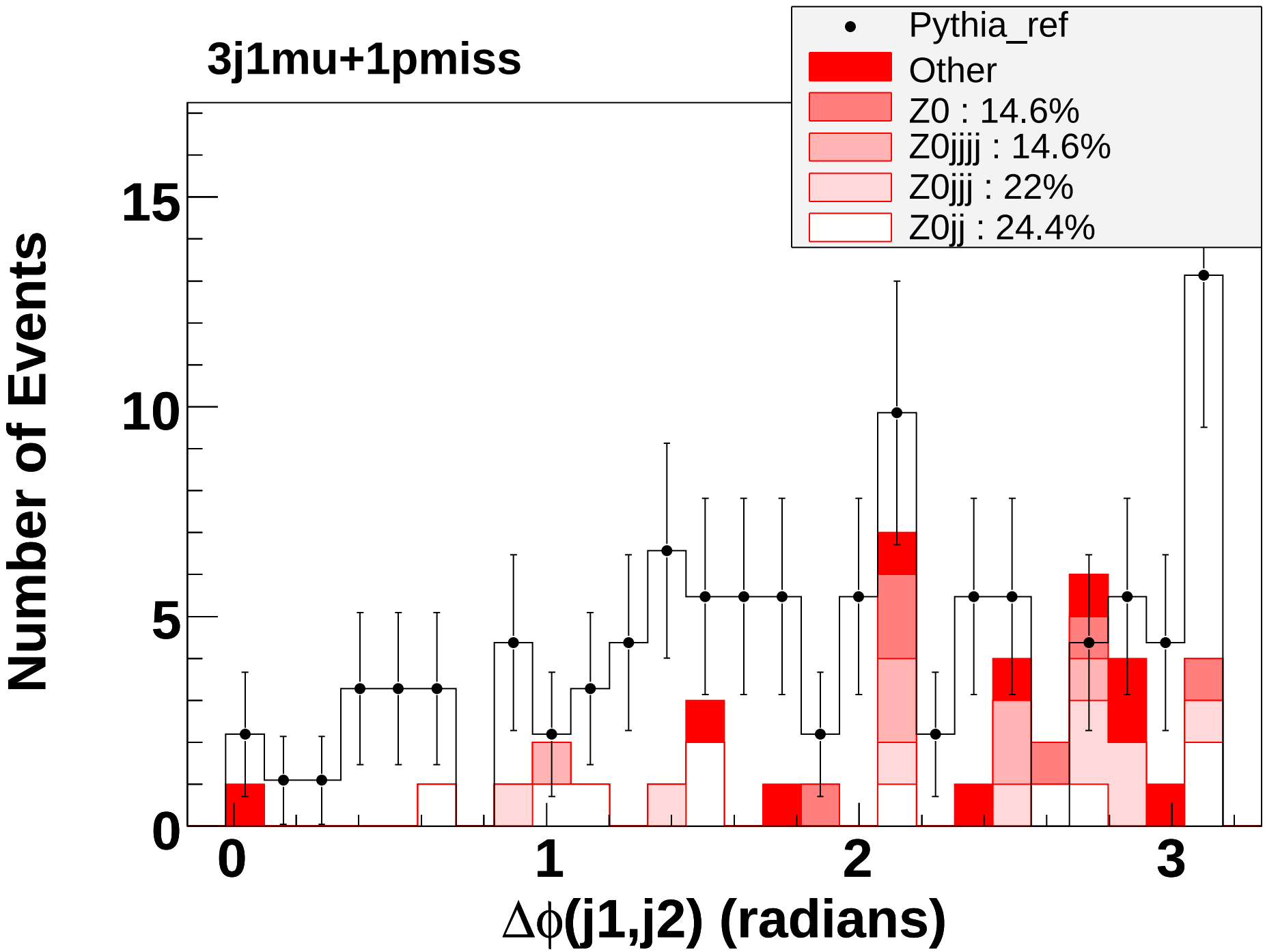
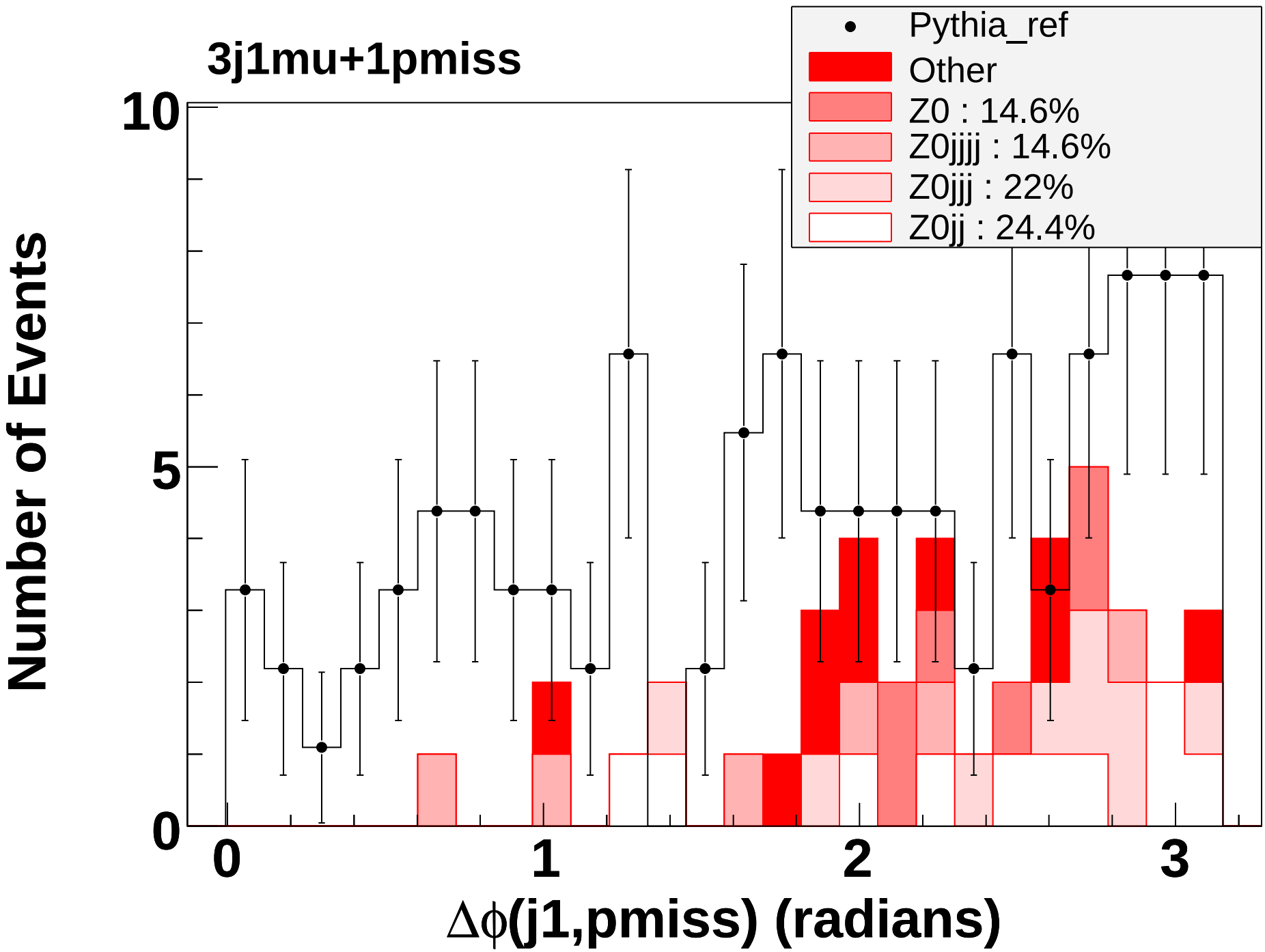
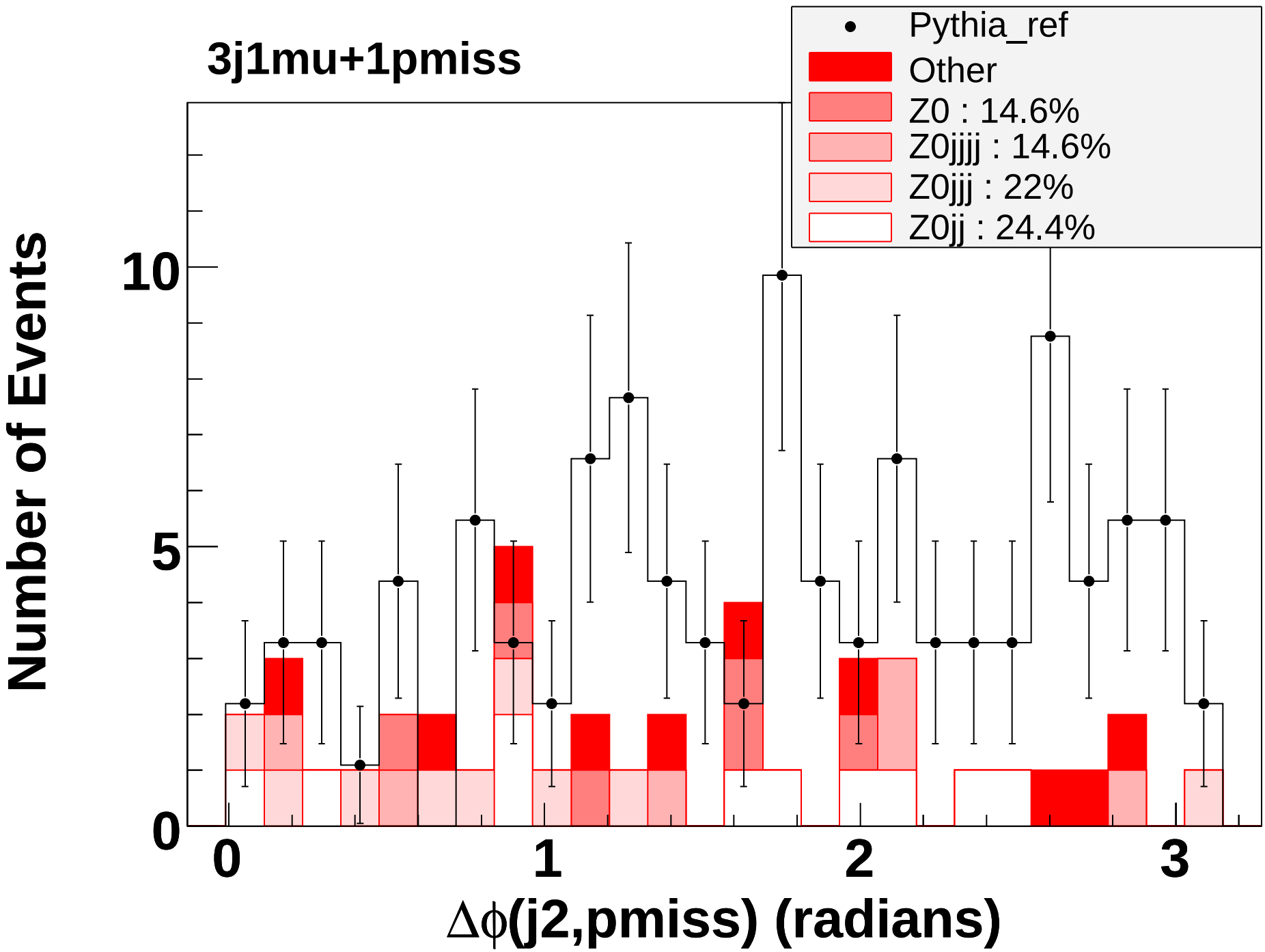
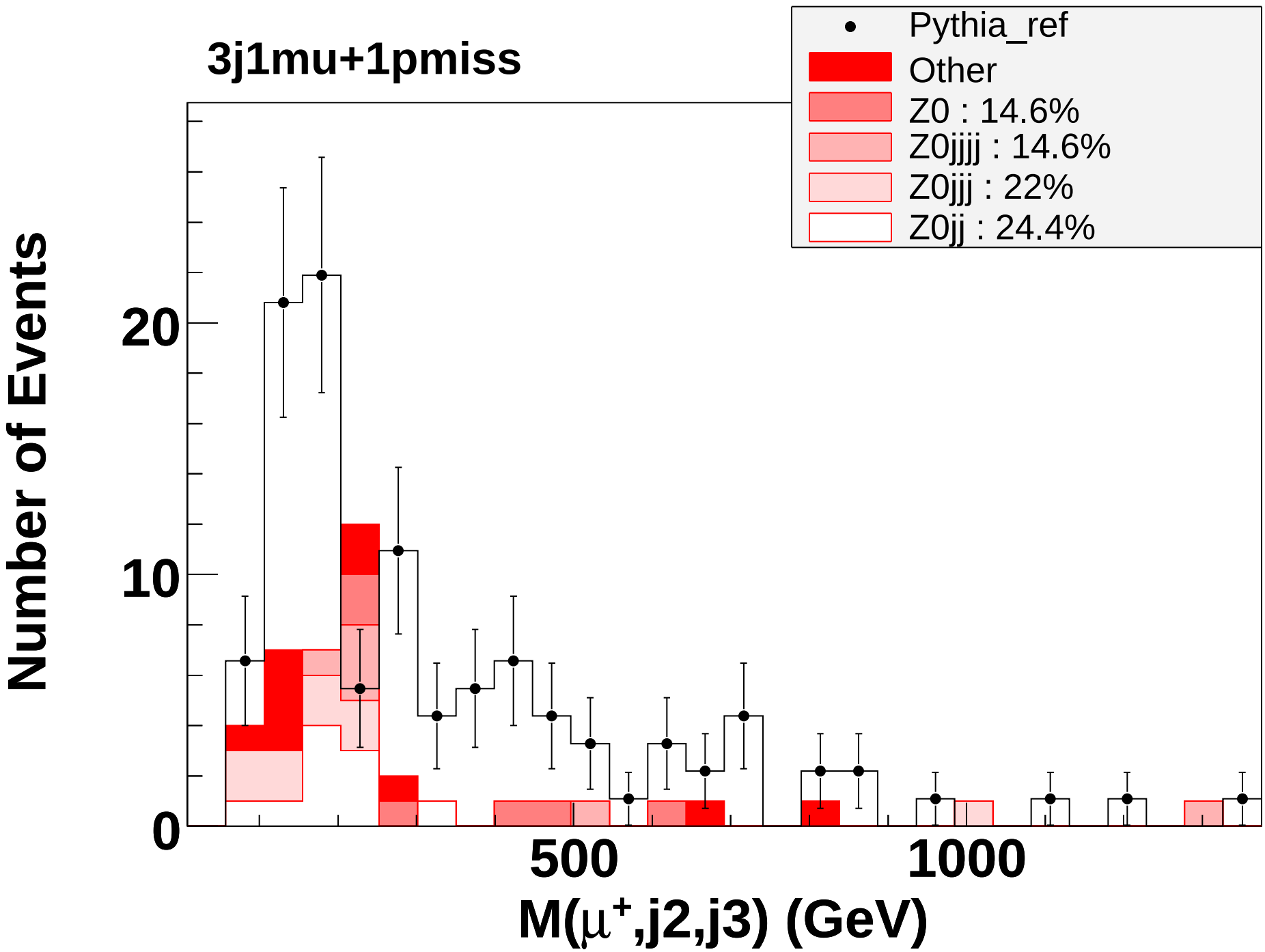
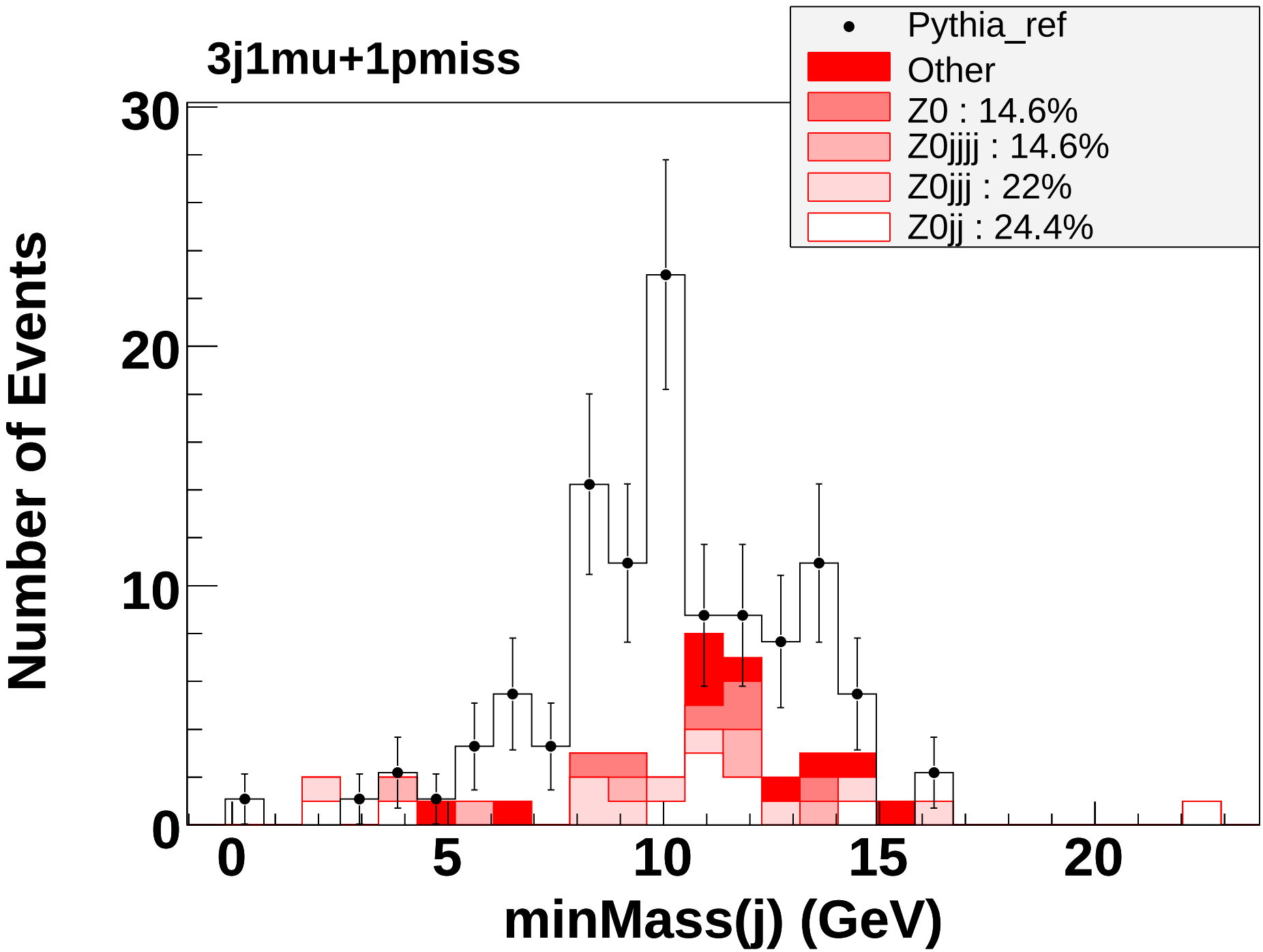
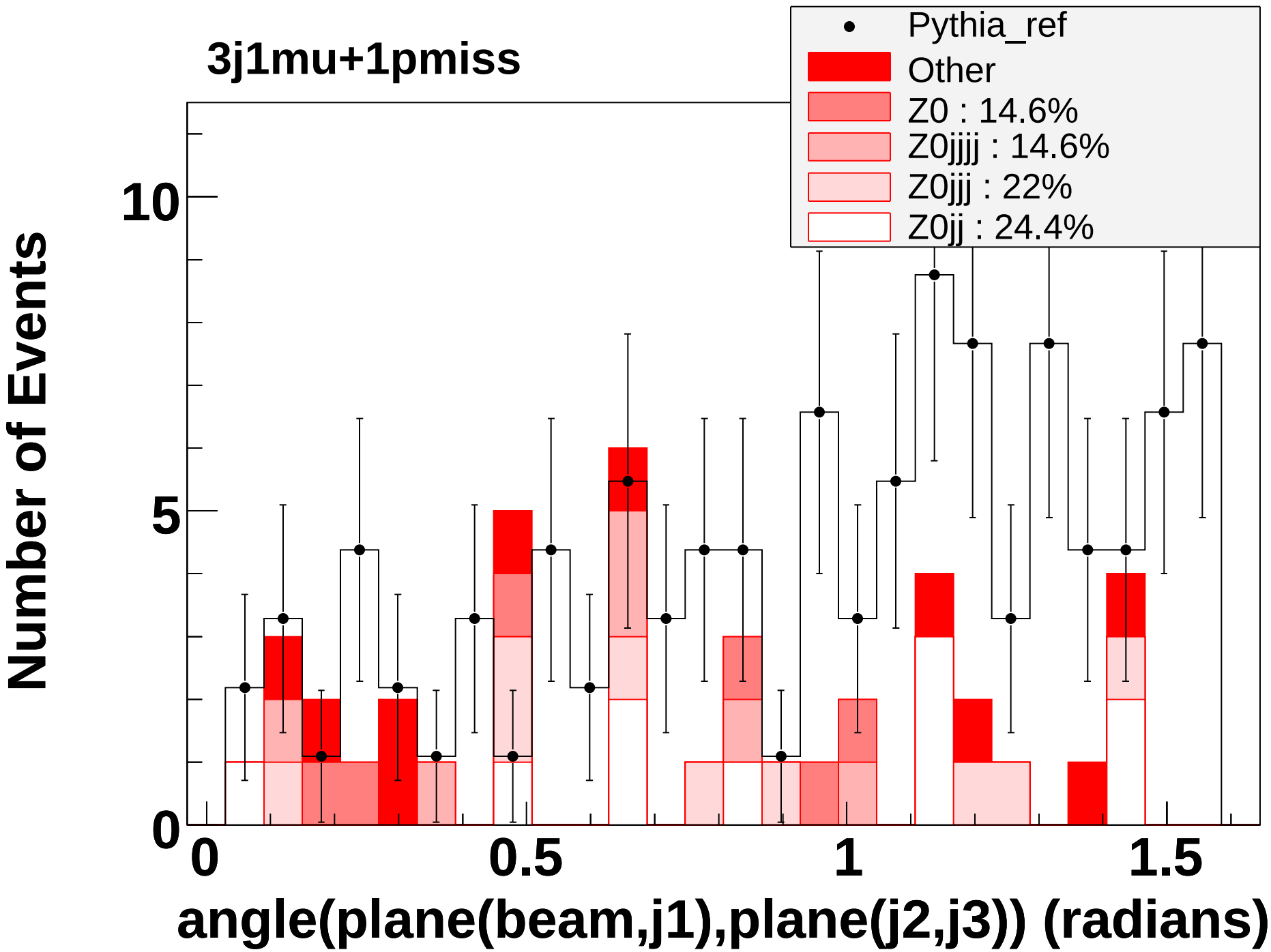

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
15
0
1
2
3
Δϕ(j1,j2) (radians)

