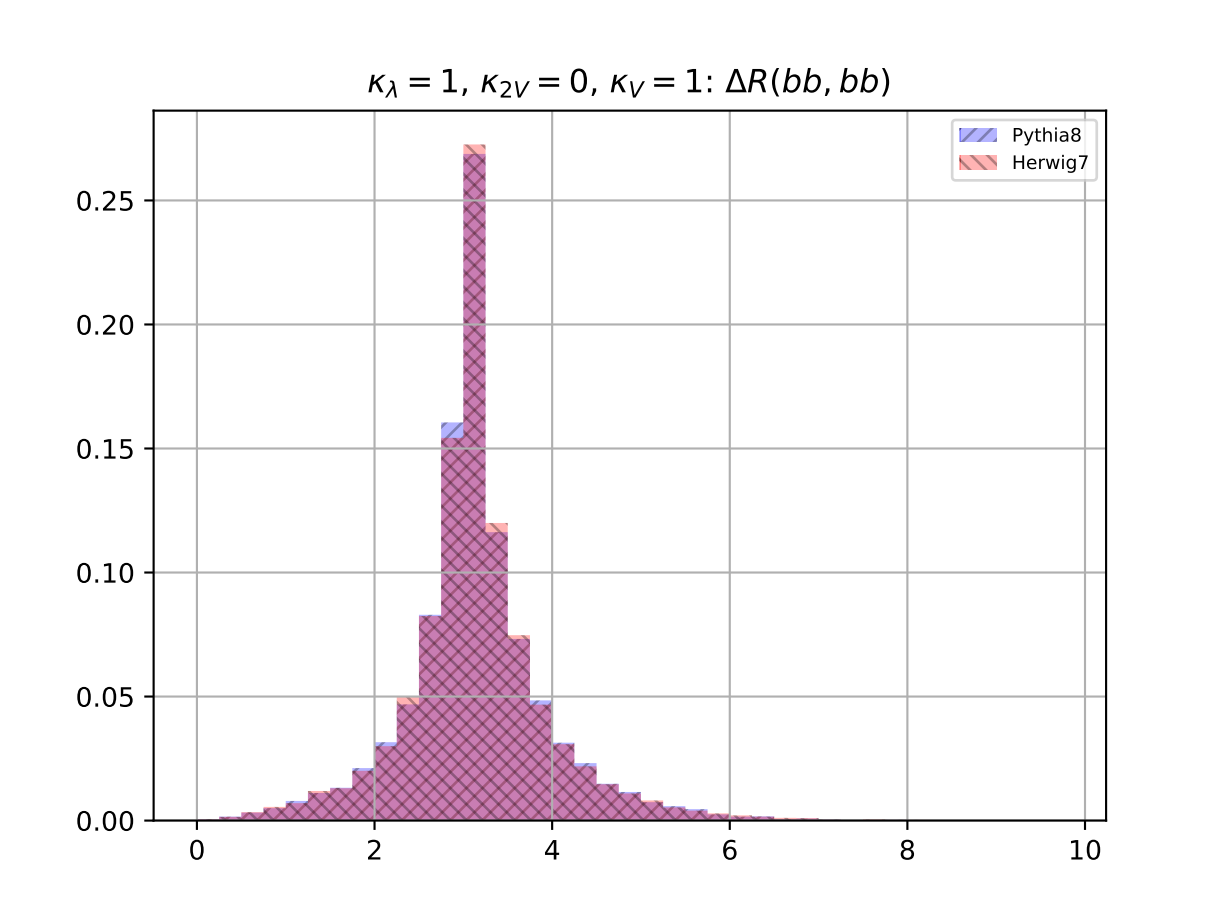

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\phi(bbbb)$
Pythia8
Herwig7
0.030
0.025
0.020
0.015
0.010
0.005
0.000
−3
−2
−1
0
1
2
3

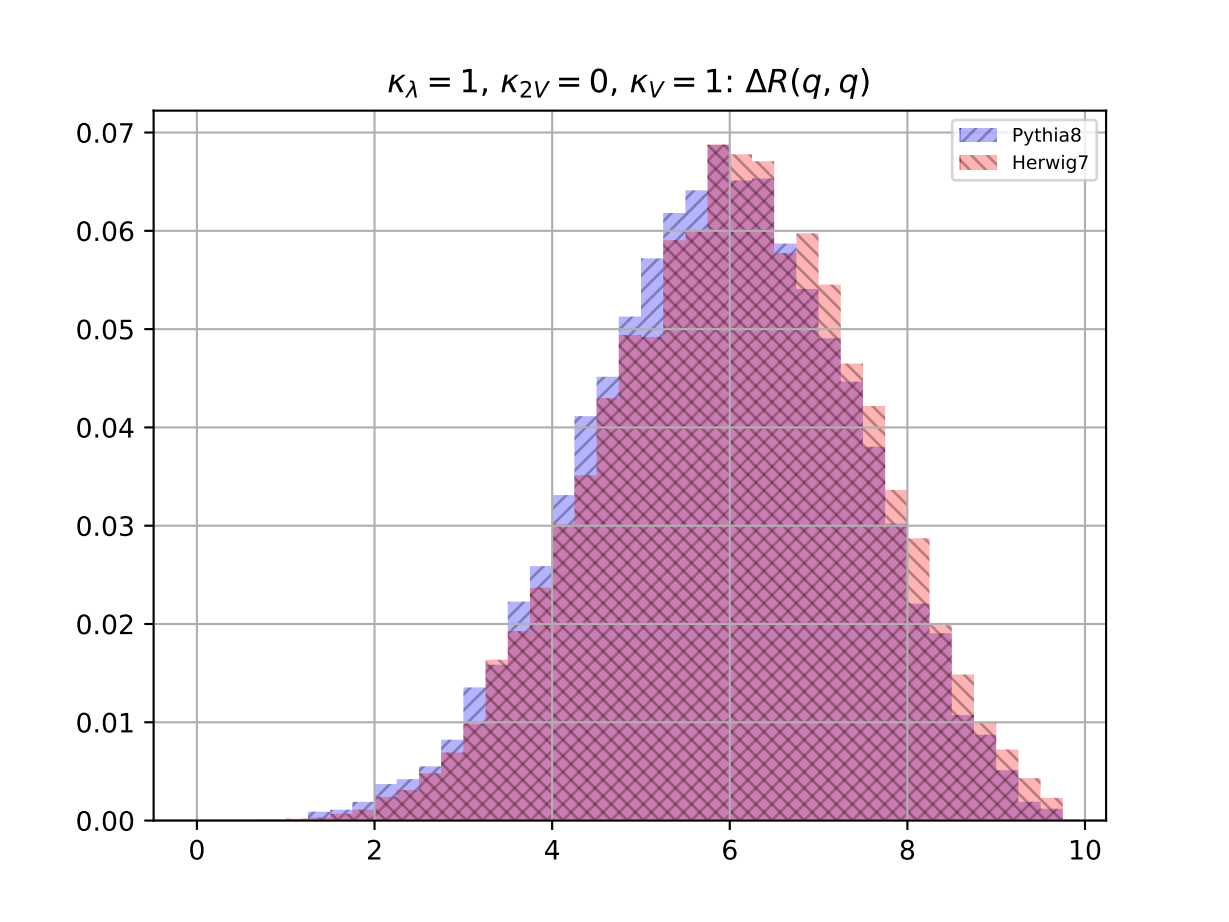

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: E(bbbb)
Pythia8
Herwig7
0.10
0.08
0.06
0.04
0.02
0.00
0
500
1000
1500
2000
2500
3000
3500
4000