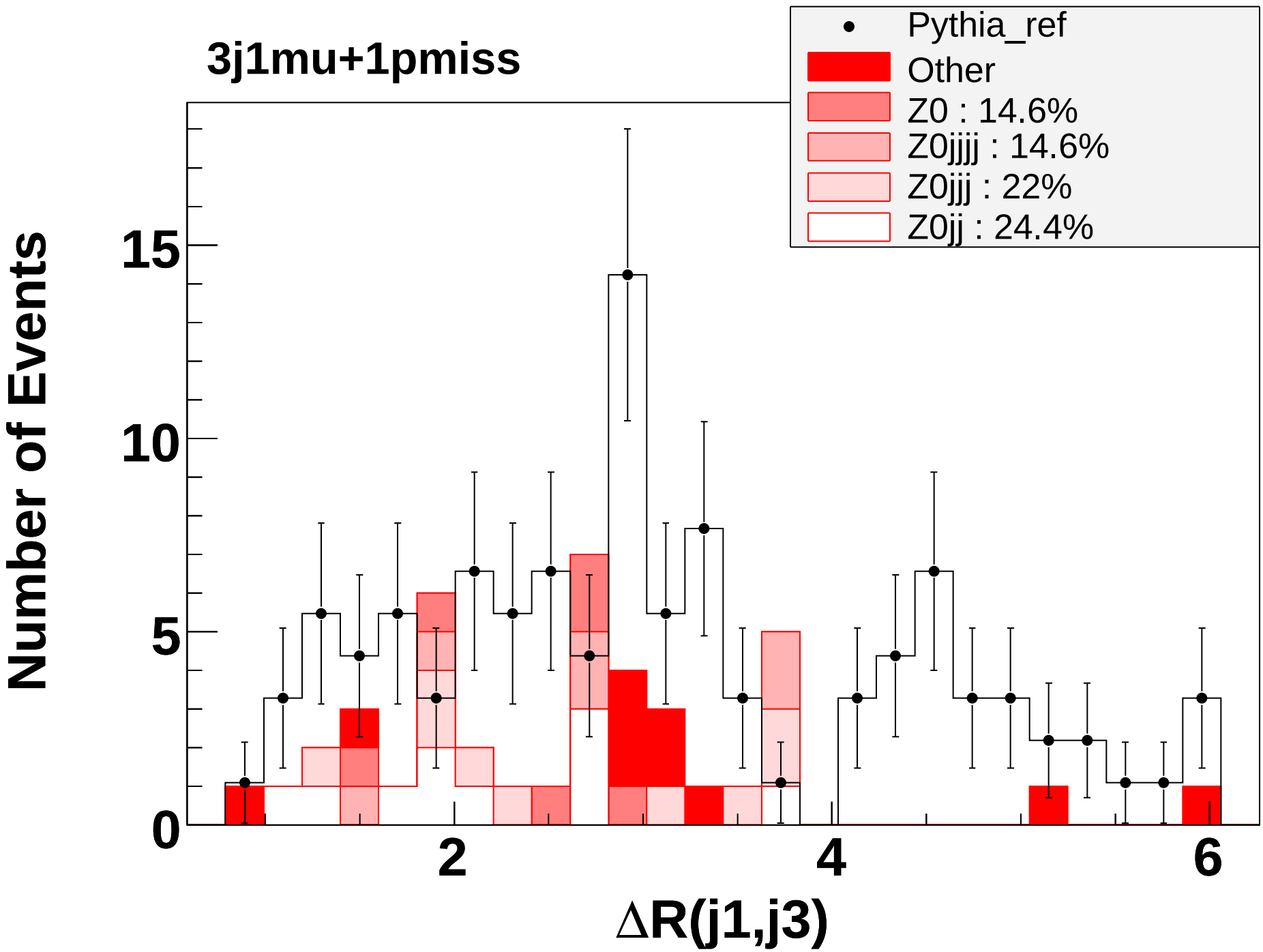

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
10
5
0
0
1
2
3
Δϕ(j1,pmiss) (radians)

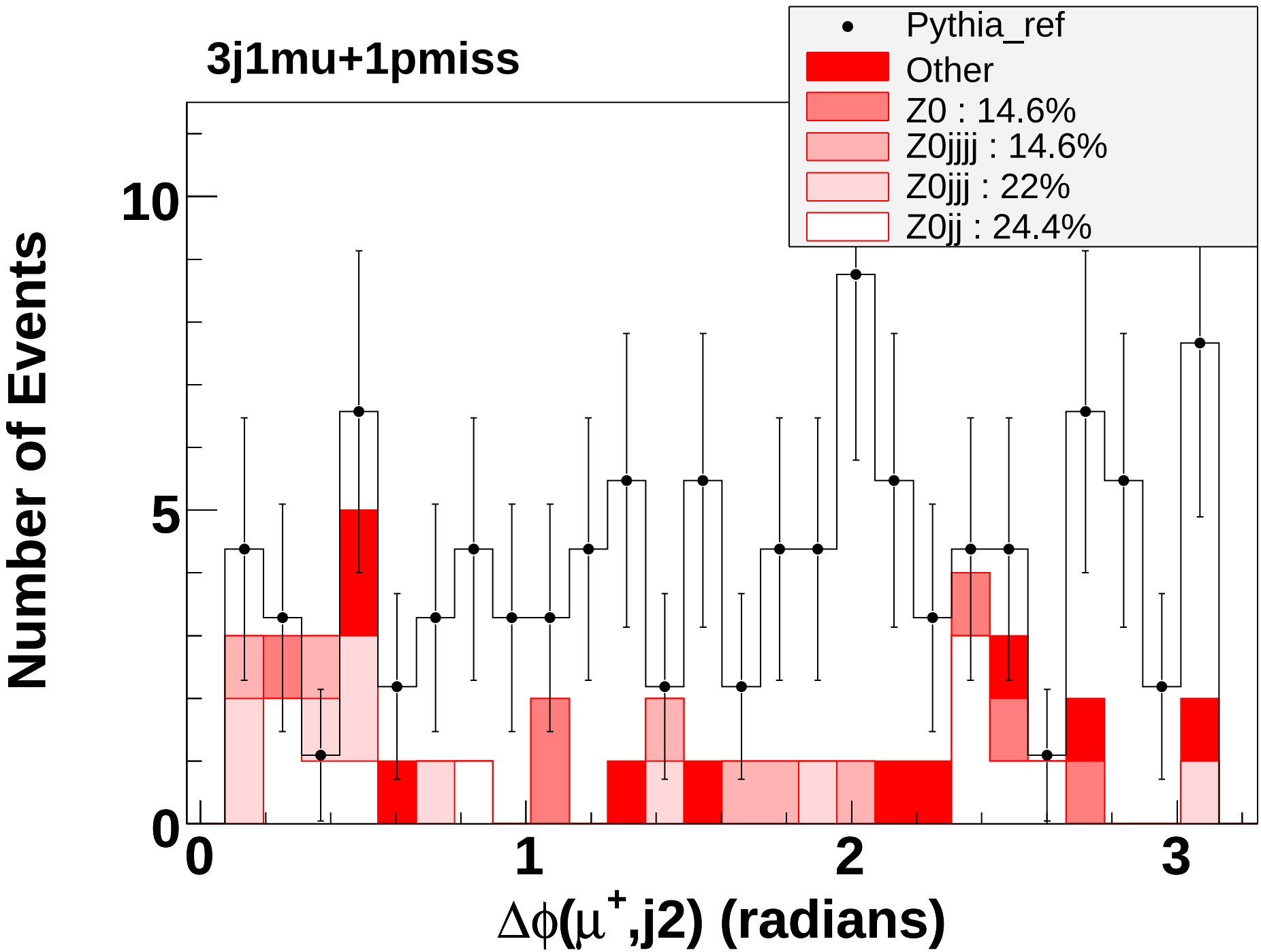

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
0
1
2
3
Δϕ(j2,pmiss) (radians)

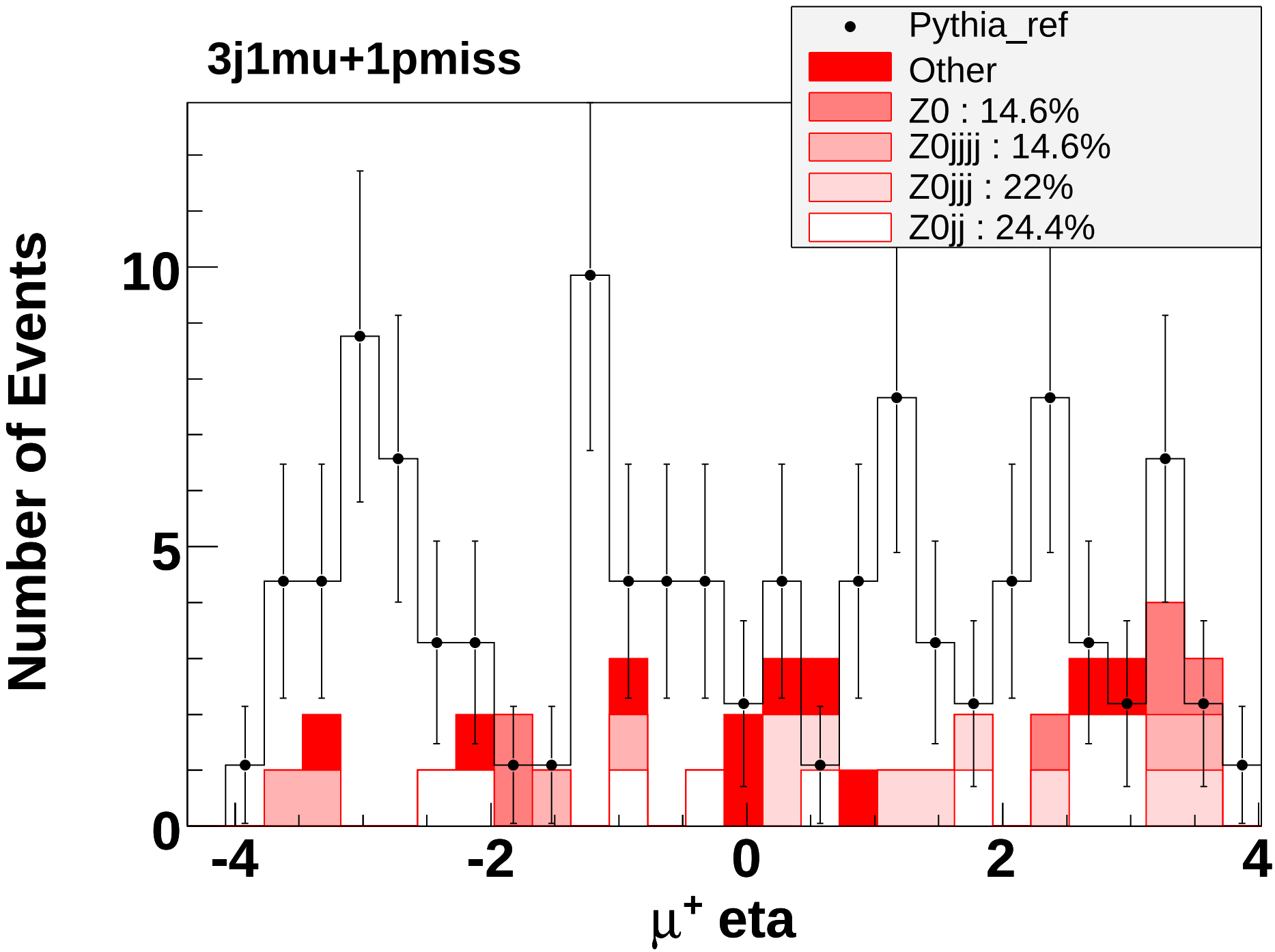

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
10
20
500
1000
M(μ+,j2,j3) (GeV)

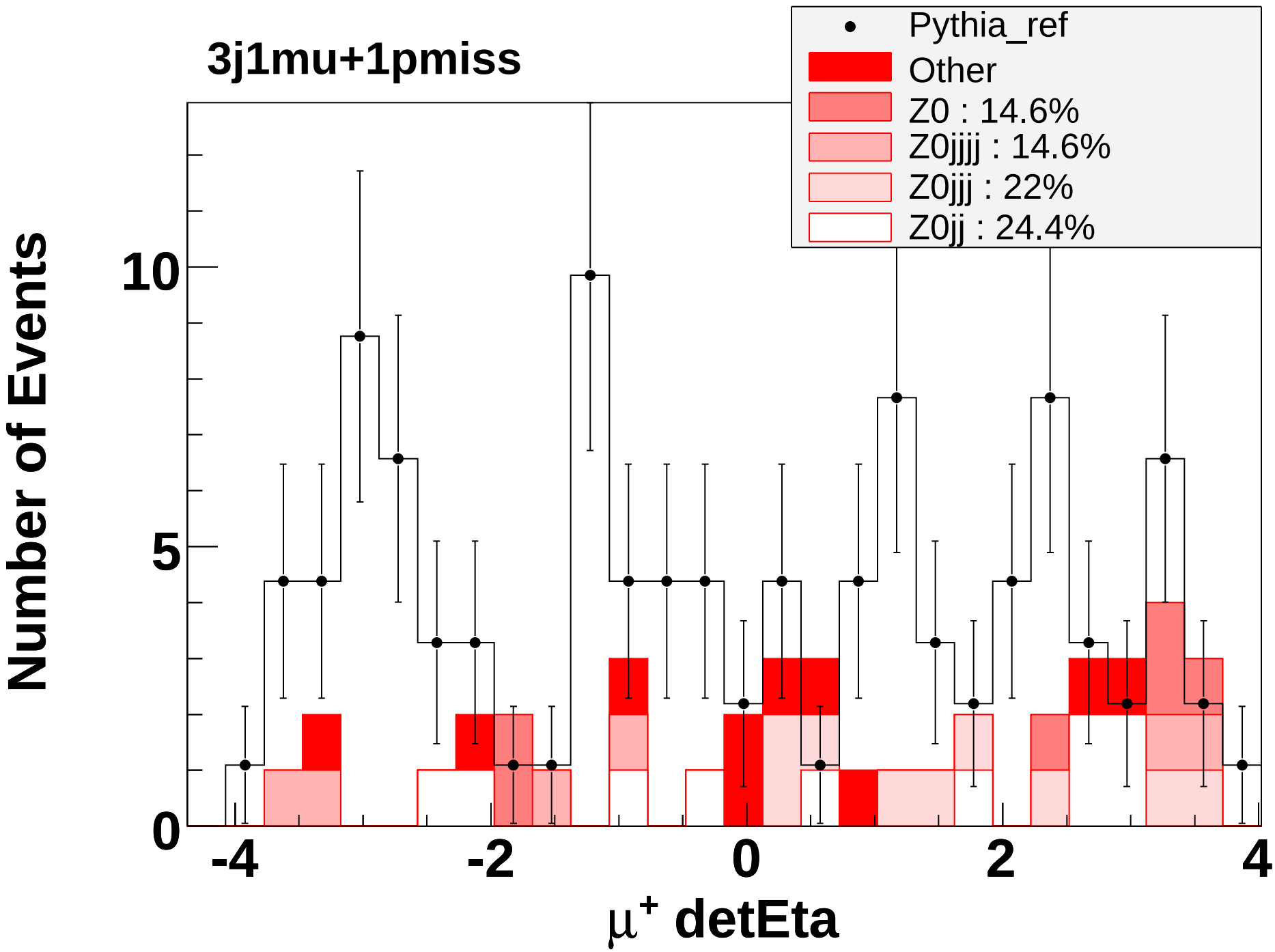

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
30
20
10
0
0
5
10
15
20
minMass(j) (GeV)

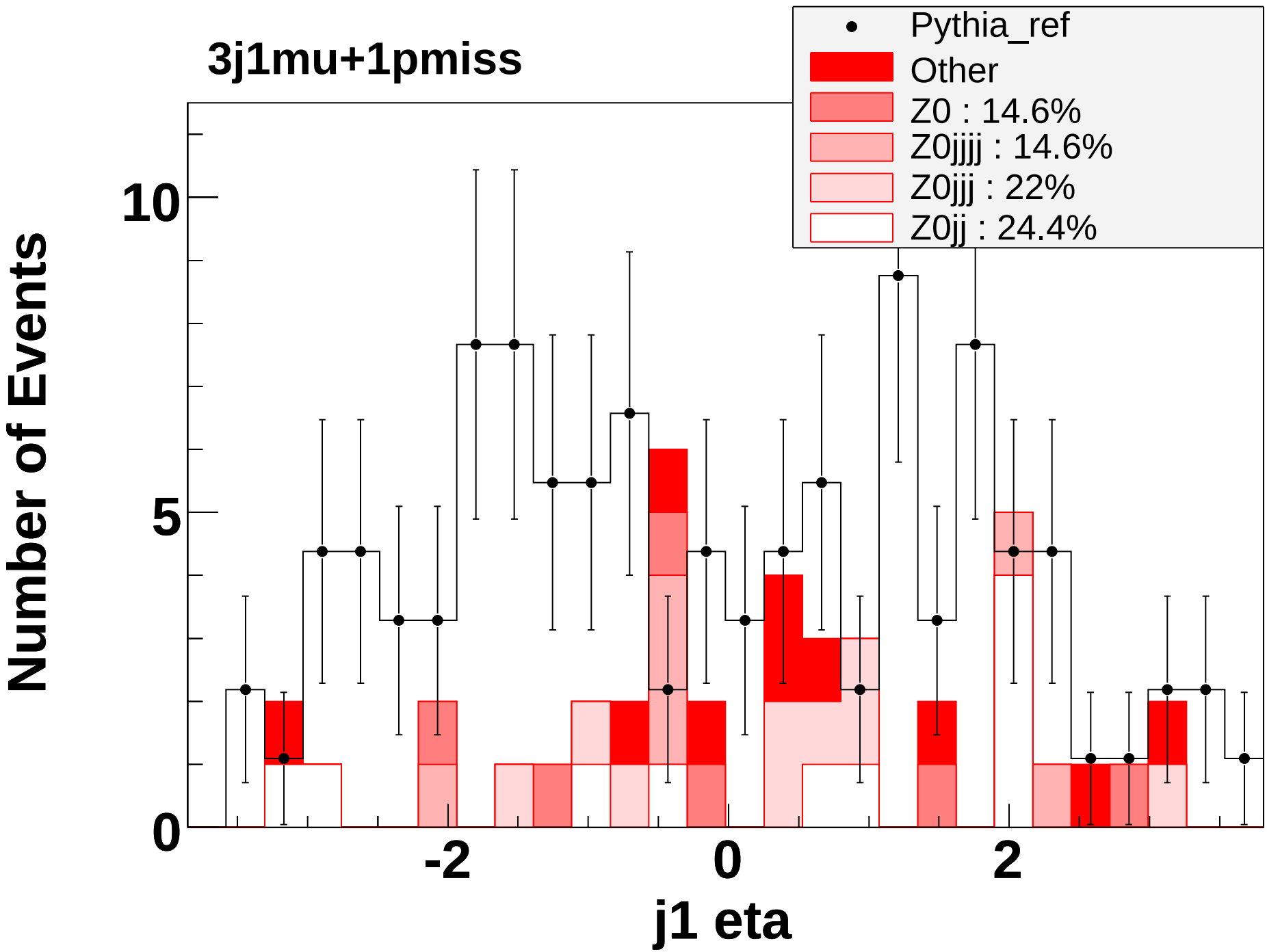

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
0
0.5
1
1.5
angle(plane(beam,j1),plane(j2,j3)) (radians)

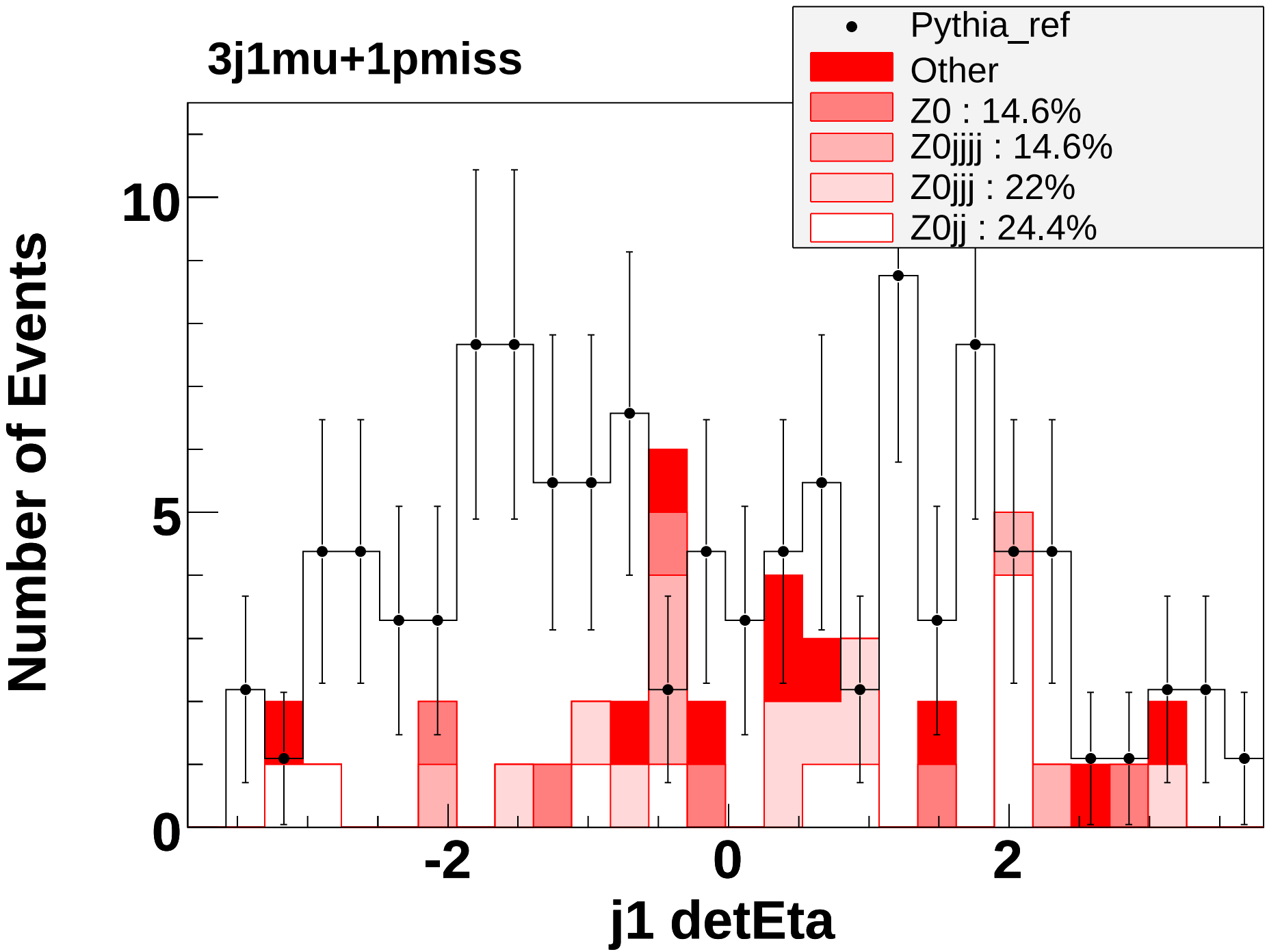

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
15
2
4
6
ΔR(j1,j3)