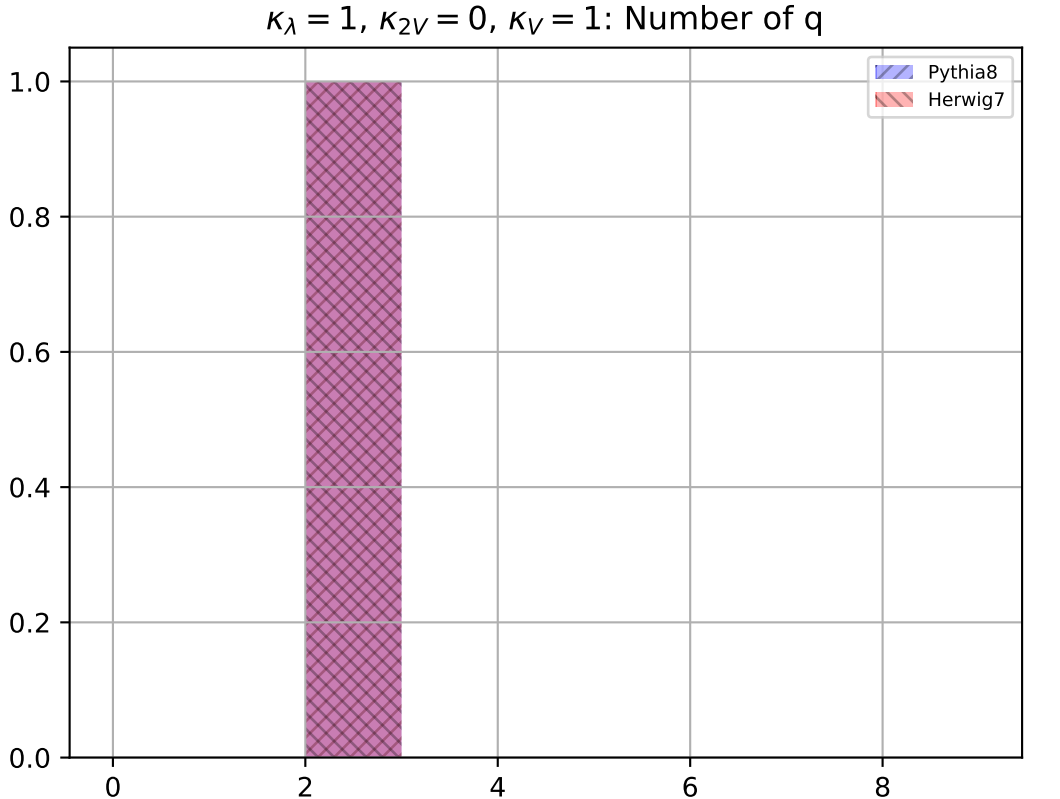

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: m(bbbb)
Pythia8
Herwig7
0.12
0.10
0.08
0.06
0.04
0.02
0.00
0
500
1000
1500
2000
2500
3000

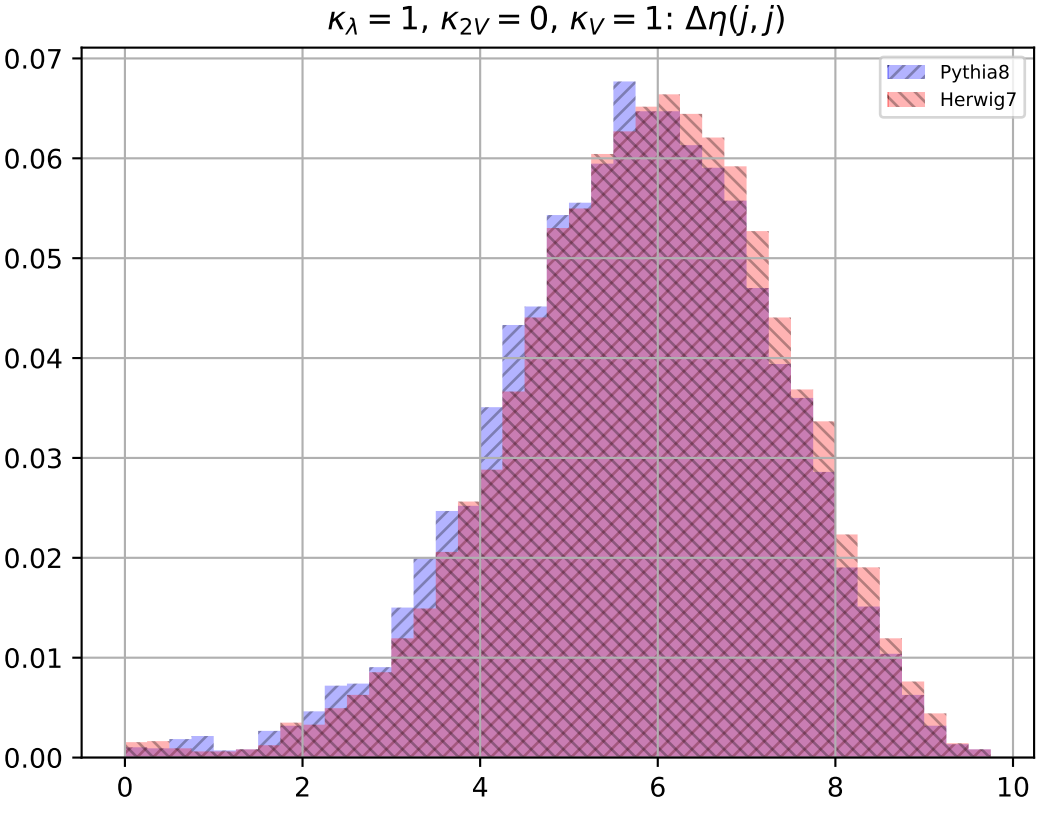

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\Delta\eta(bb, bb)$
Pythia8
Herwig7
0.00
0.02
0.04
0.06
0.08
0
1
2
3
4
5
6
7
8

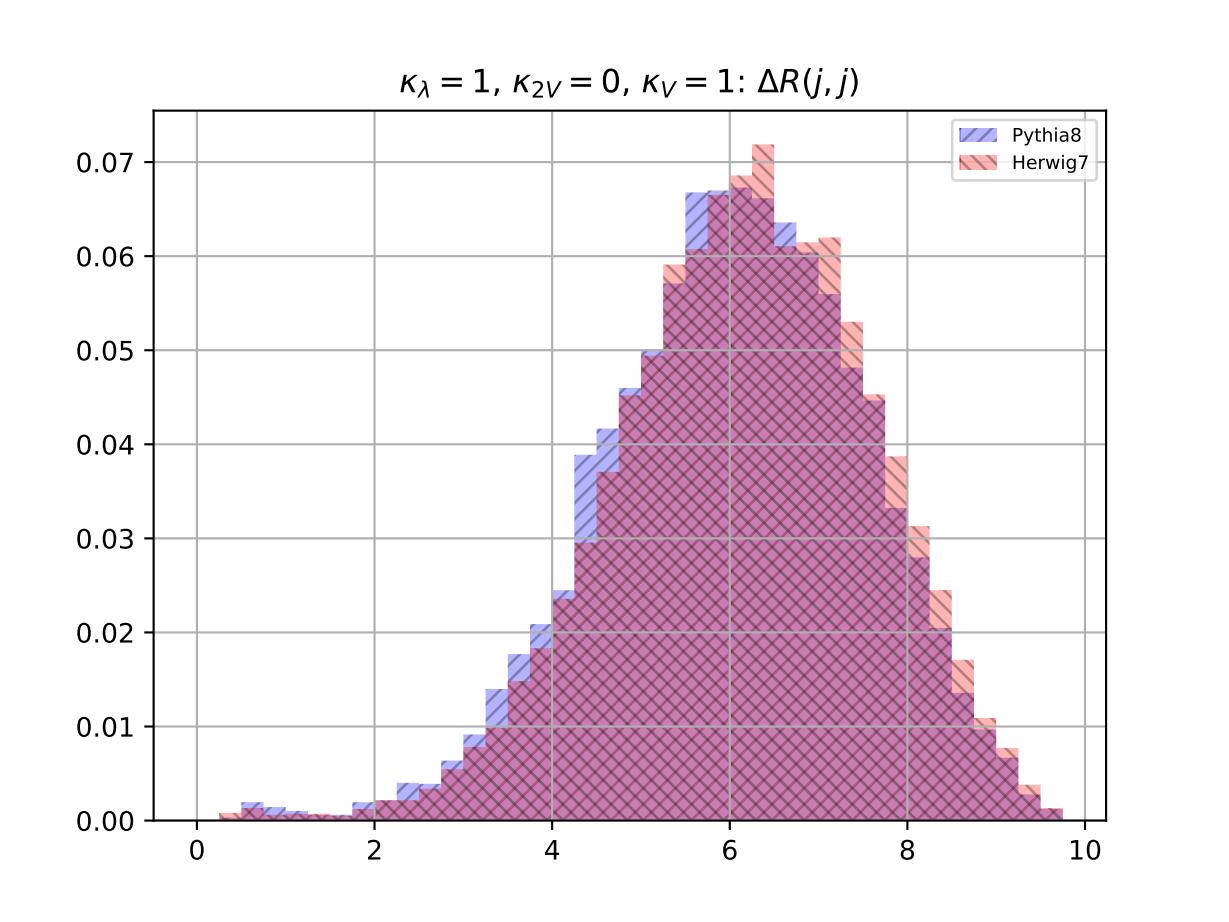

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\Delta\phi(bb, bb)$
Pythia8
Herwig7
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5