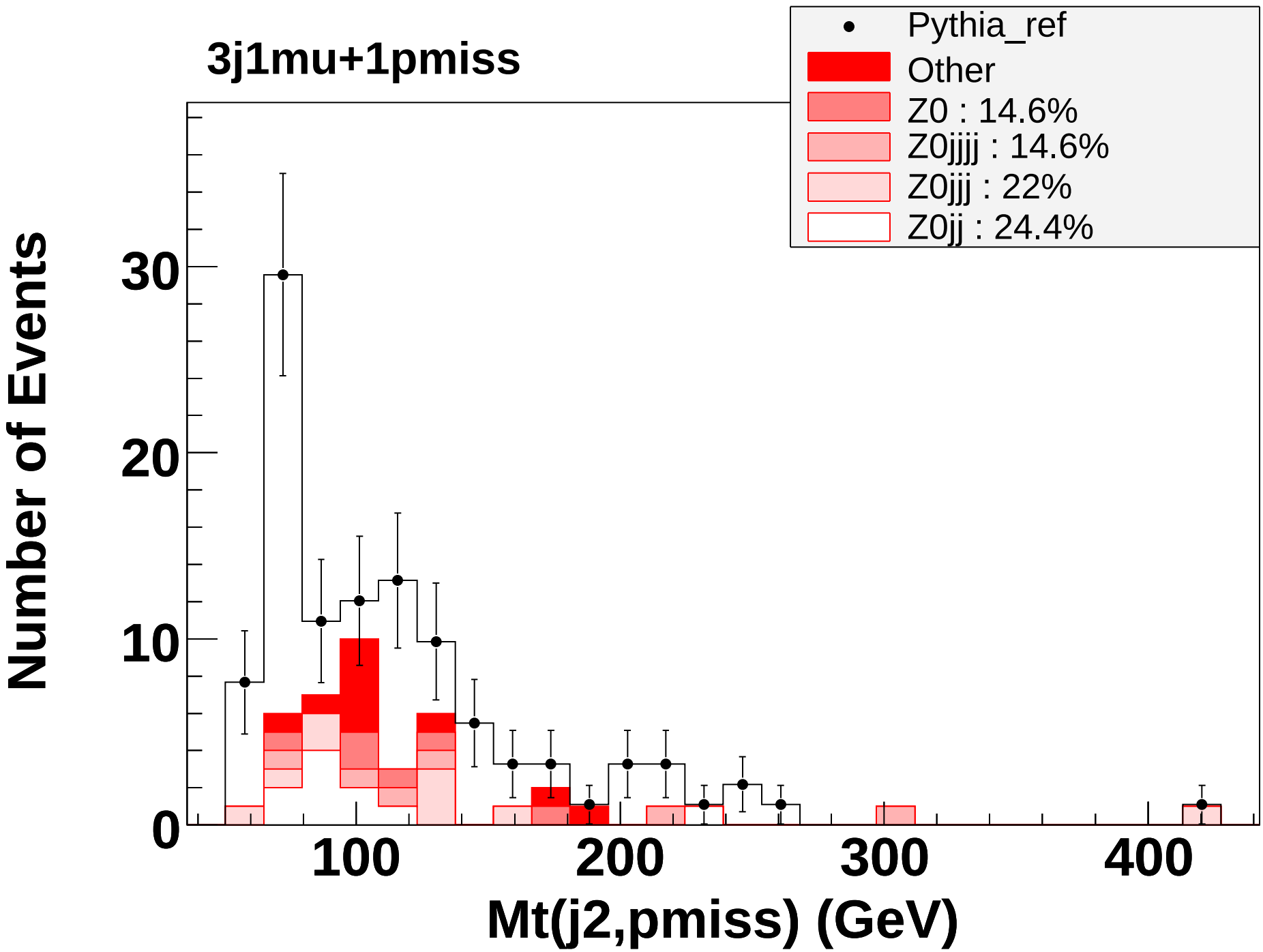

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
0
1
2
3
Δφ(μ+,j2) (radians)

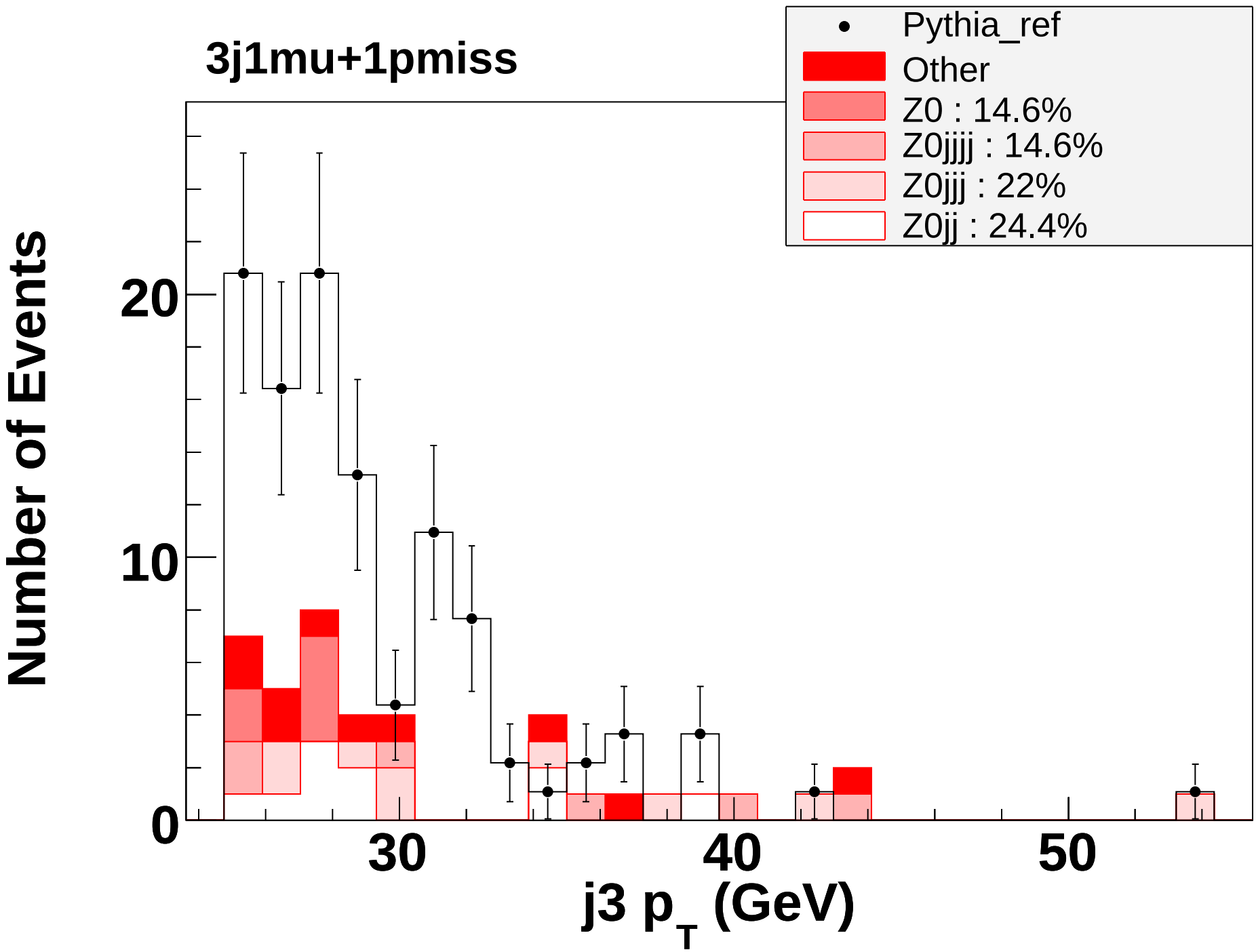

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
-4
-2
0
2
4
μ+ eta

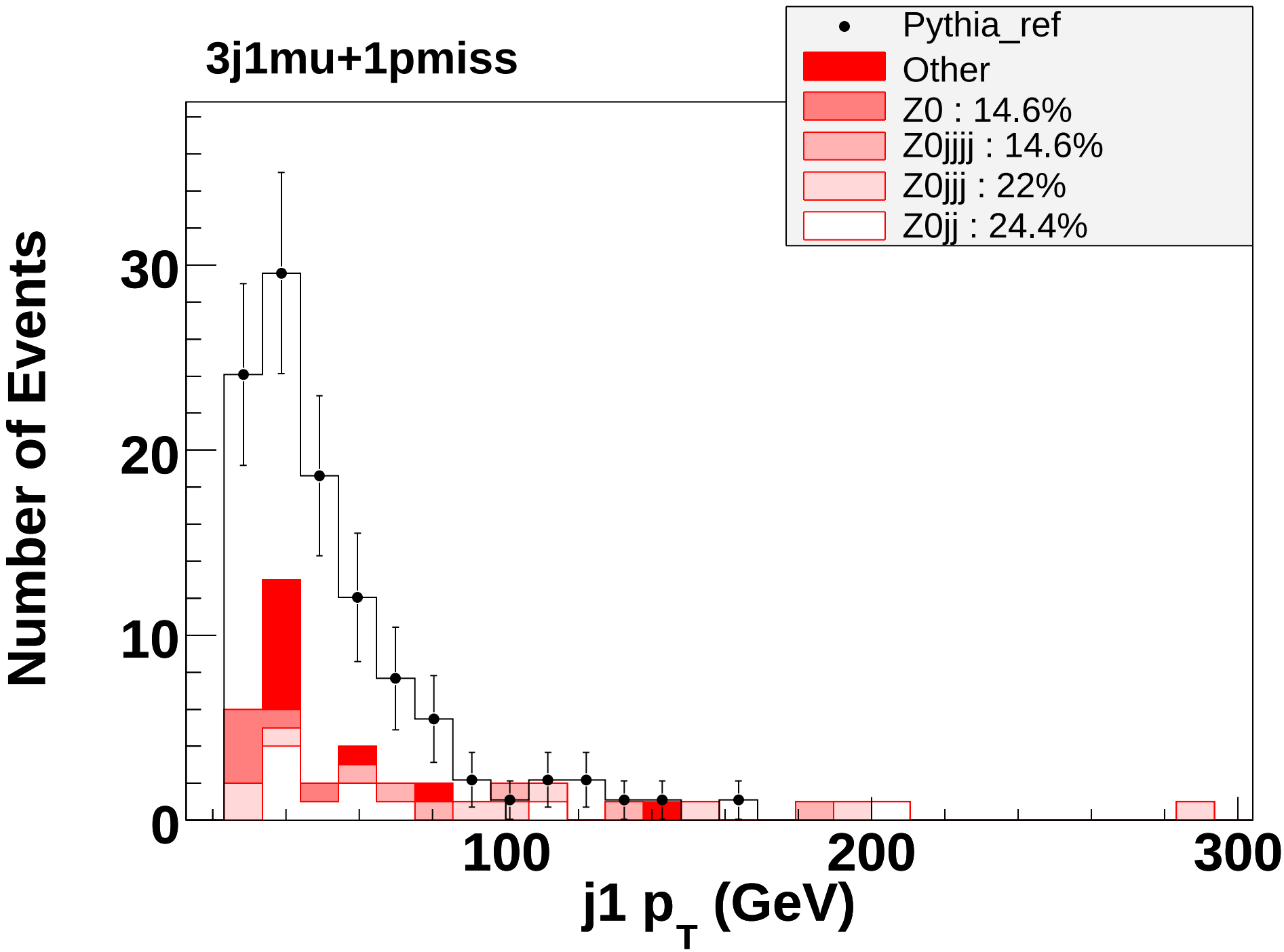

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
-4
-2
0
2
4
μ+ detEta

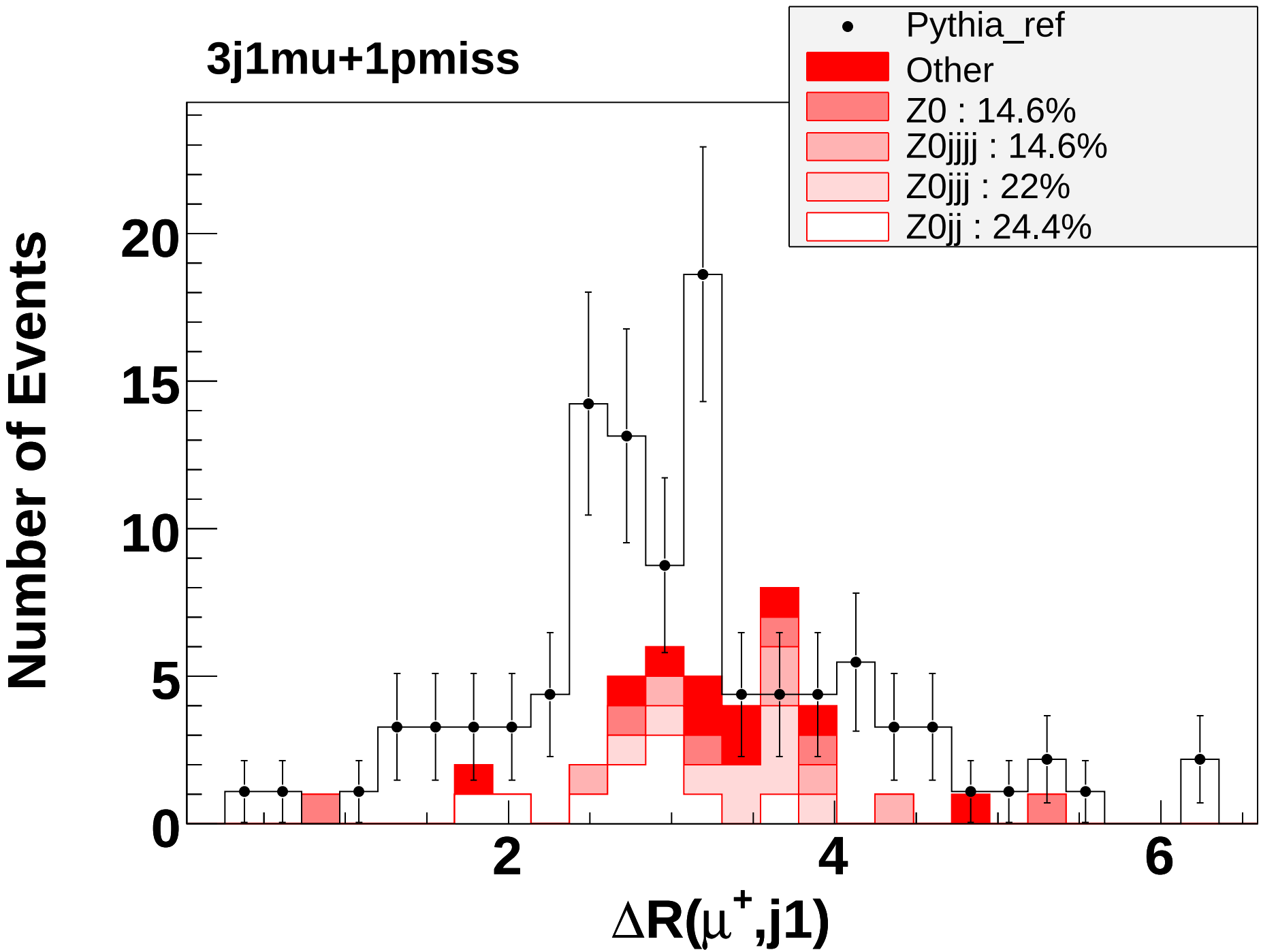

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
-2
0
2
j1 eta

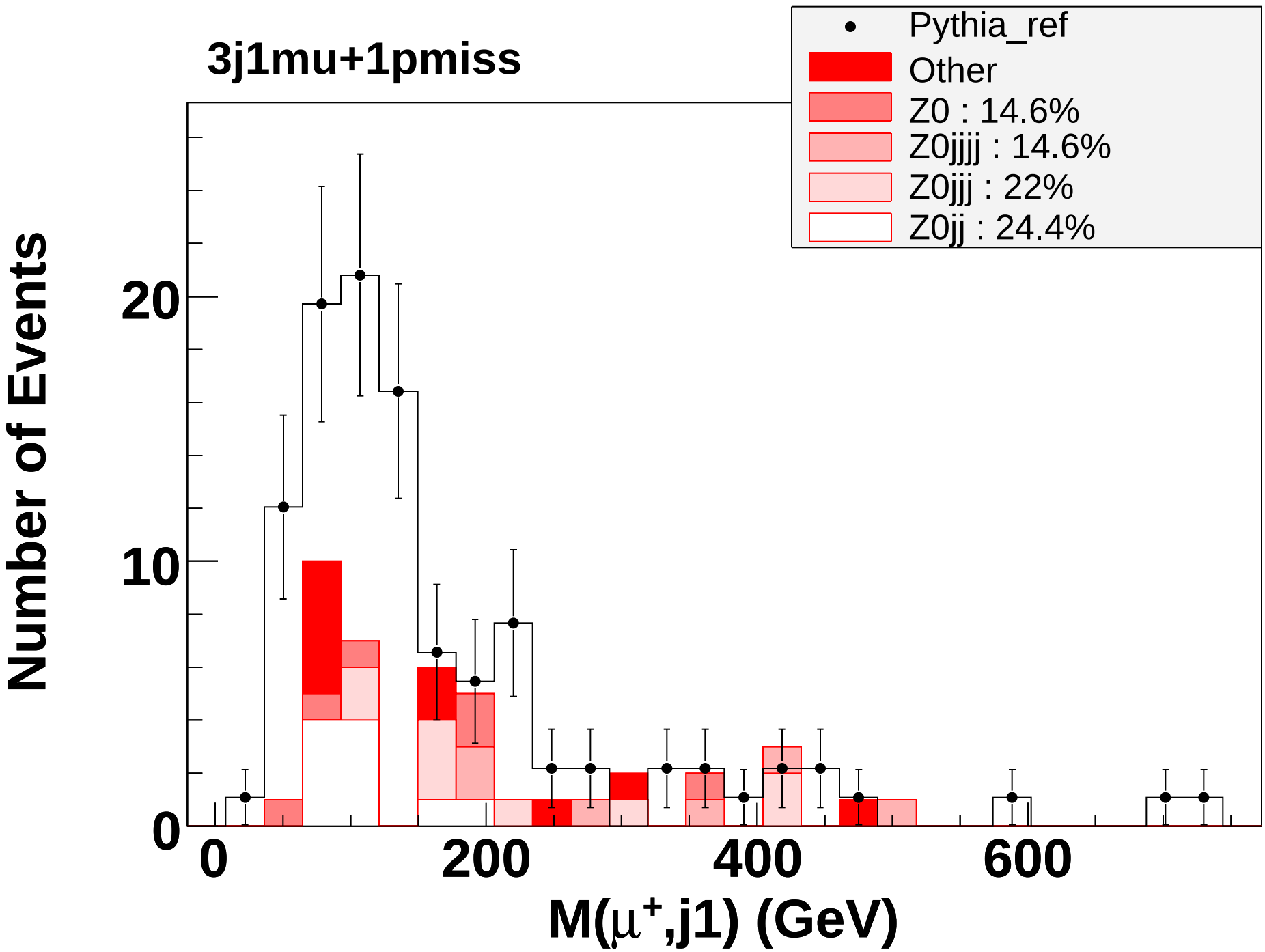

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
-2
0
2
j1 detEta

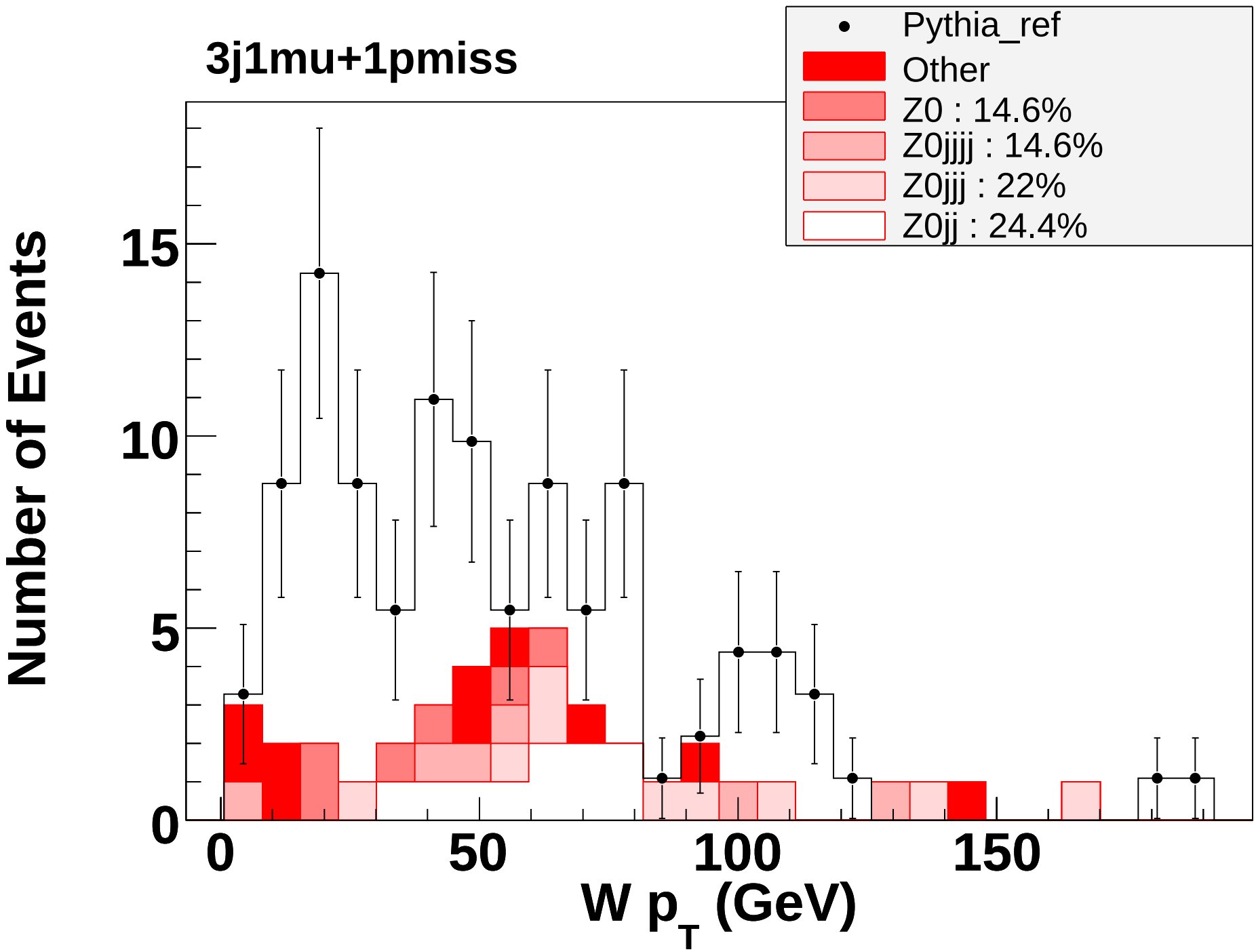

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
10
20
30
100
200
300
400
Mt(j2,pmiss) (GeV)