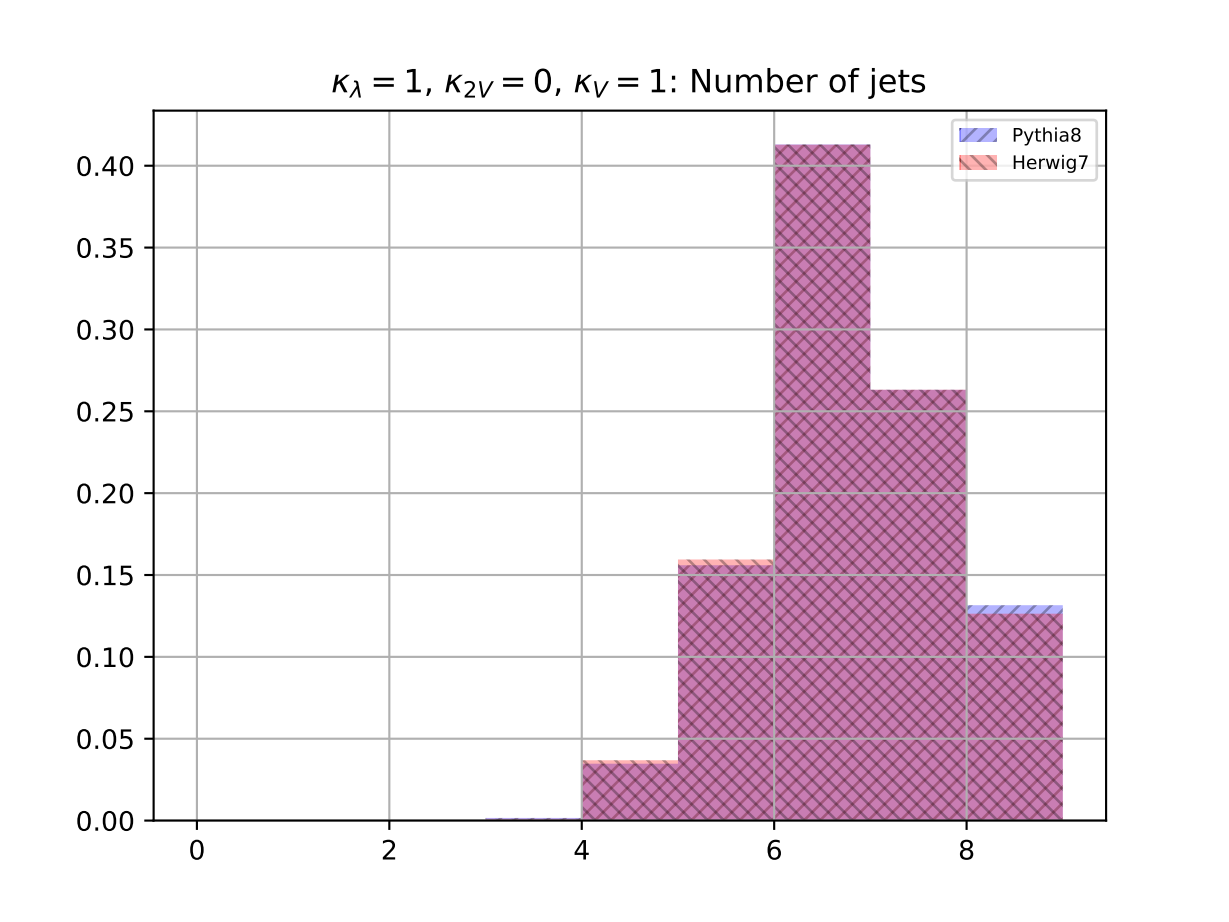

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\Delta R(bb, bb)$
Pythia8
Herwig7
0.25
0.20
0.15
0.10
0.05
0.00
0
2
4
6
8
10

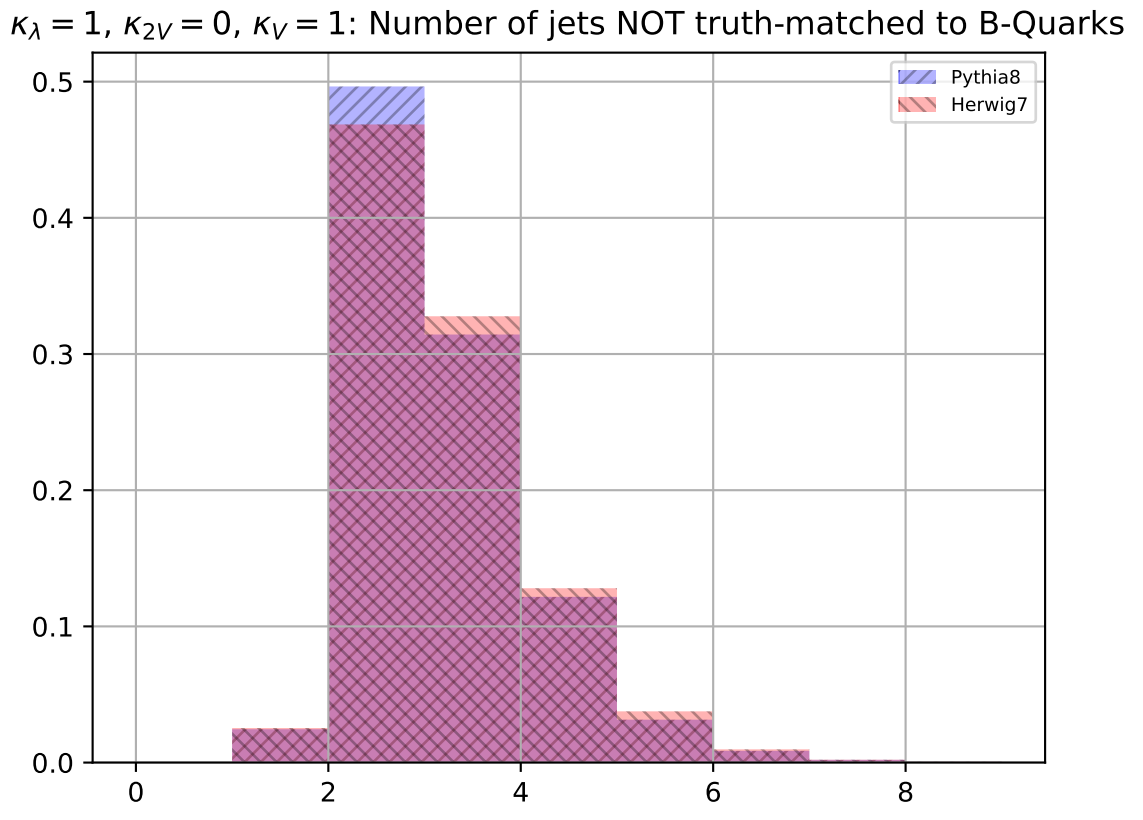

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\Delta R(q, q)$
Pythia8
Herwig7
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
0
2
4
6
8
10