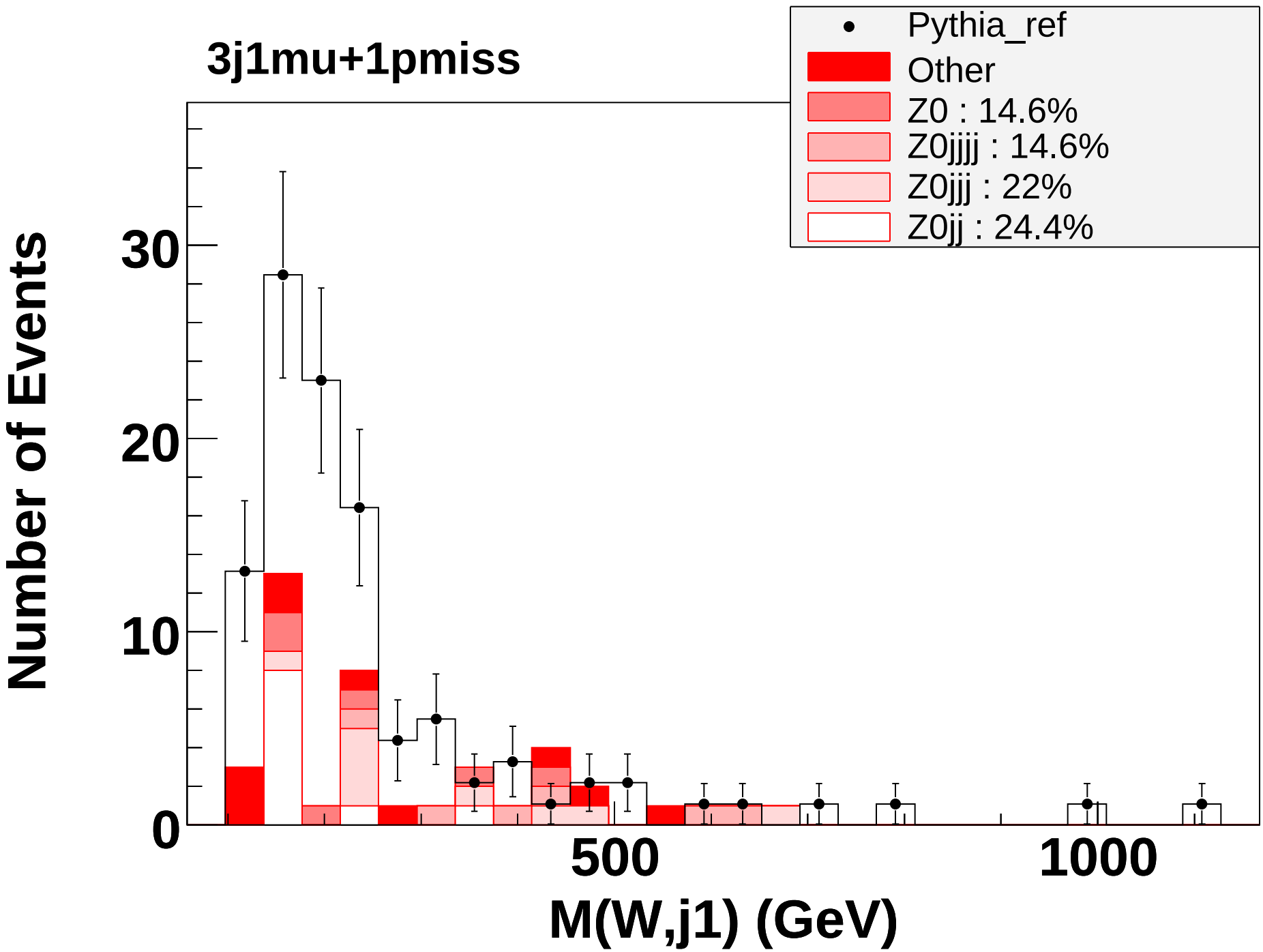

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
10
20
30
40
50
j3 p_T (GeV)

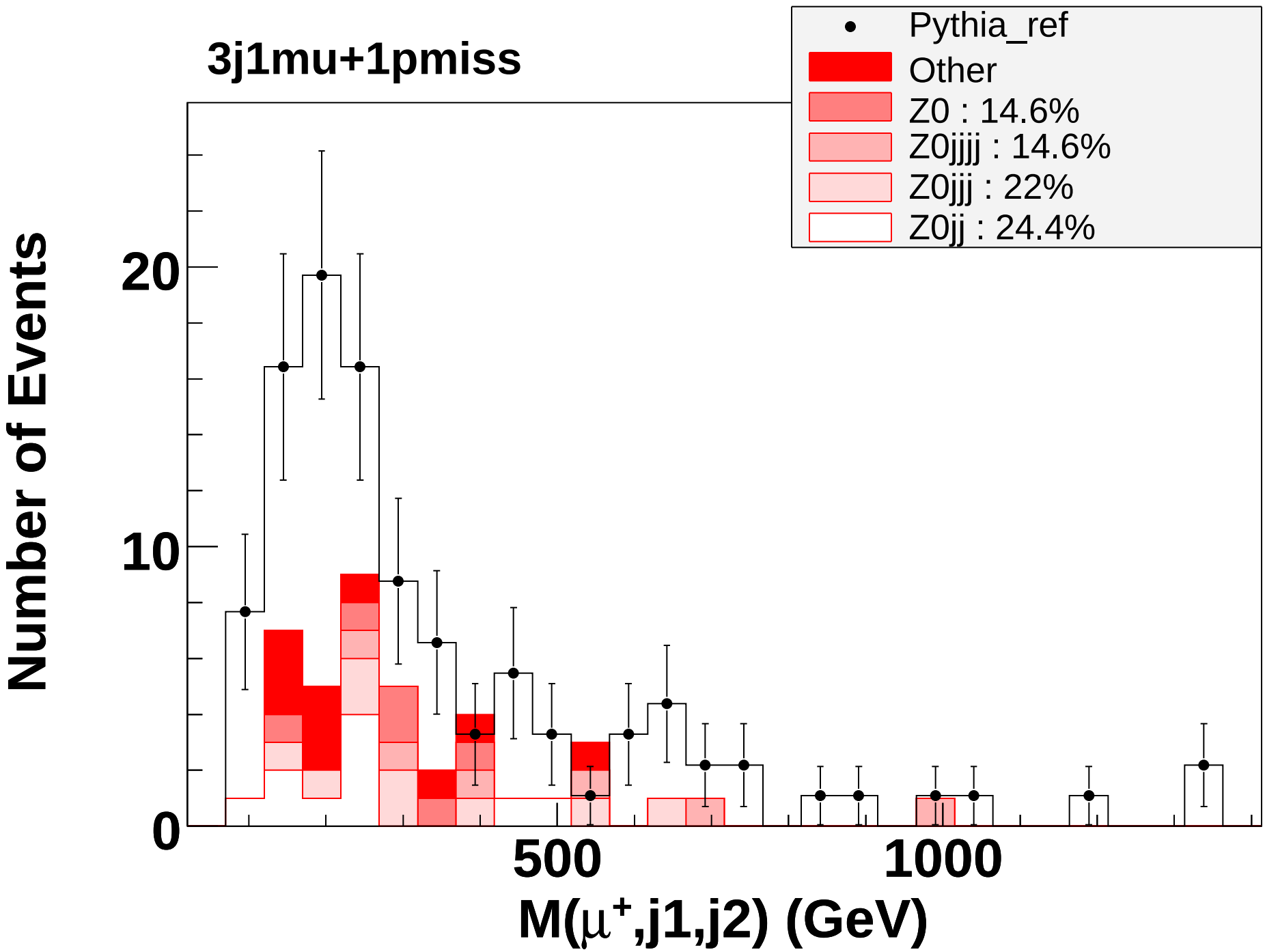

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
10
20
30
100
200
300
j1 p_T (GeV)

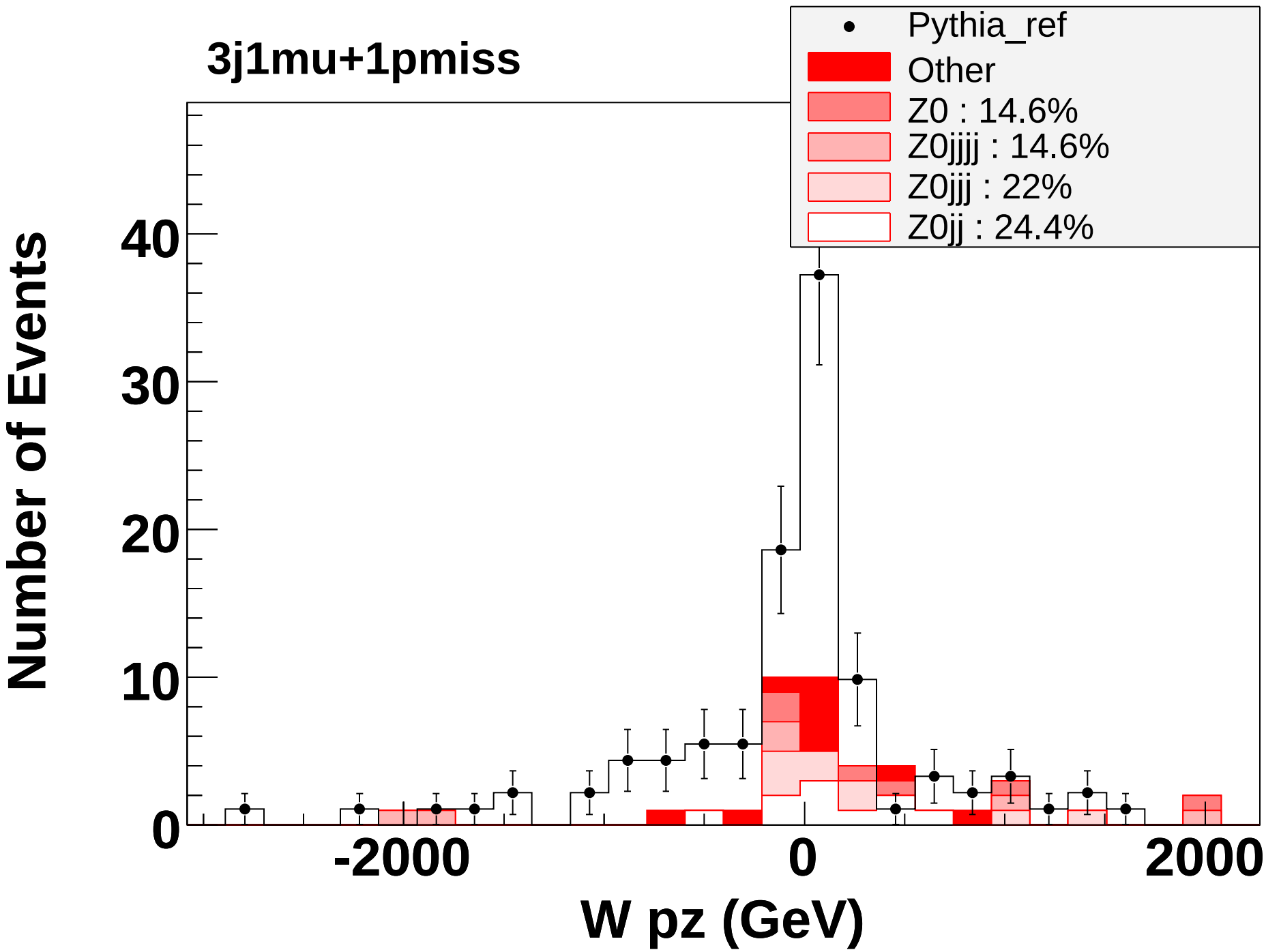

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
15
20
2
4
6
ΔR(μ+,j1)

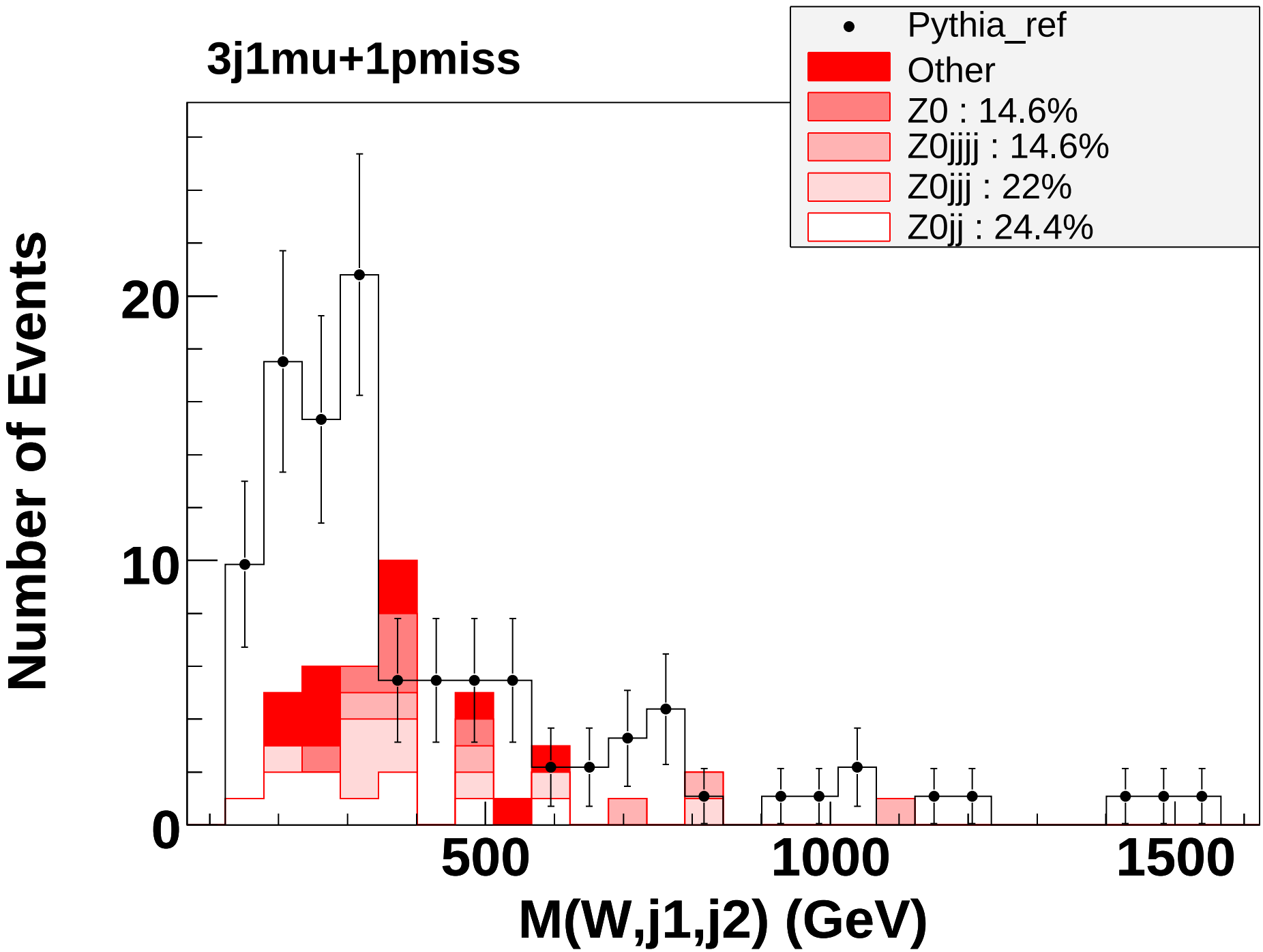

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
10
20
0
200
400
600
M(μ+,j1) (GeV)

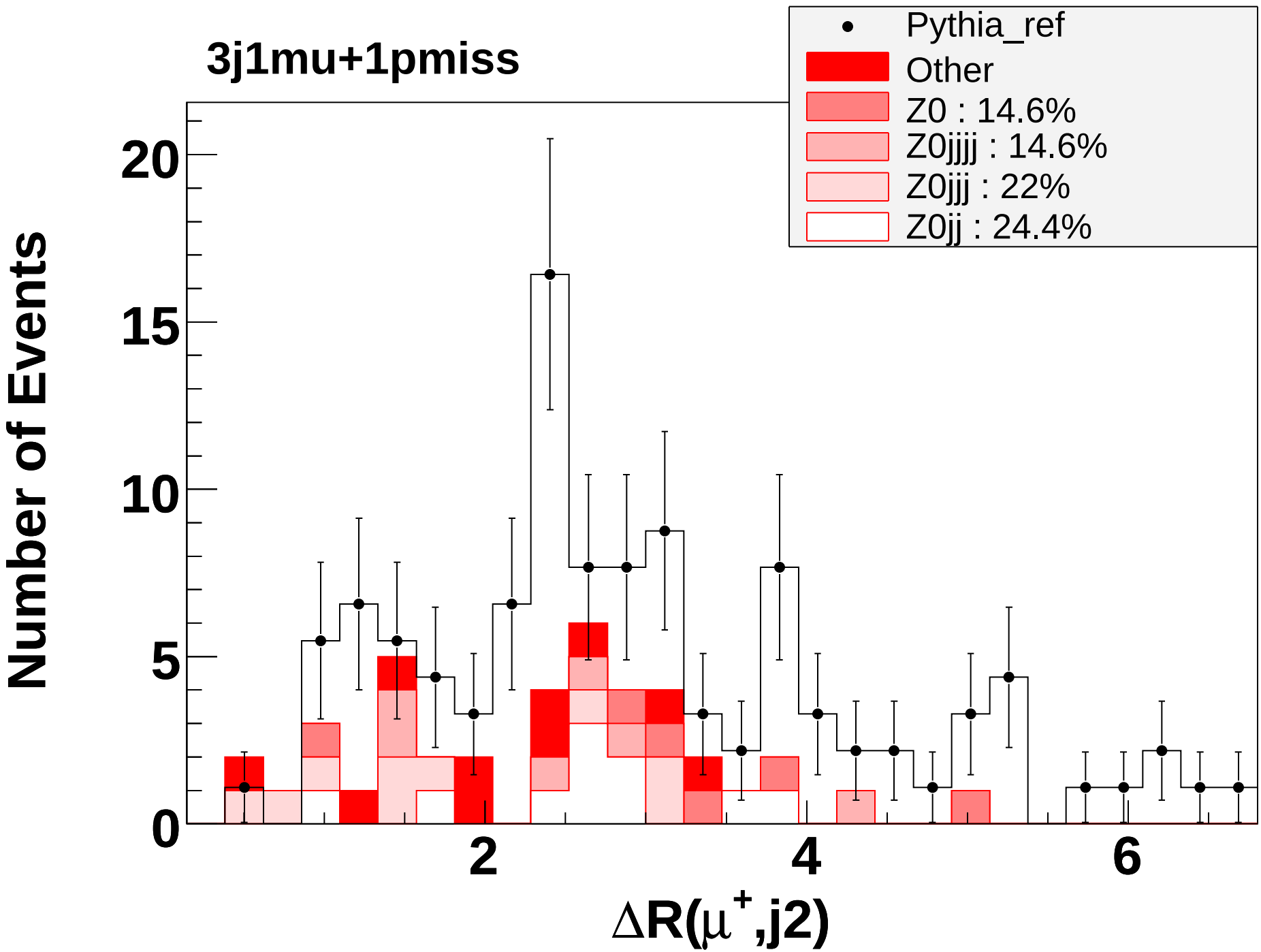

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
15
0
50
100
150
W p_T (GeV)

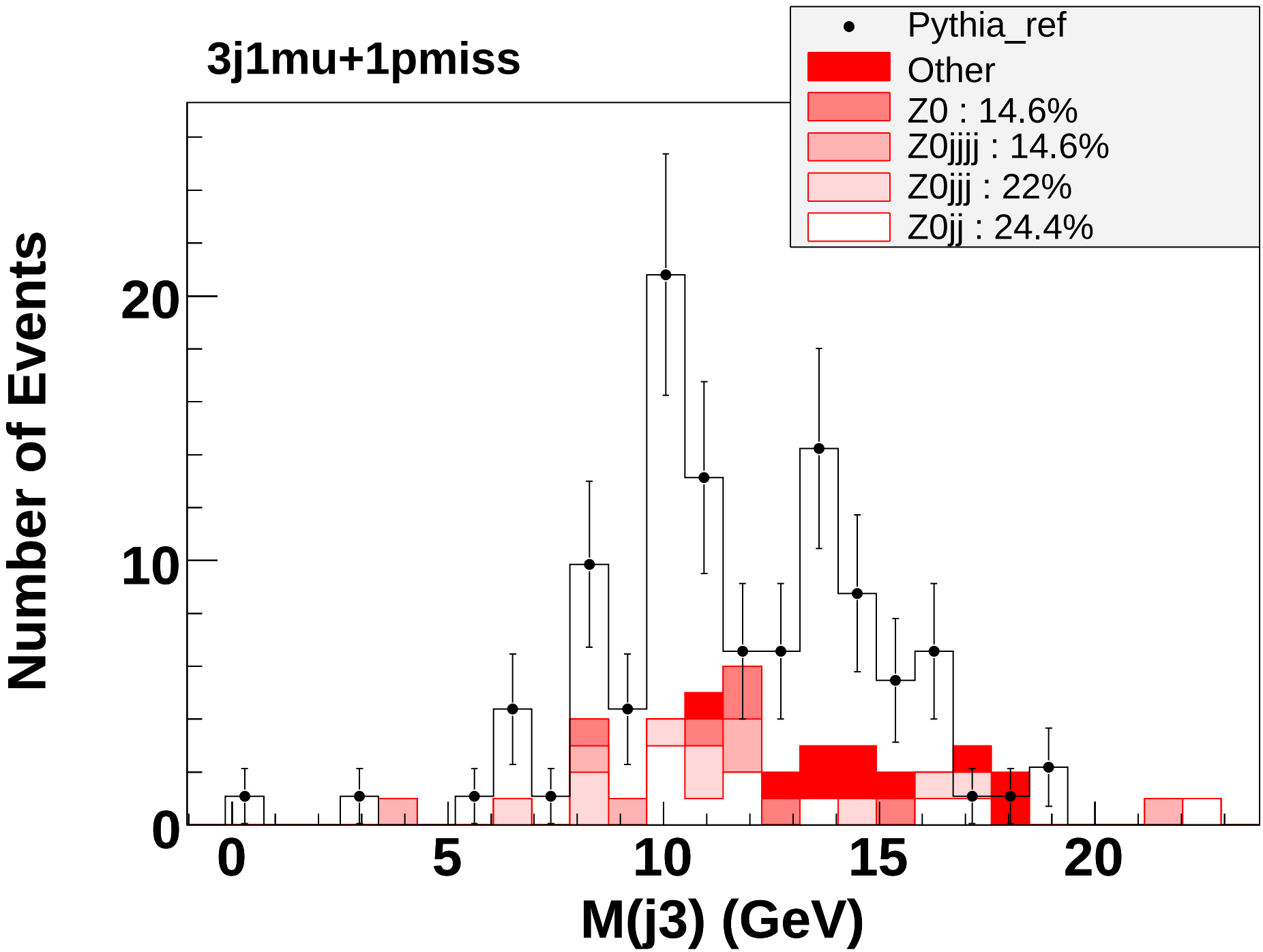

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
10
20
30
500
1000
M(W,j1) (GeV)