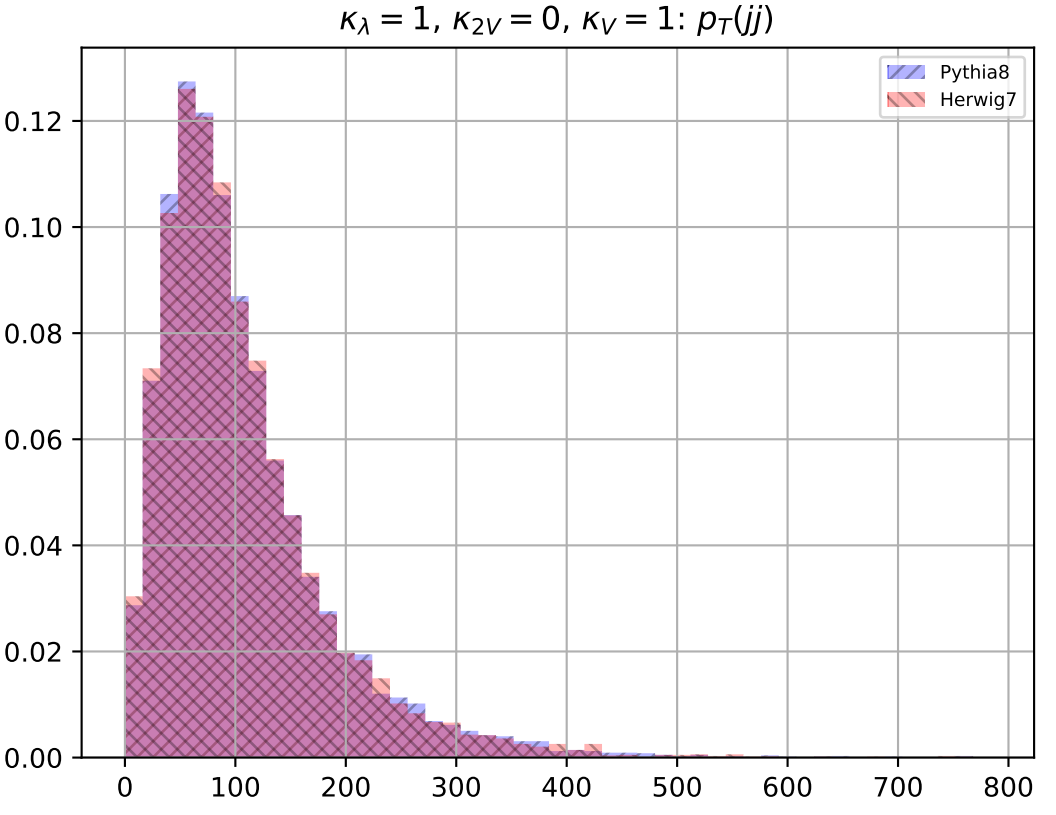

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: Number of q
Pythia8
Herwig7
1.0
0.8
0.6
0.4
0.2
0.0
0
2
4
6
8

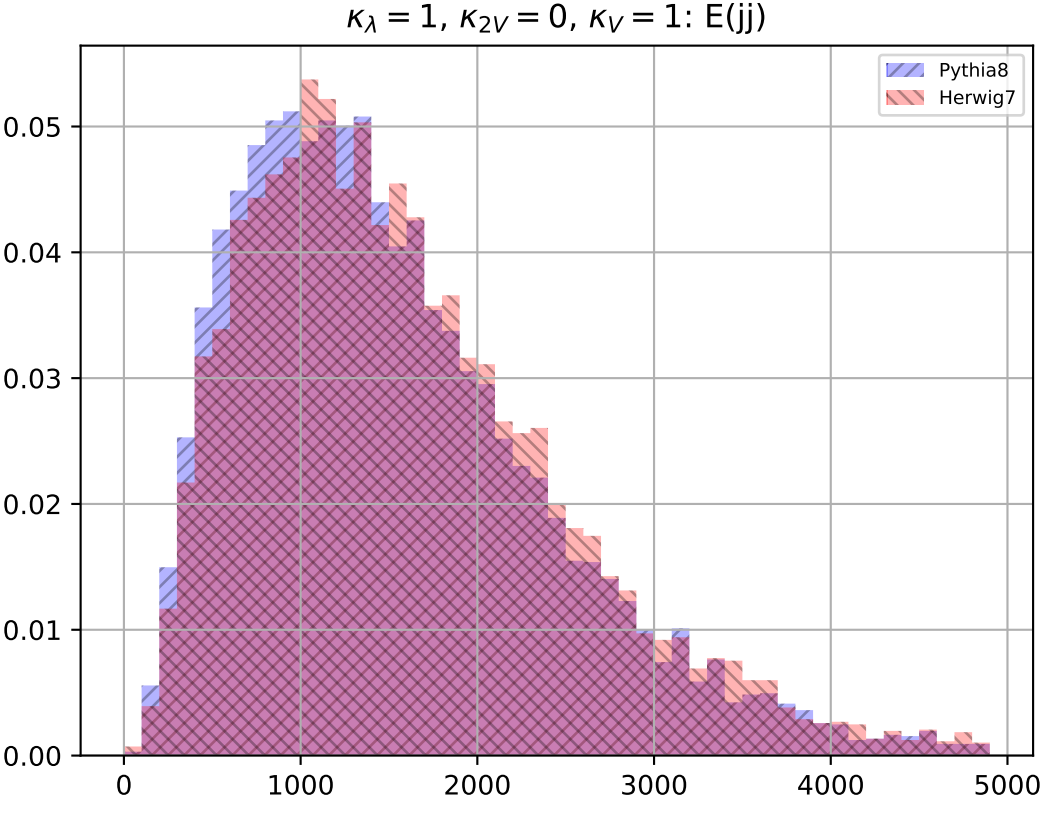

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\Delta\eta(j,j)$
Pythia8
Herwig7
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
0
2
4
6
8
10