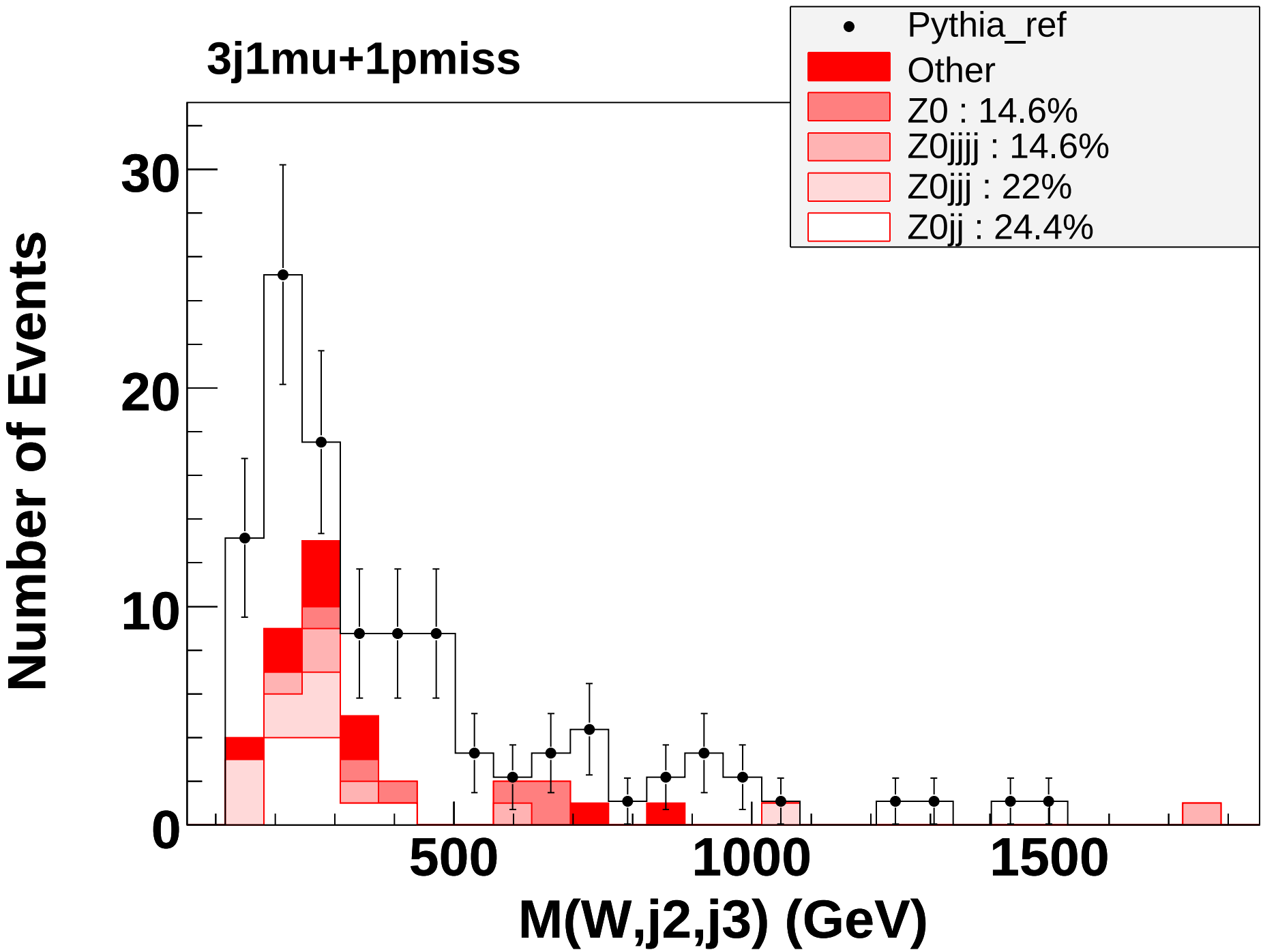

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
10
20
500
1000
M(μ+,j1,j2) (GeV)

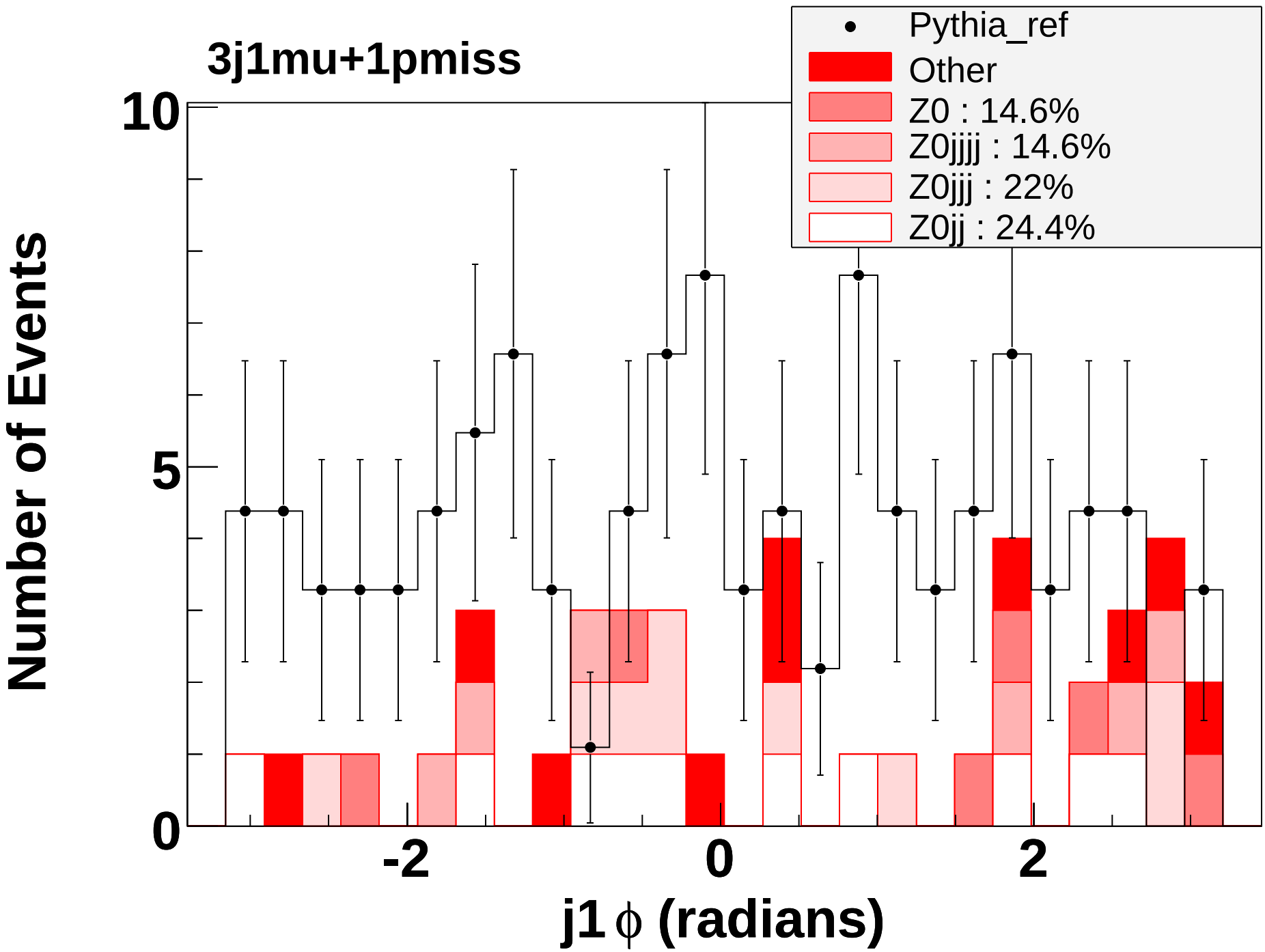

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
10
20
30
40
-2000
0
2000
W pz (GeV)

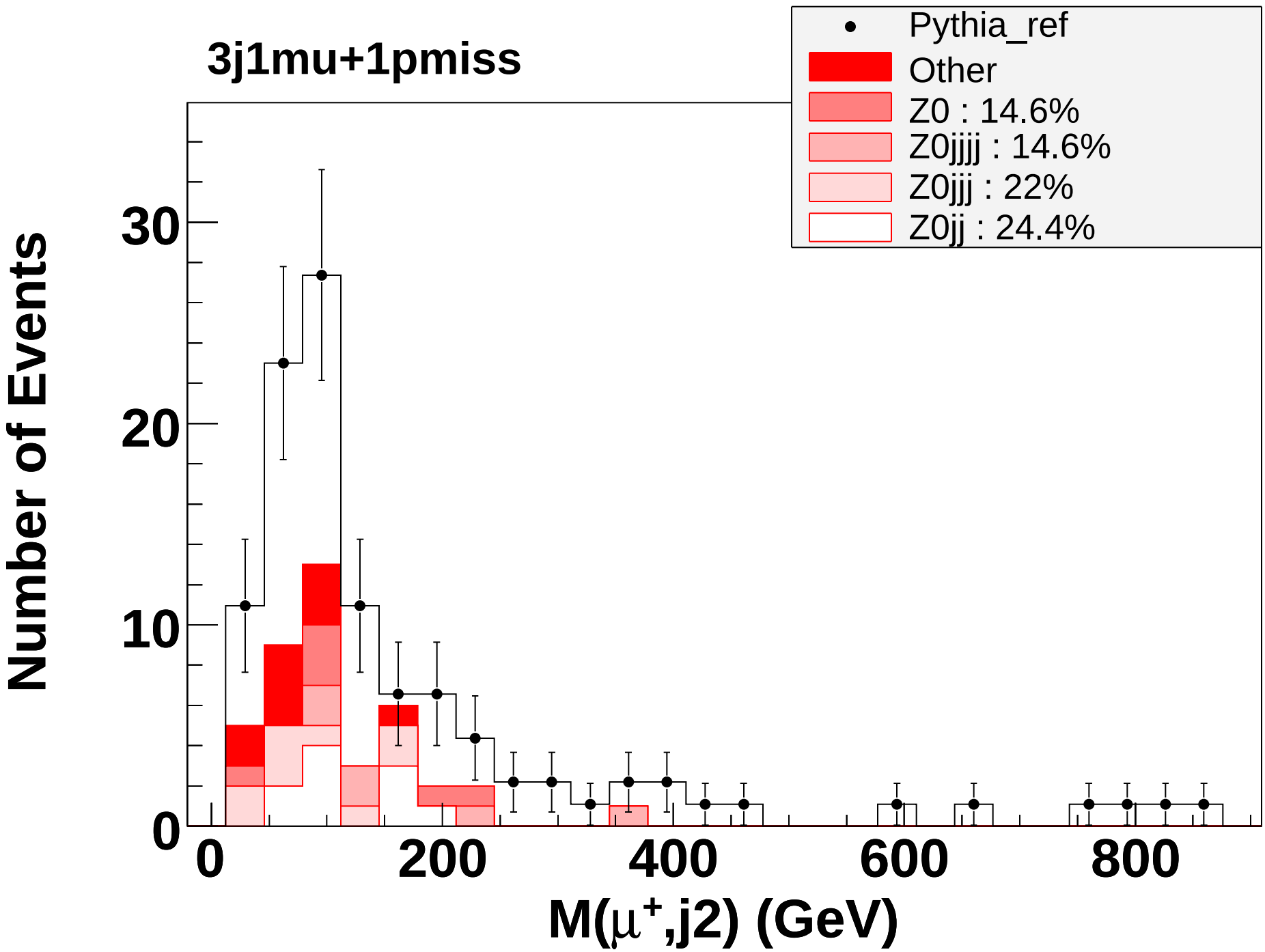

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
10
20
500
1000
1500
M(W,j1,j2) (GeV)

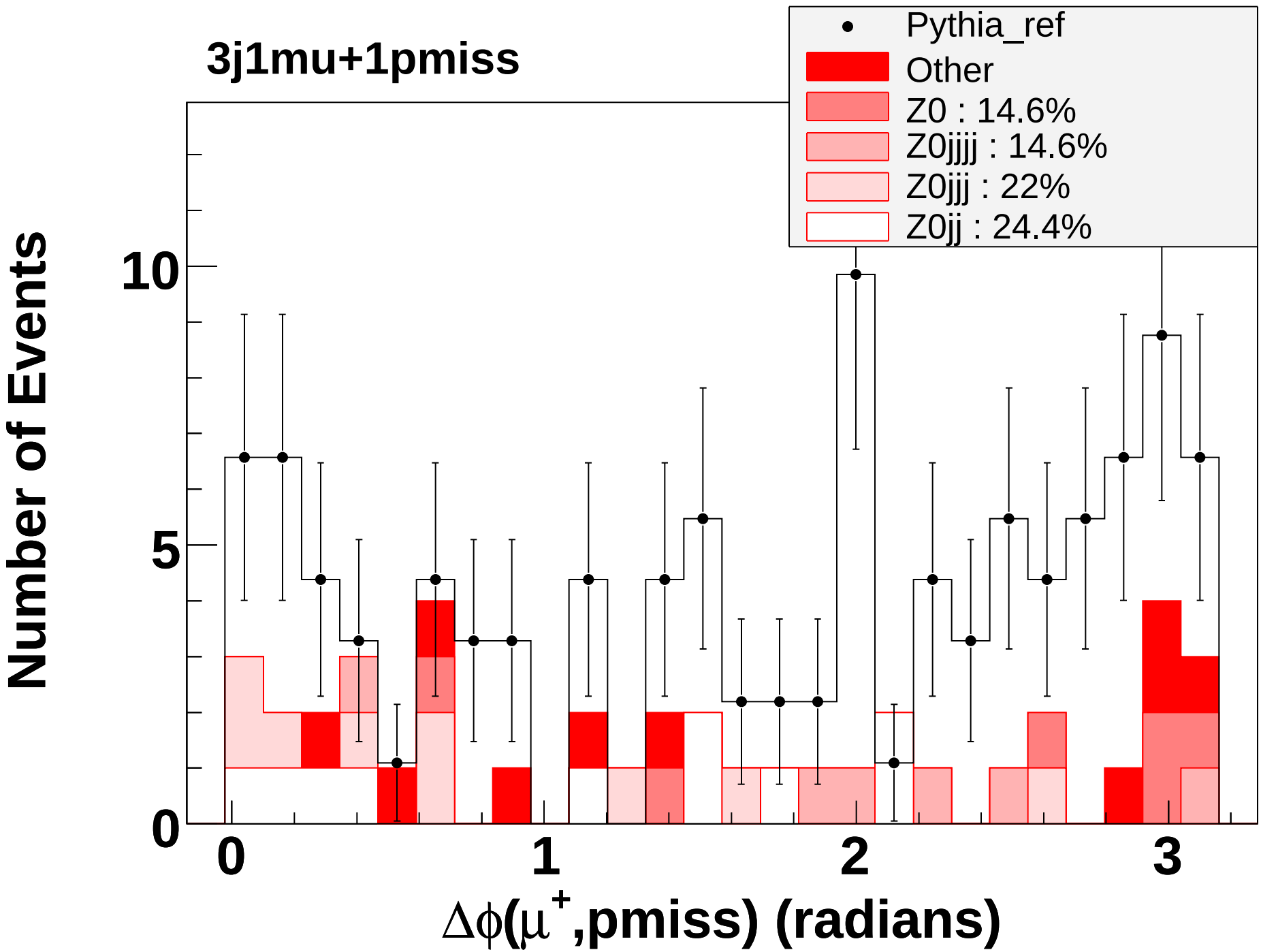

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
15
20
2
4
6
ΔR(μ+,j2)

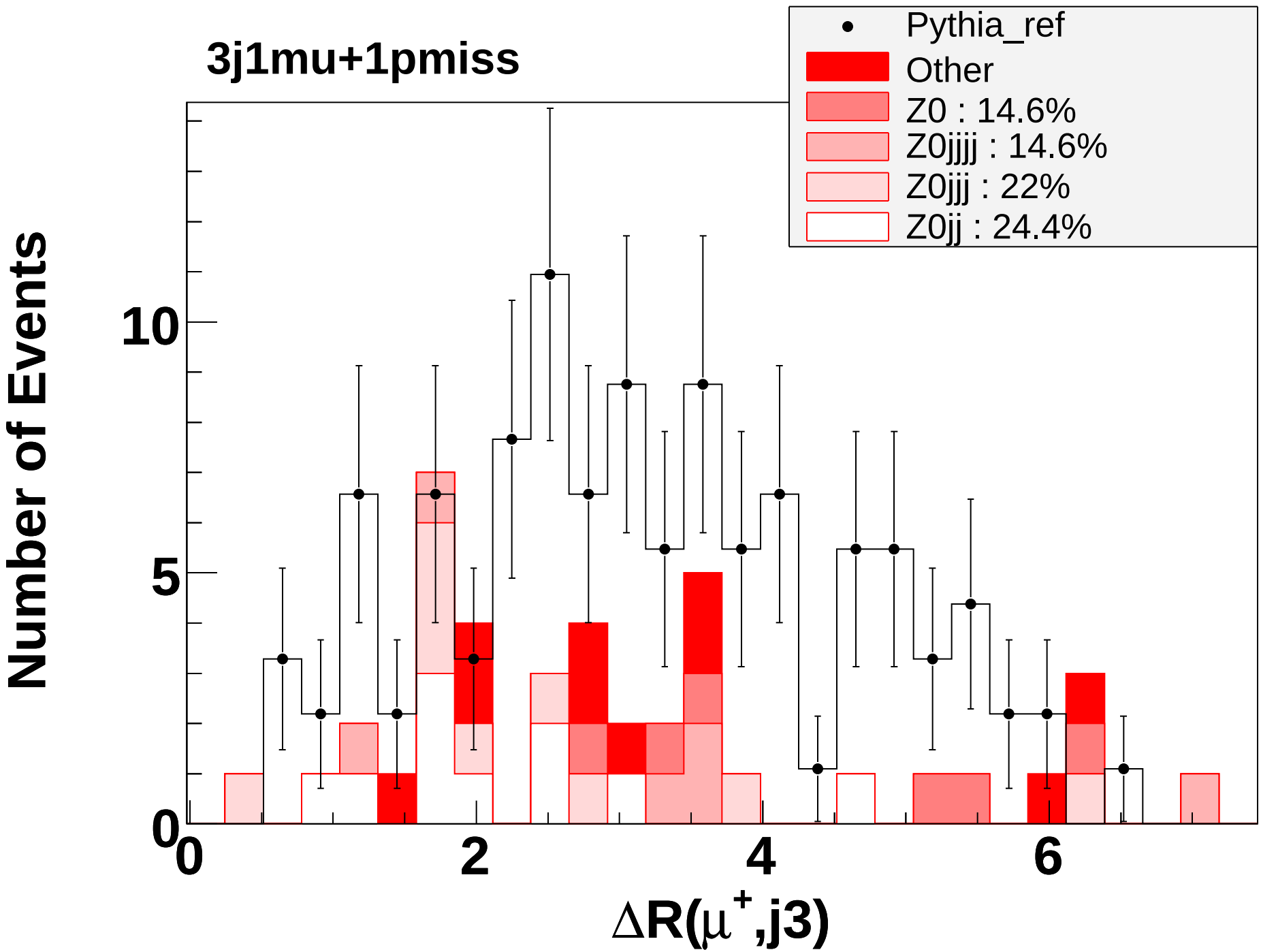

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
10
20
0
5
10
15
20
M(j3) (GeV)

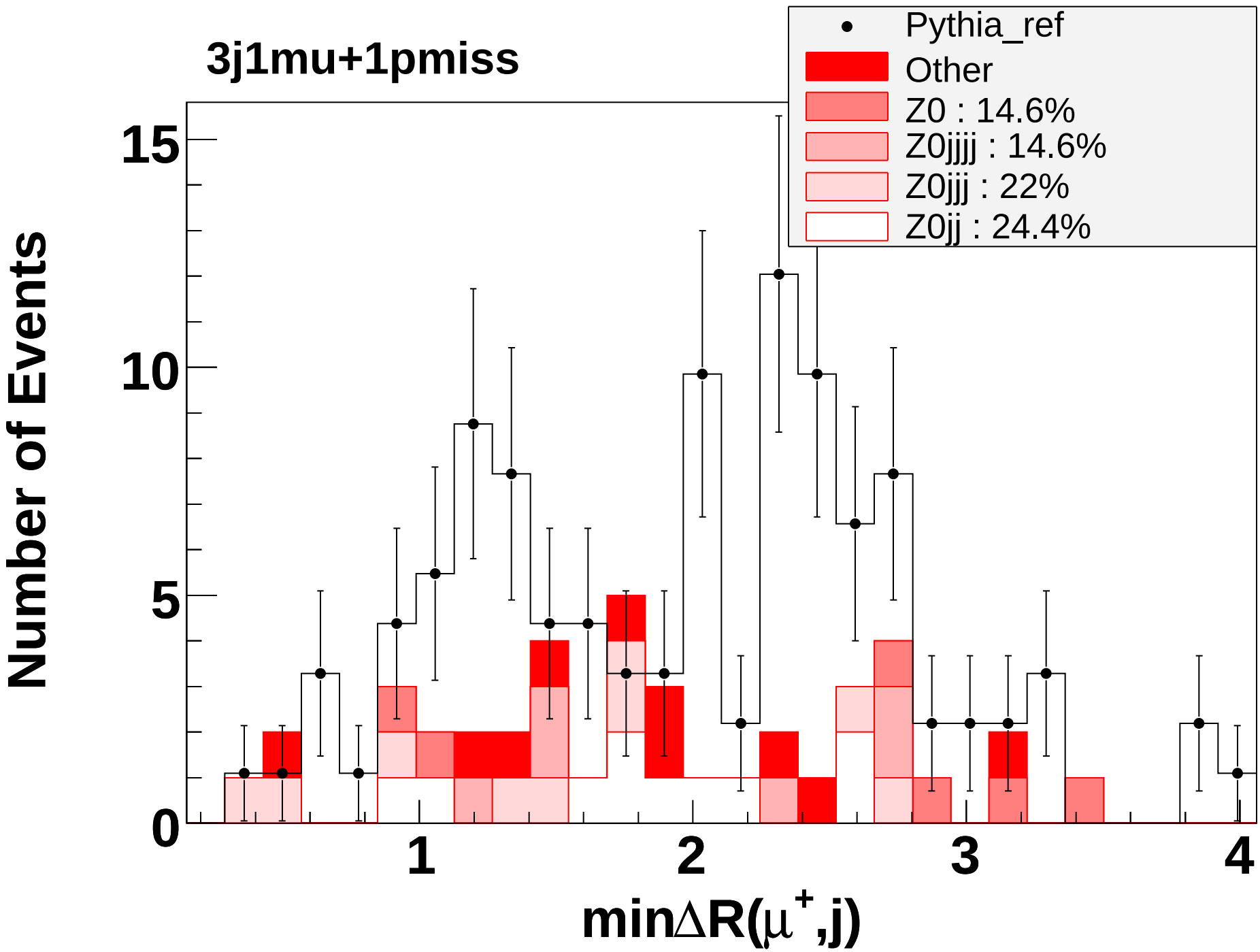

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
10
20
30
500
1000
1500
M(W,j2,j3) (GeV)

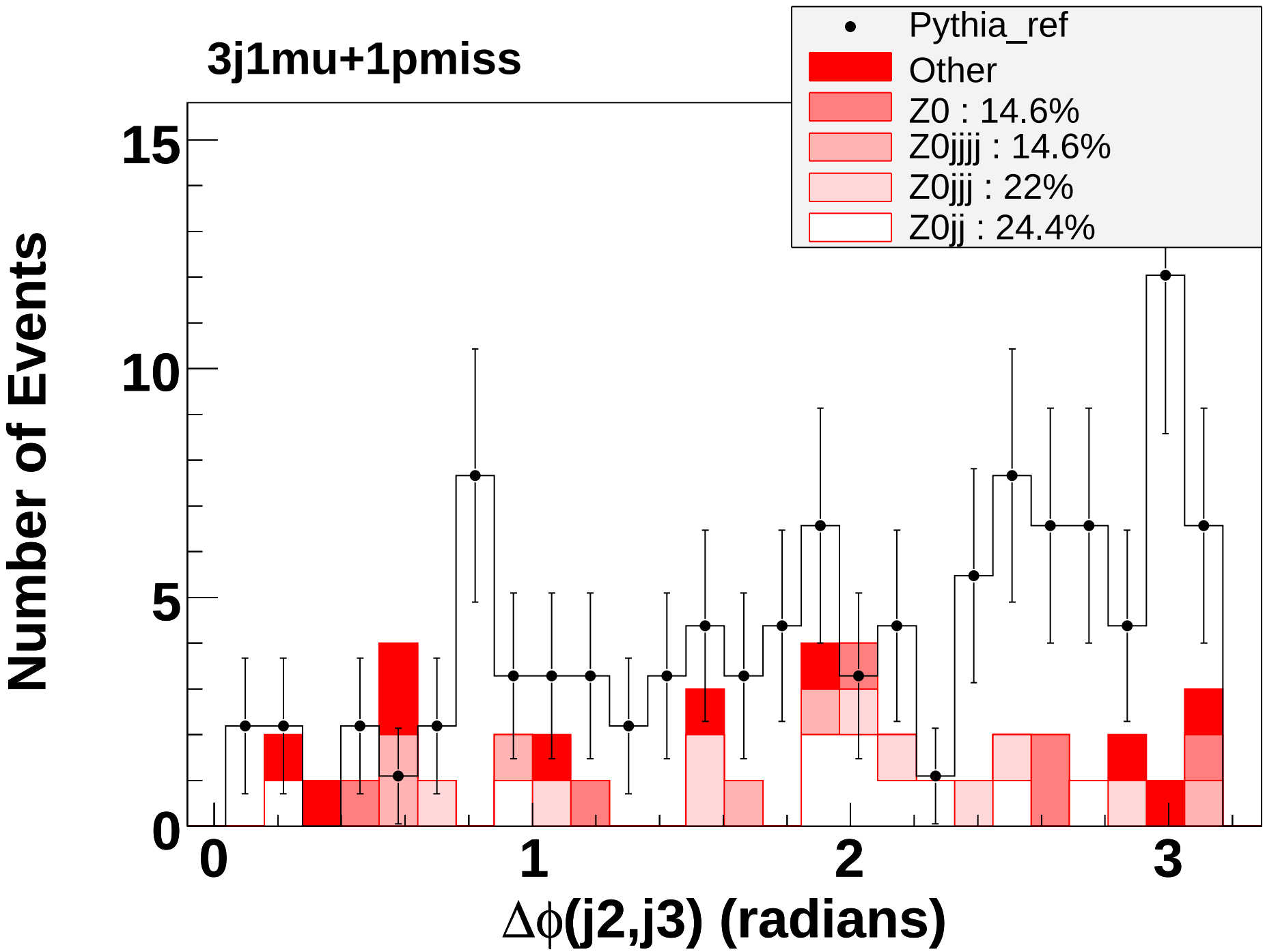

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
10
5
0
-2
0
2
j1 ϕ (radians)

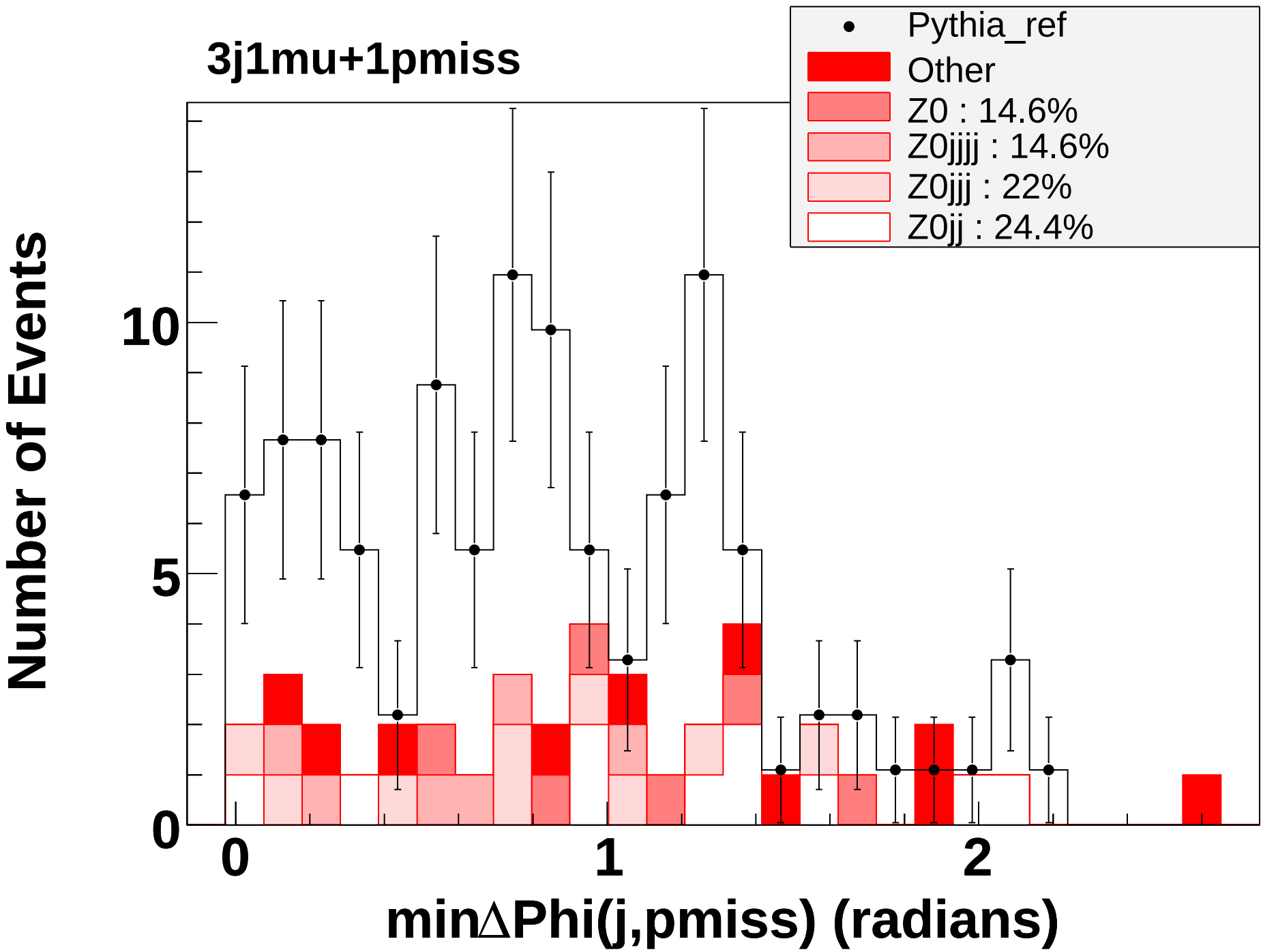

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
10
20
30
0
200
400
600
800
M(μ+,j2) (GeV)

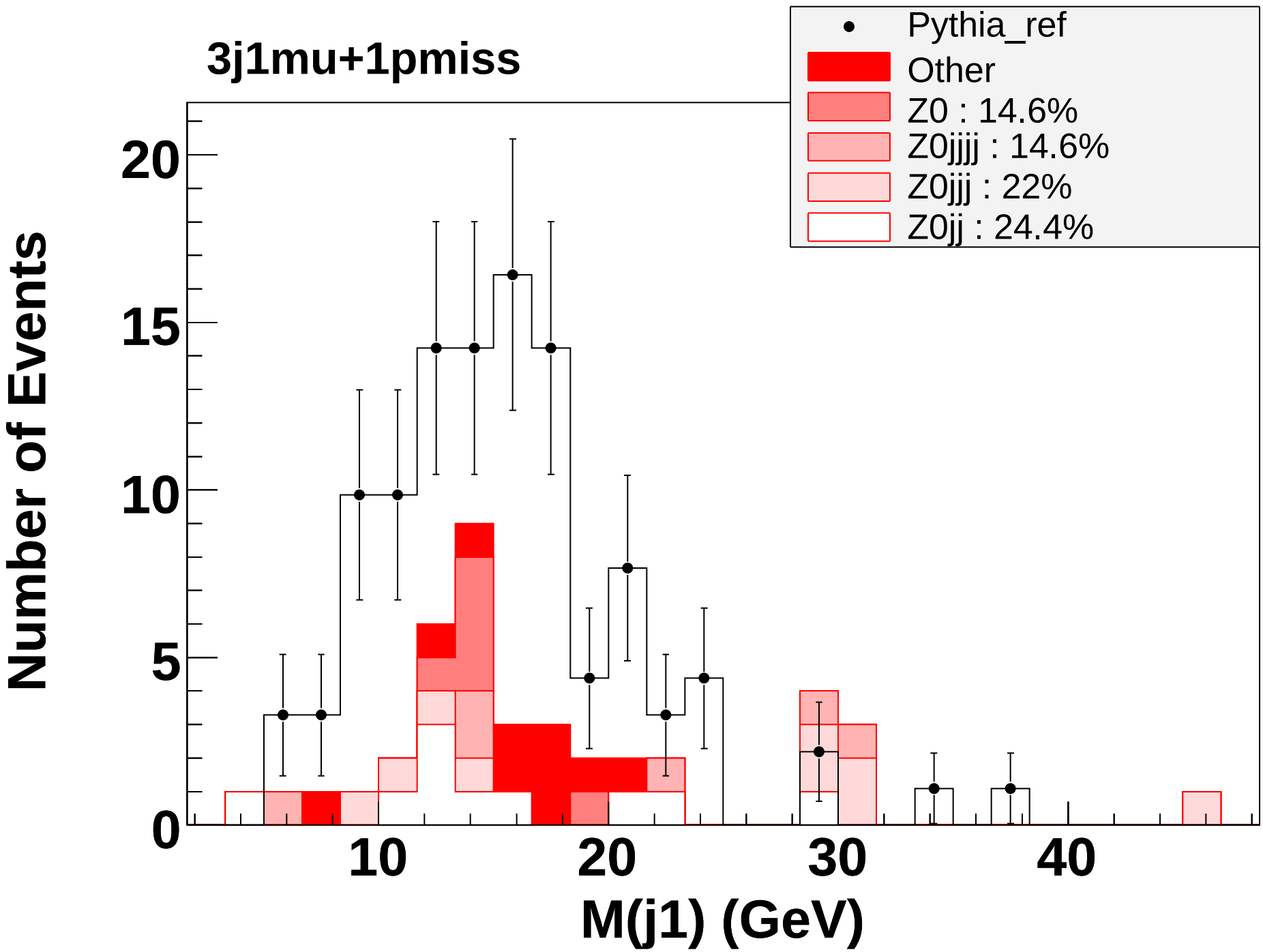

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
0
1
2
3
Δφ(μ+,pmiss) (radians)

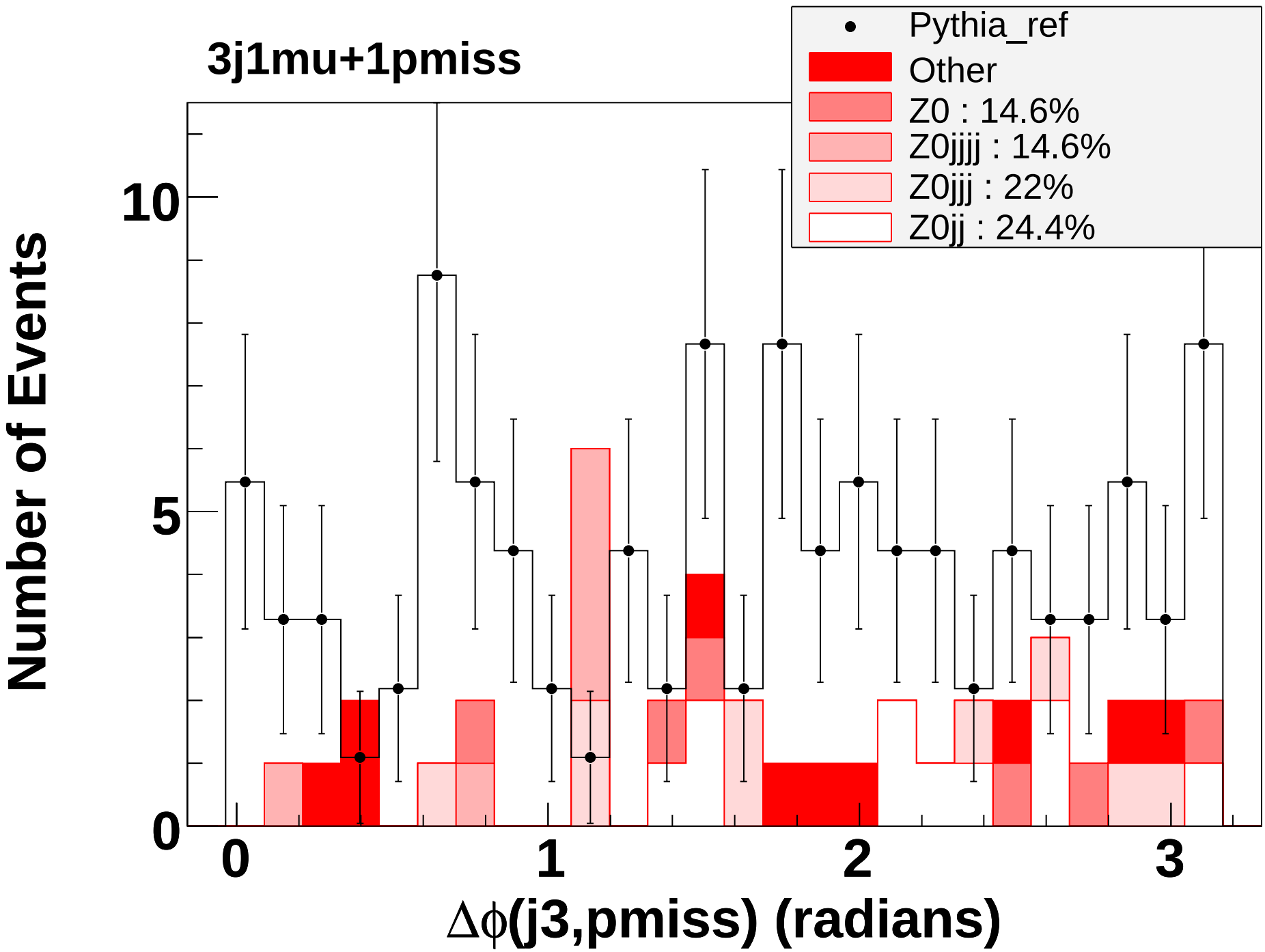

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
0
2
4
6
ΔR(μ+,j3)

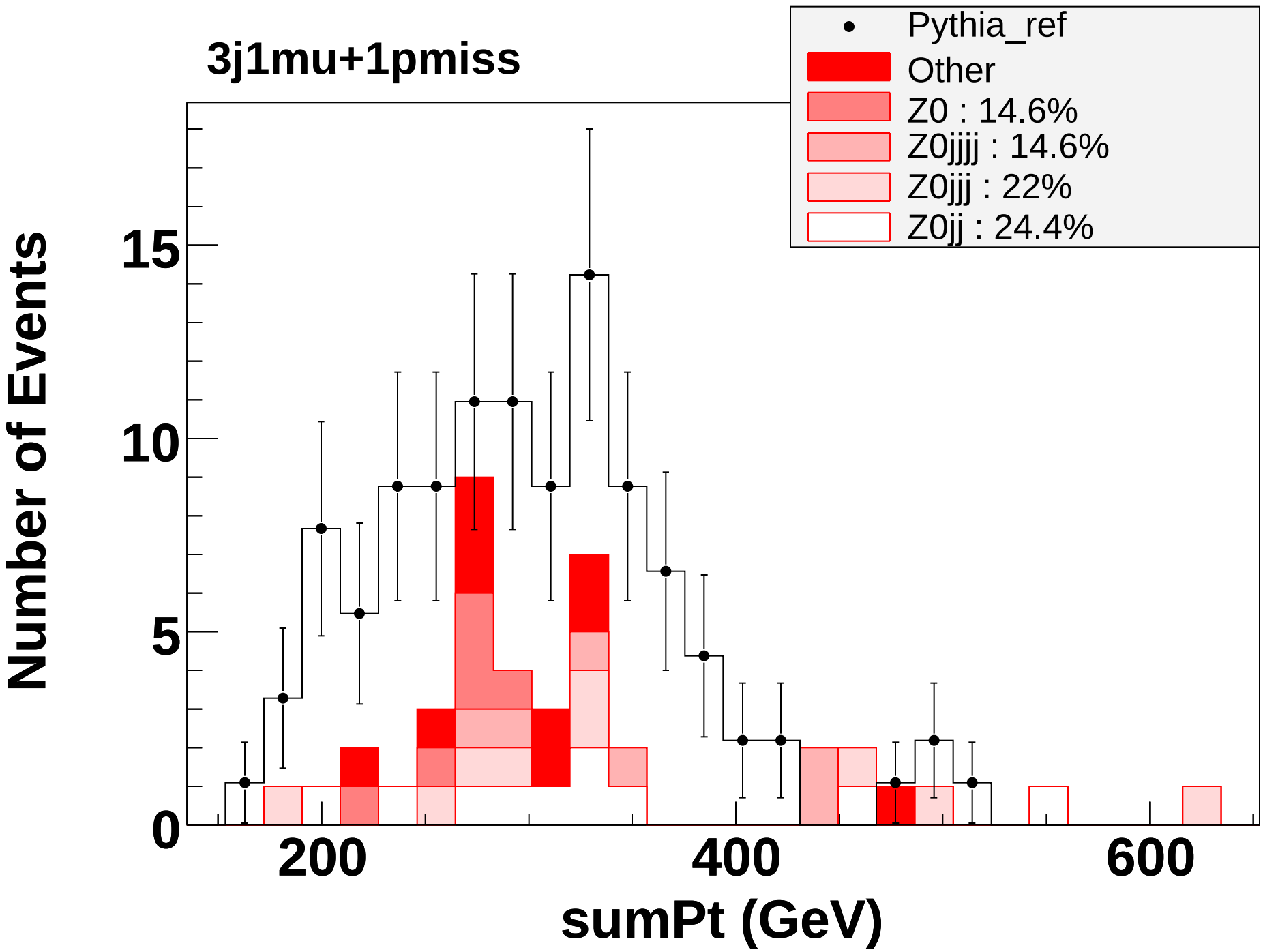

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
15
1
2
3
4
minΔR(μ+,j)

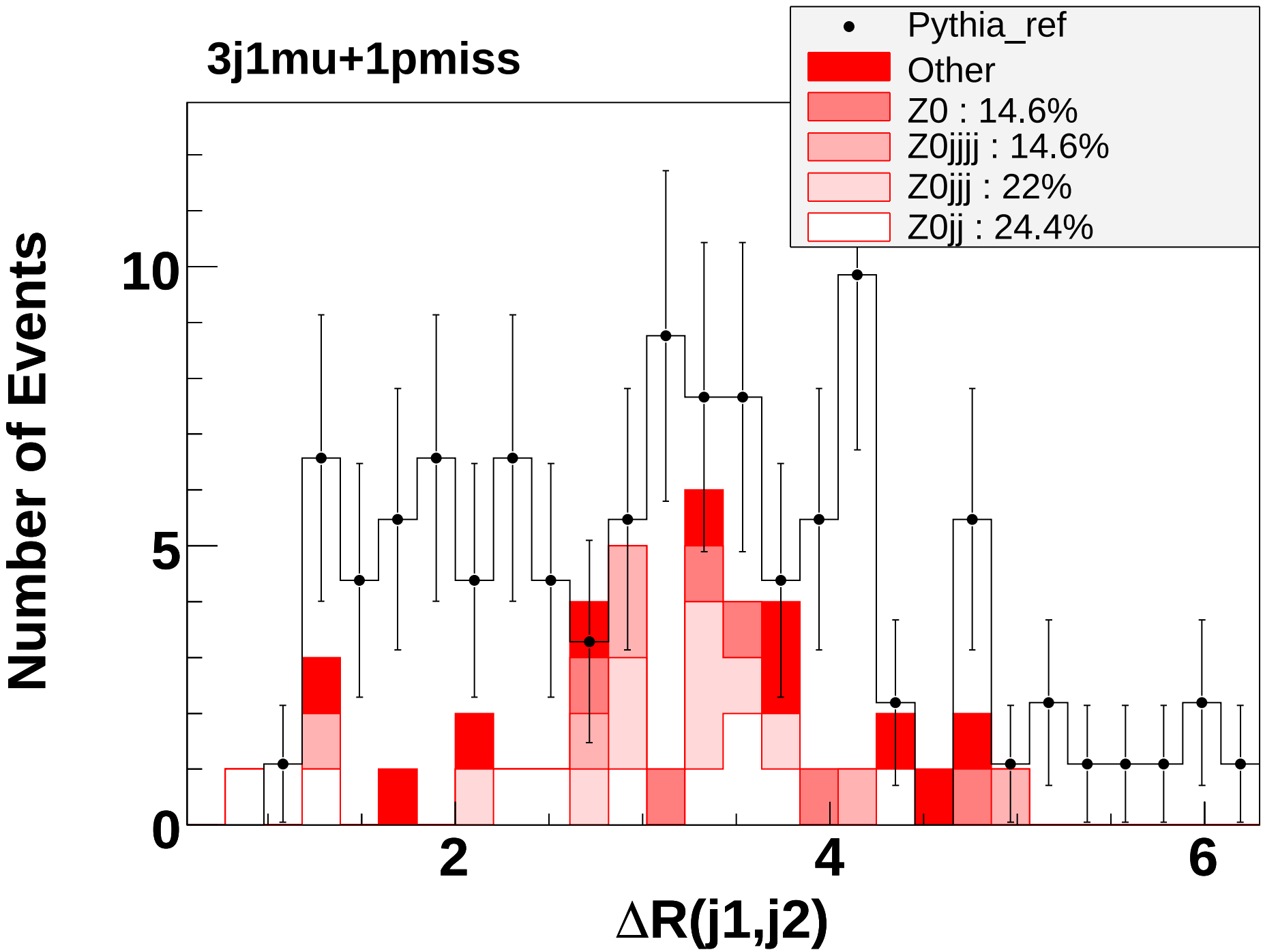

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
15
0
1
2
3
Δϕ(j2,j3) (radians)