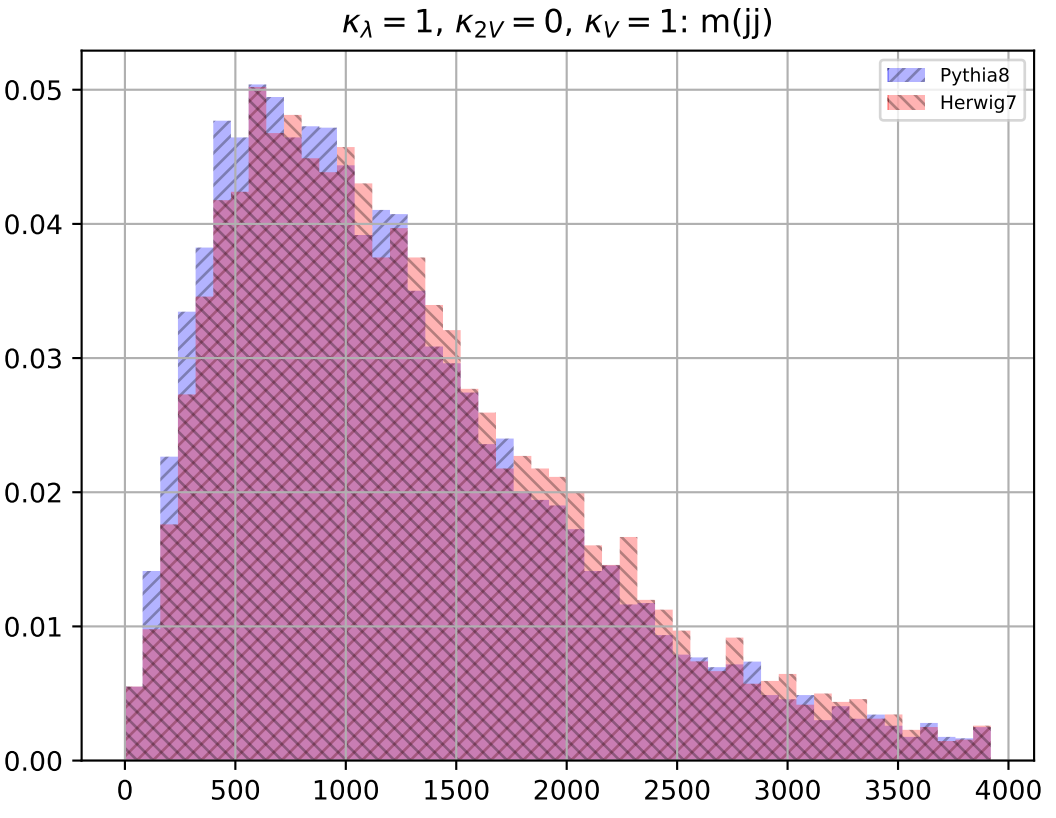

$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $\Delta R(j, j)$
Pythia8
Herwig7
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
0
2
4
6
8
10


$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: Number of jets
Pythia8
Herwig7
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
0
2
4
6
8


$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: Number of jets NOT truth-matched to B-Quarks
Pythia8
Herwig7
0.5
0.4
0.3
0.2
0.1
0.0
0
2
4
6
8


$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: $p_T(jj)$
Pythia8
Herwig7
0.12
0.10
0.08
0.06
0.04
0.02
0.00
0
100
200
300
400
500
600
700
800


$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: E(jj)
Pythia8
Herwig7
0.05
0.04
0.03
0.02
0.01
0.00
0
1000
2000
3000
4000
5000


$\kappa_\lambda = 1$, $\kappa_{2V} = 0$, $\kappa_V = 1$: m(jj)
Pythia8
Herwig7
0.05
0.04
0.03
0.02
0.01
0.00
0
500
1000
1500
2000
2500
3000
3500
4000