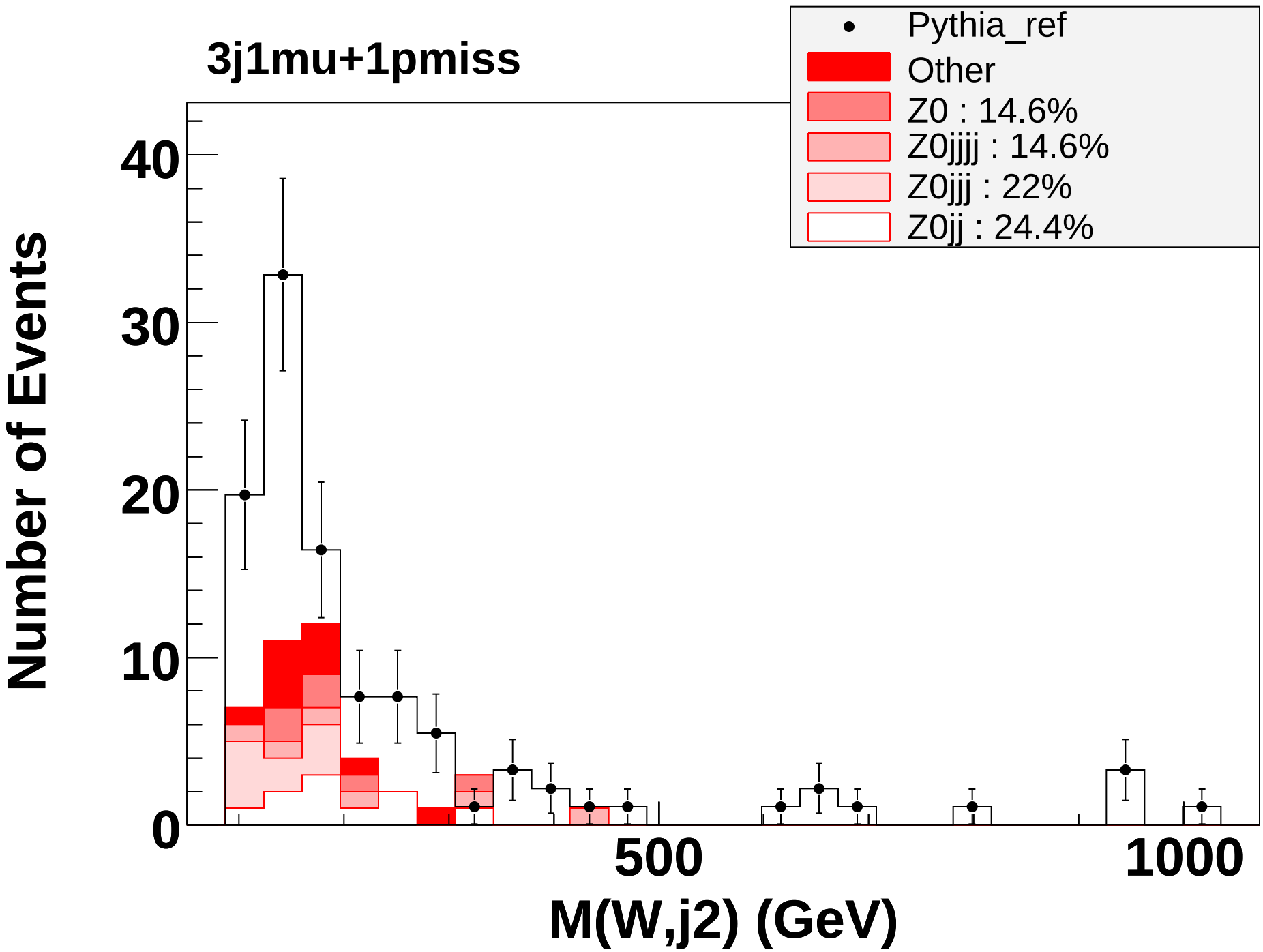

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
0
1
2
minΔPhi(j,pmiss) (radians)

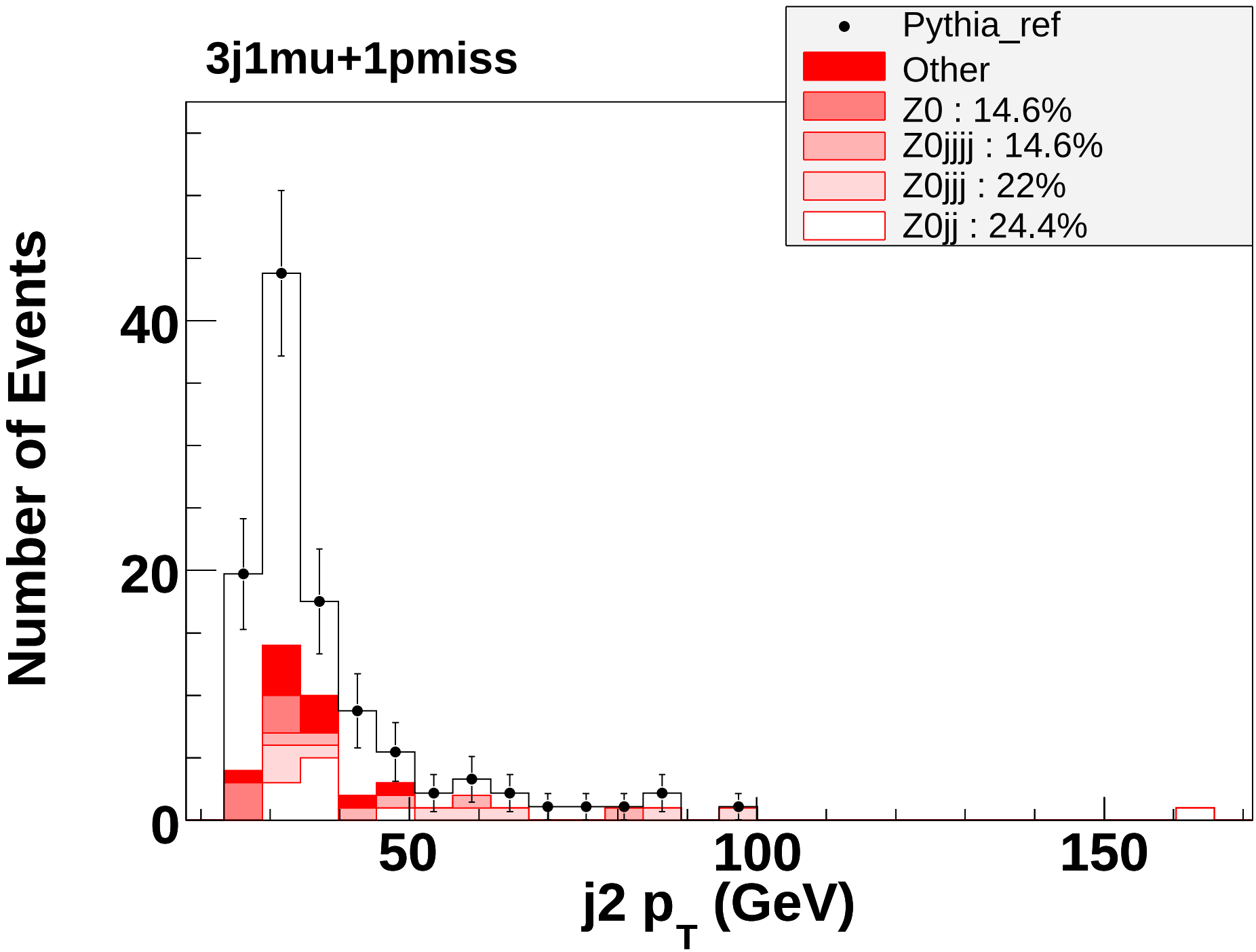

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
15
20
10
20
30
40
M(j1) (GeV)

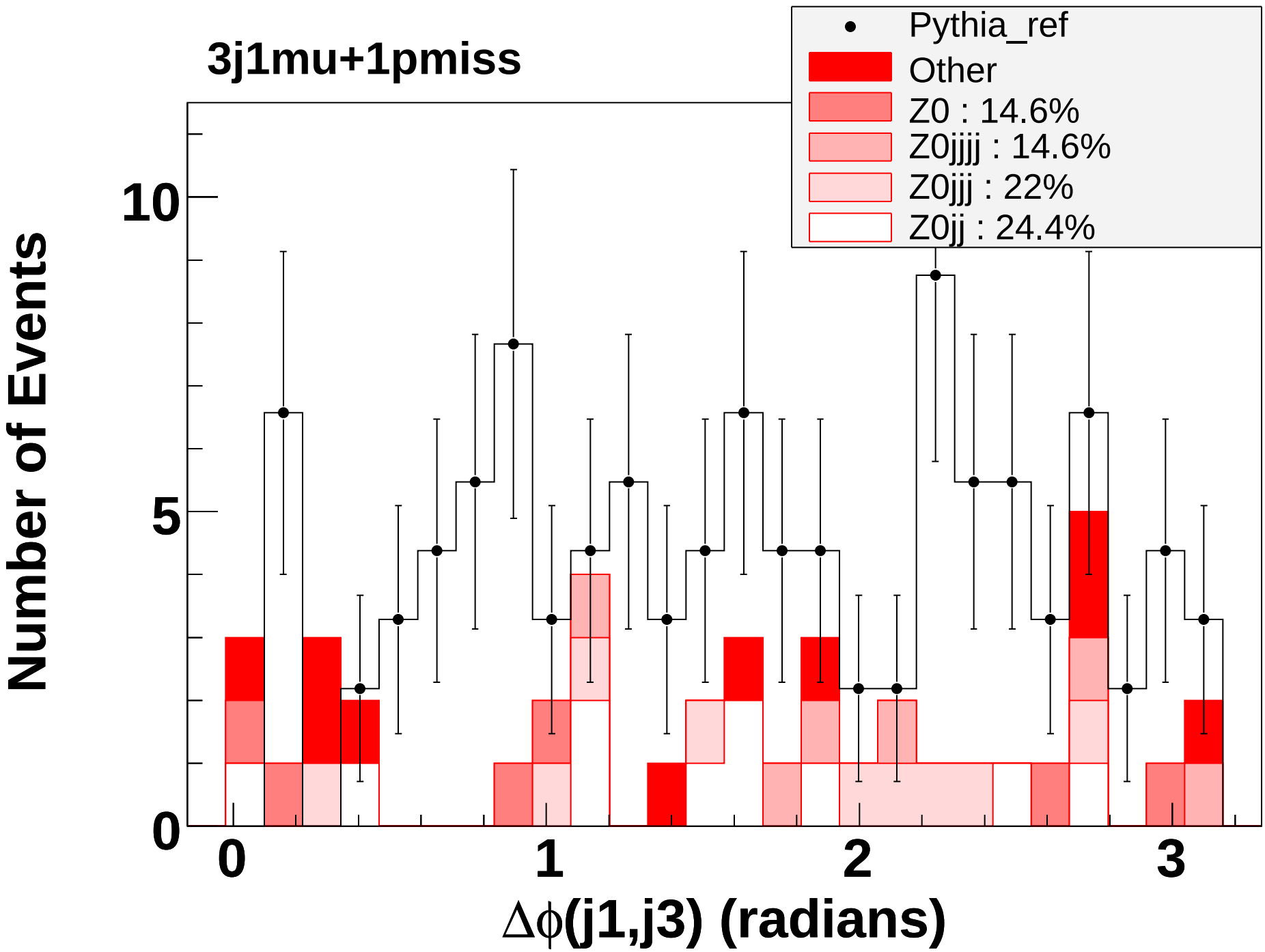

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
0
1
2
3
Δϕ(j3,pmiss) (radians)

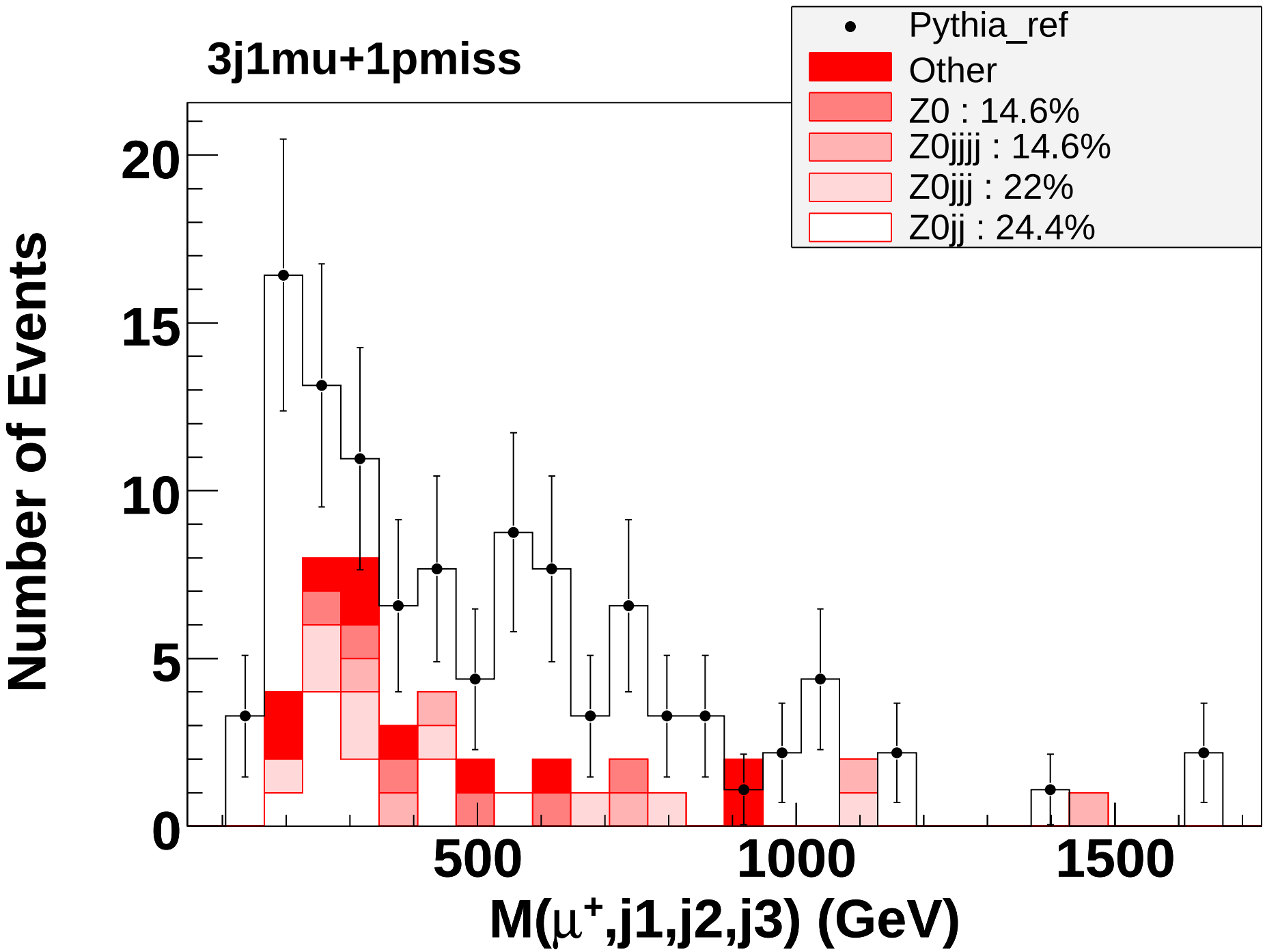

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
15
200
400
600
sumPt (GeV)

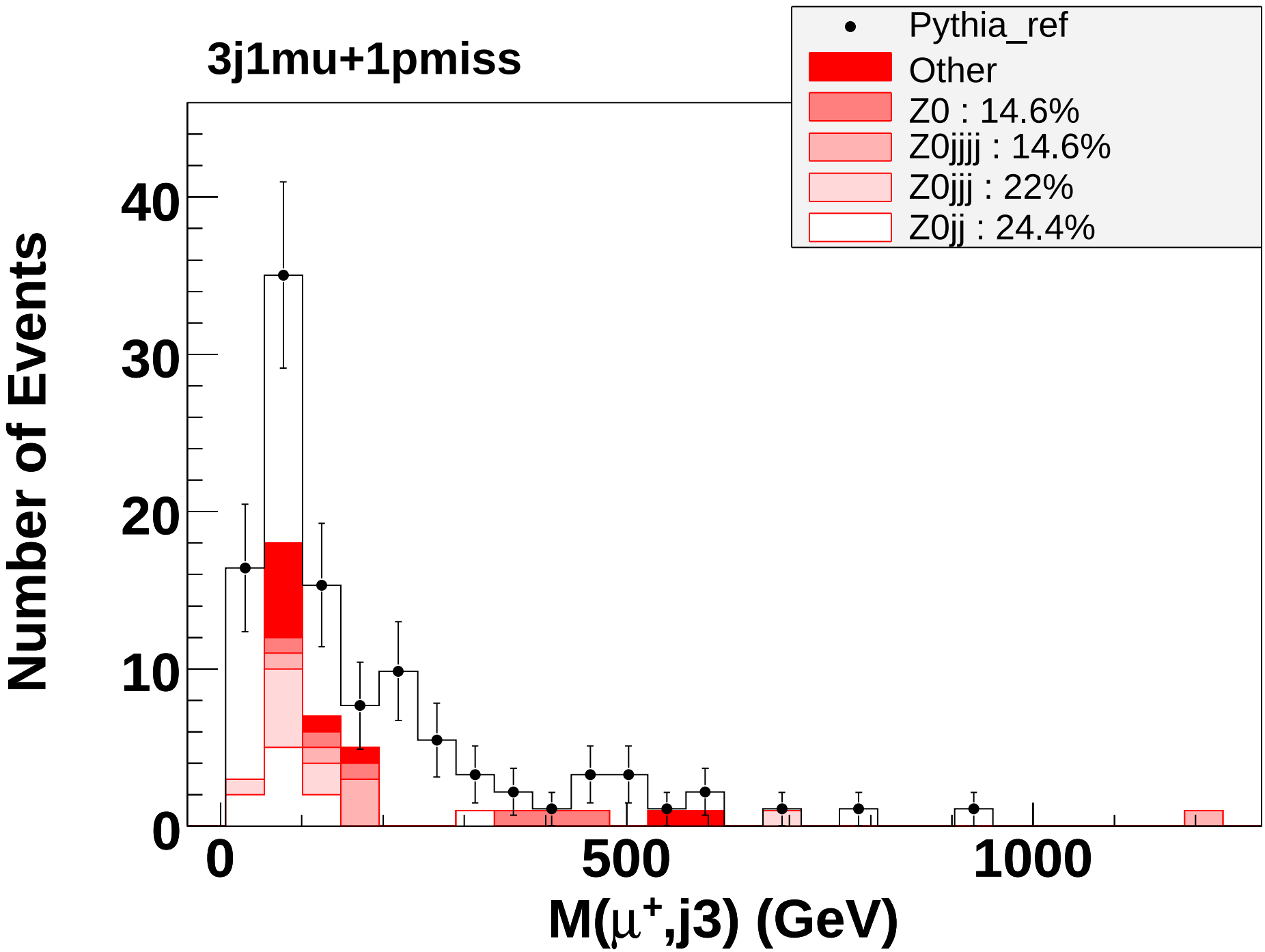

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
2
4
6
ΔR(j1,j2)

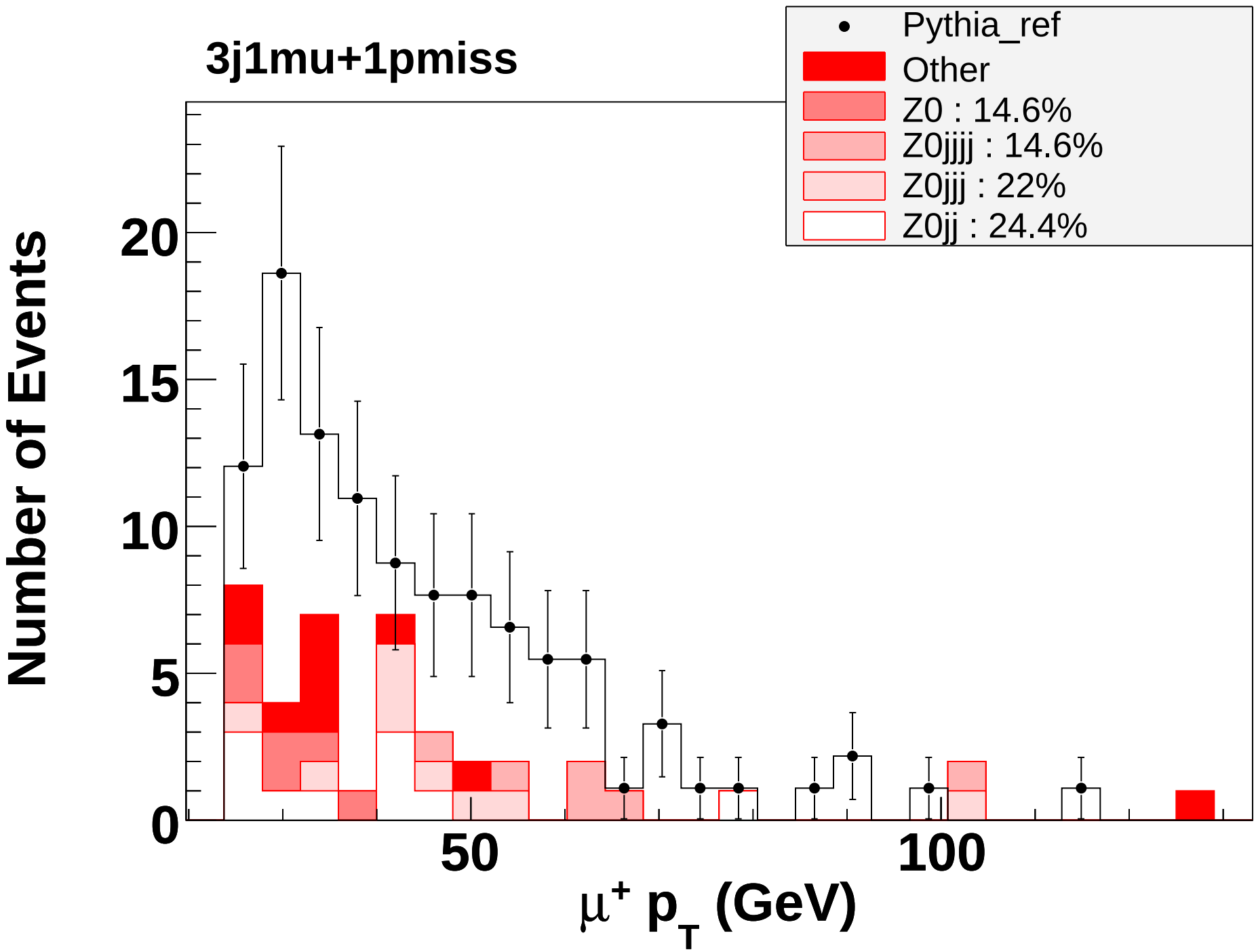

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
10
20
30
40
500
1000
M(W,j2) (GeV)

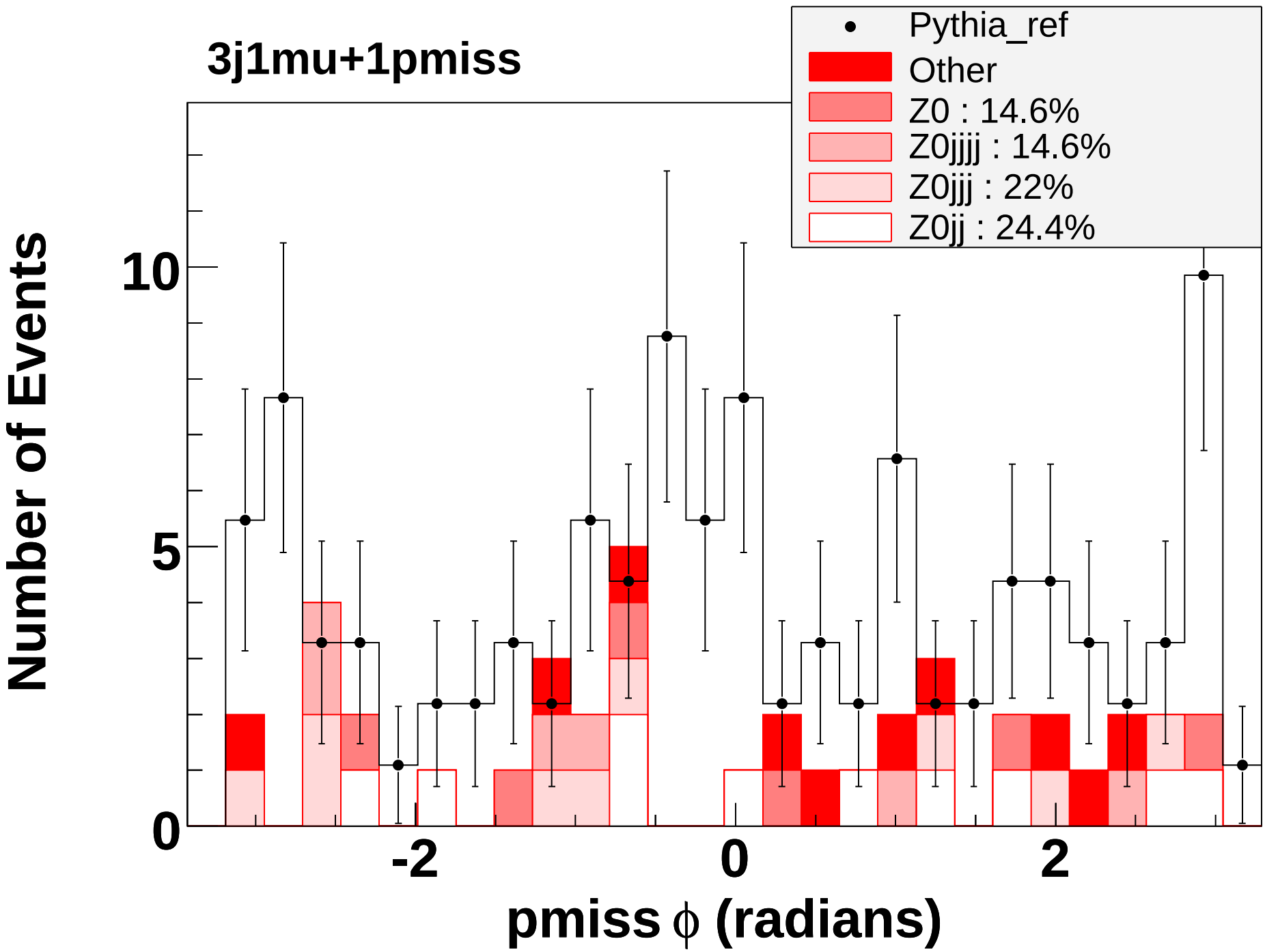

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
20
40
50
100
150
j2 p_T (GeV)

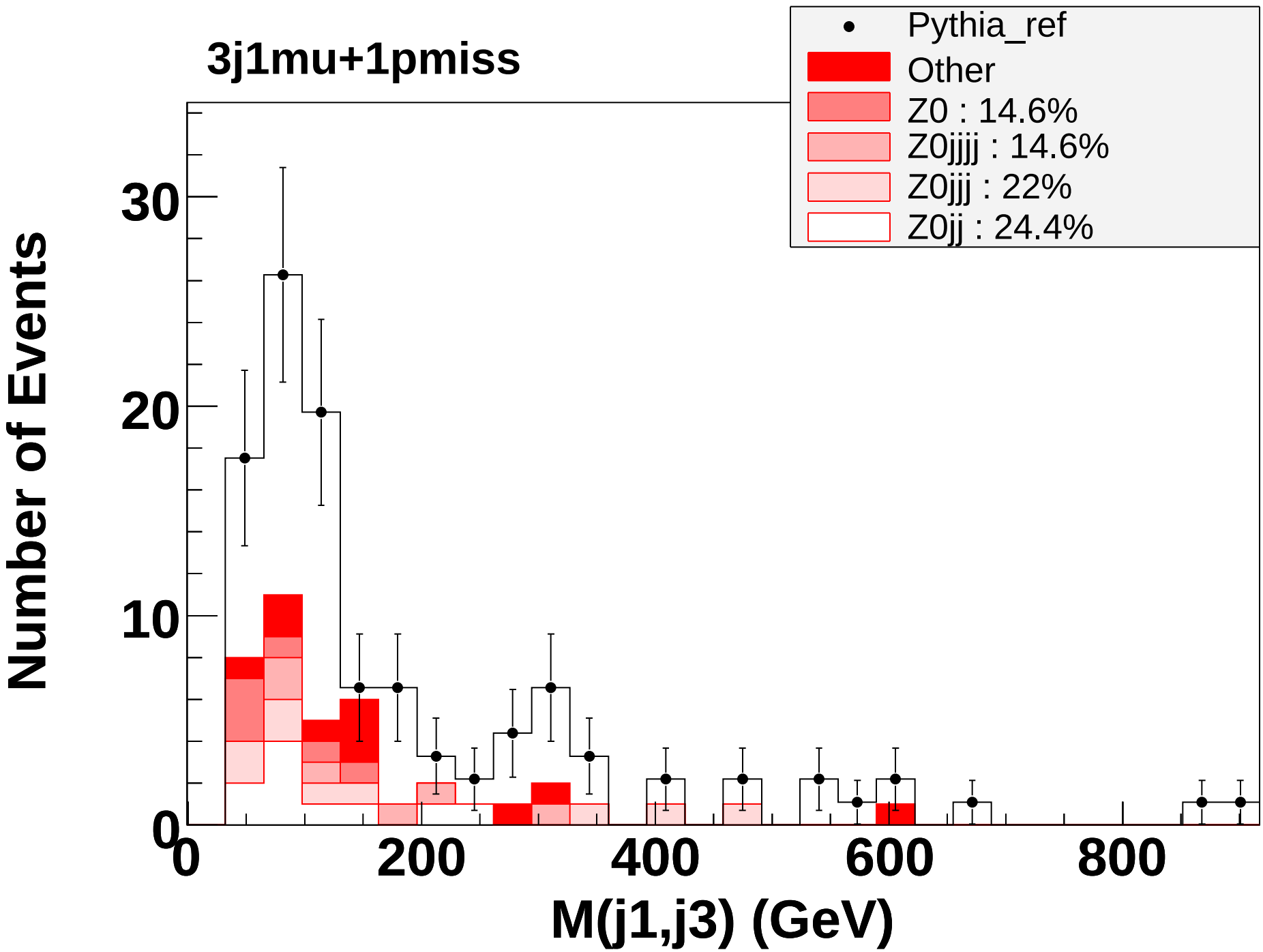

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
0
1
2
3
Δϕ(j1,j3) (radians)

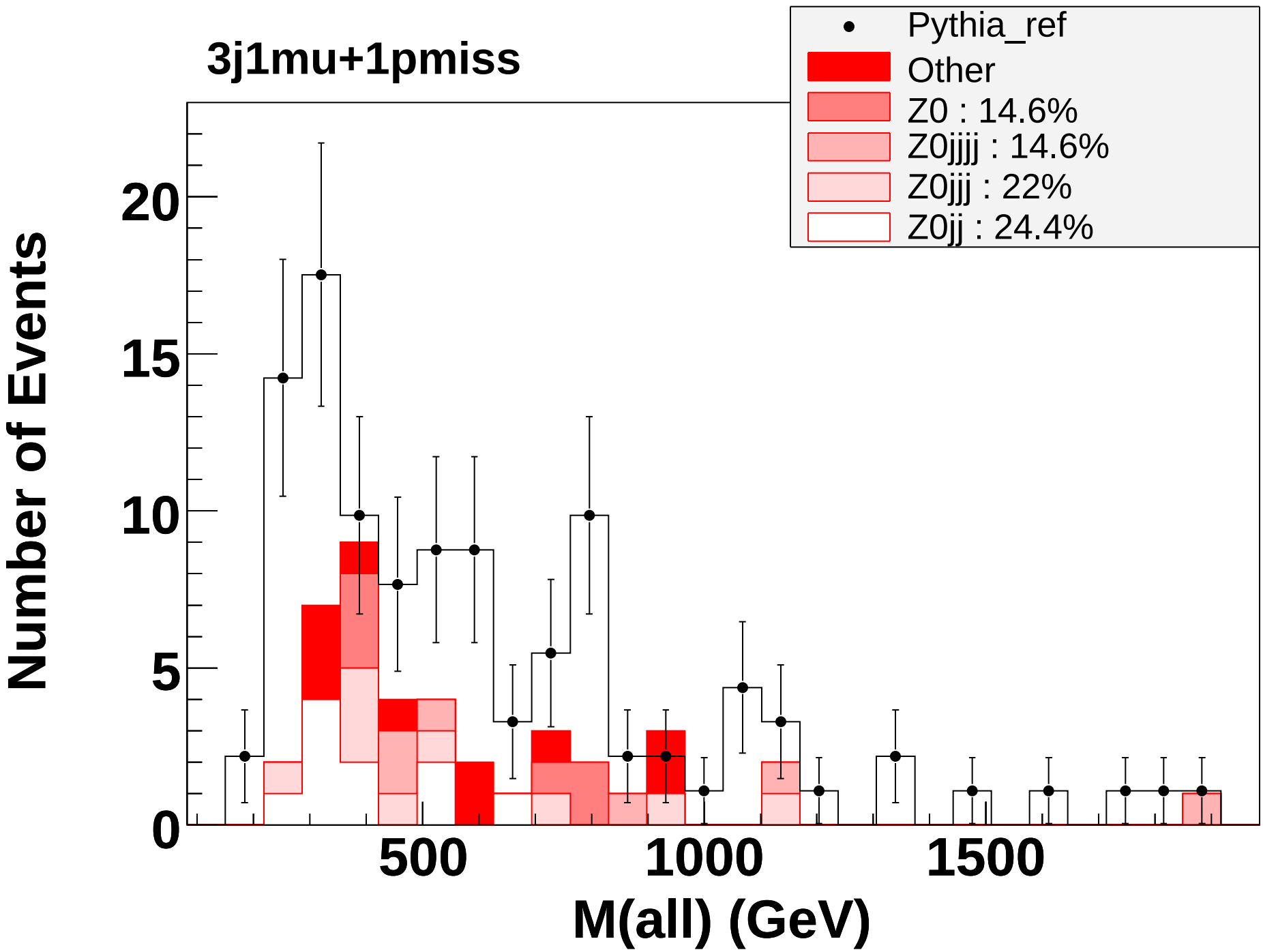

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
15
20
500
1000
1500
M(μ+,j1,j2,j3) (GeV)

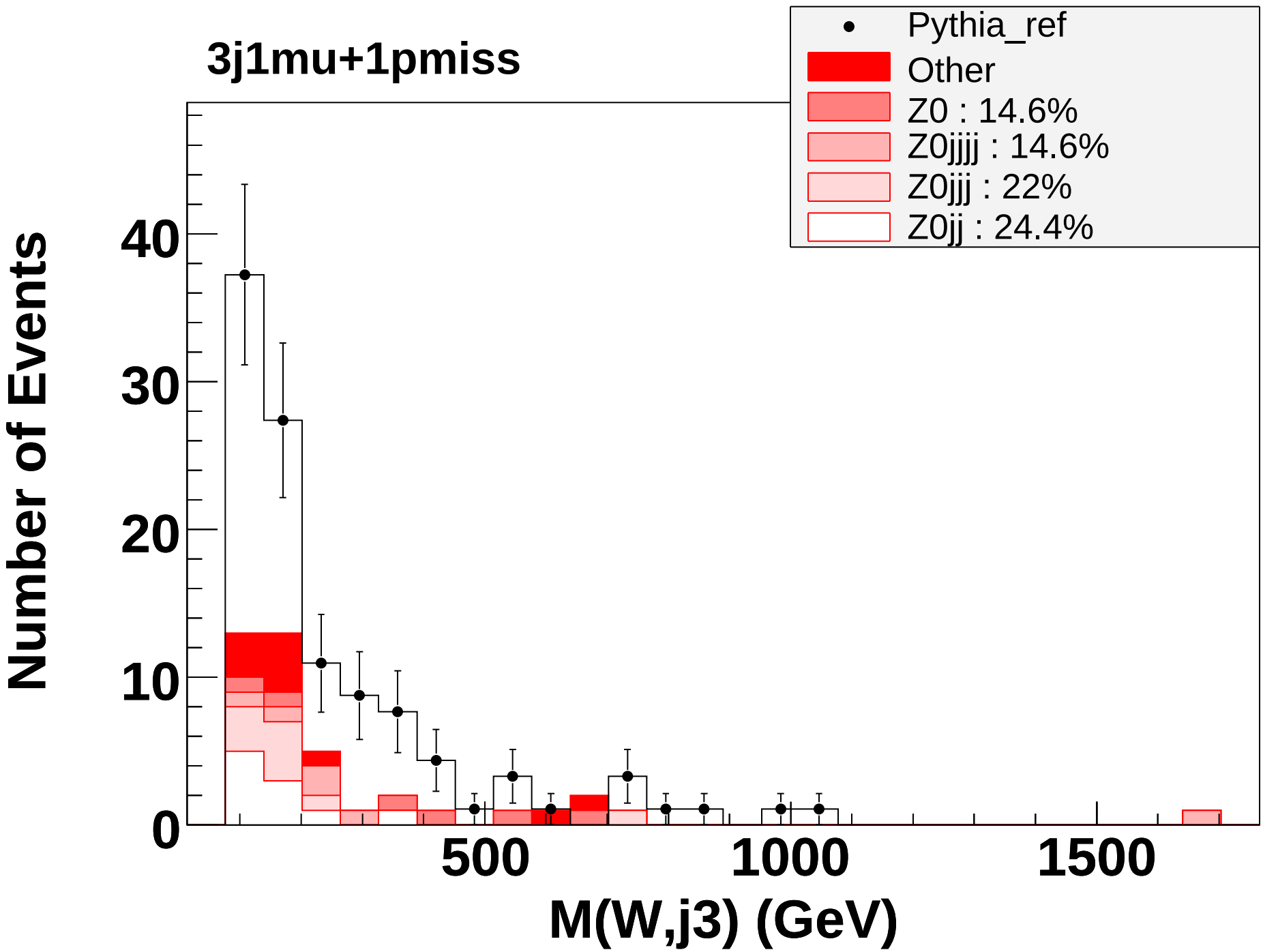

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
10
20
30
40
0
500
1000
M(μ+,j3) (GeV)

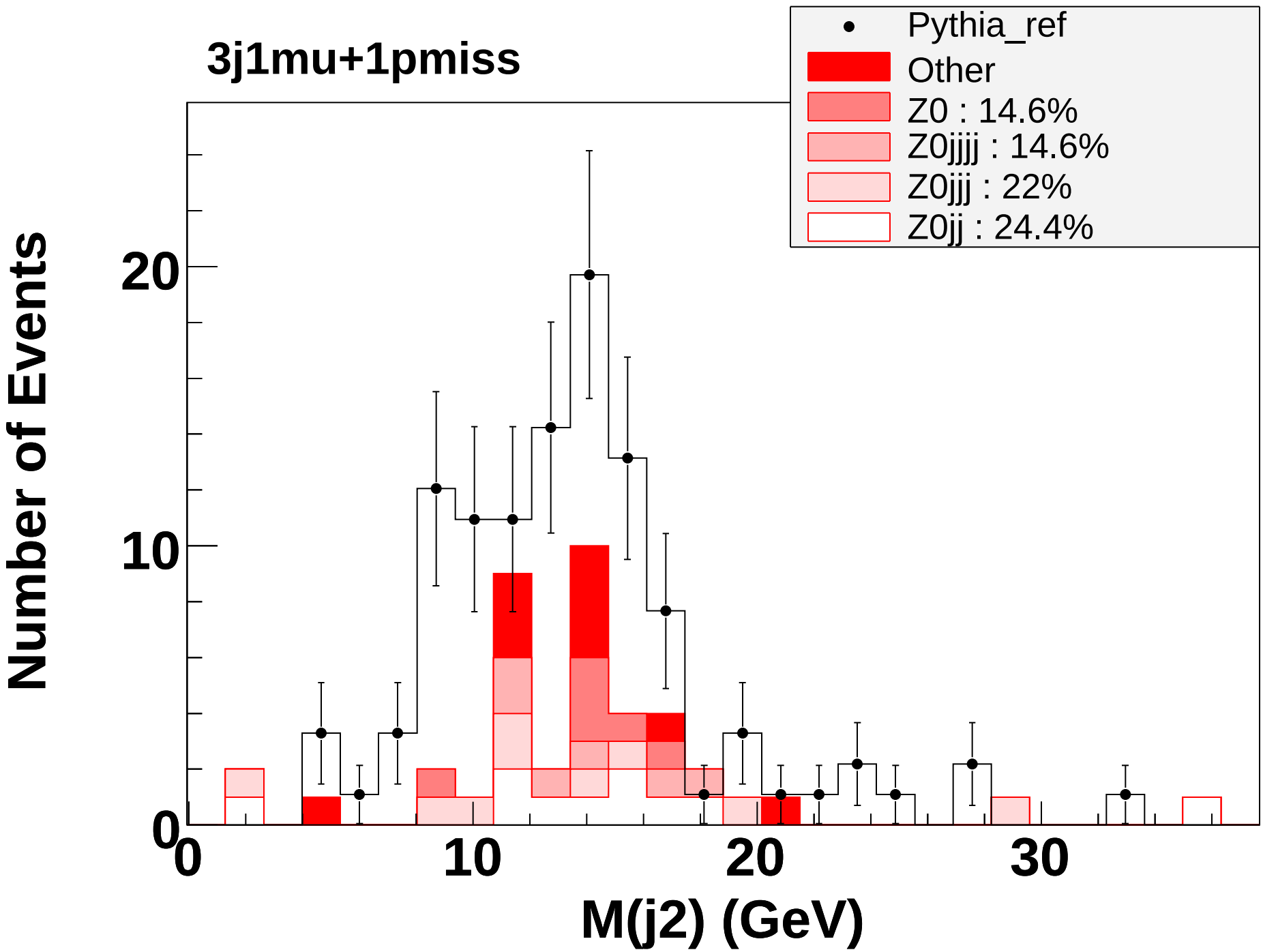

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
15
20
50
100
μ+ pT (GeV)

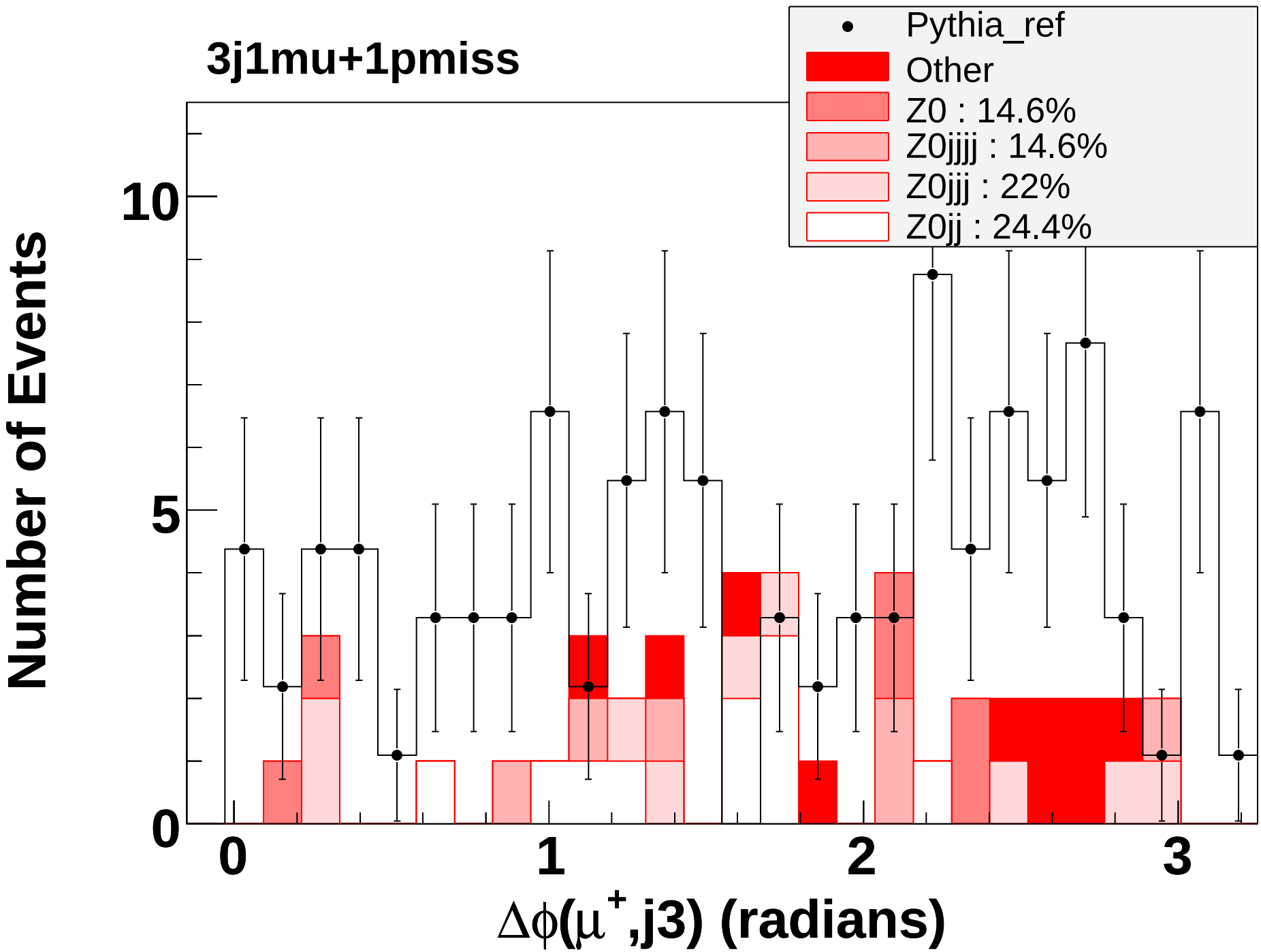

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
-2
0
2
pmiss ϕ (radians)

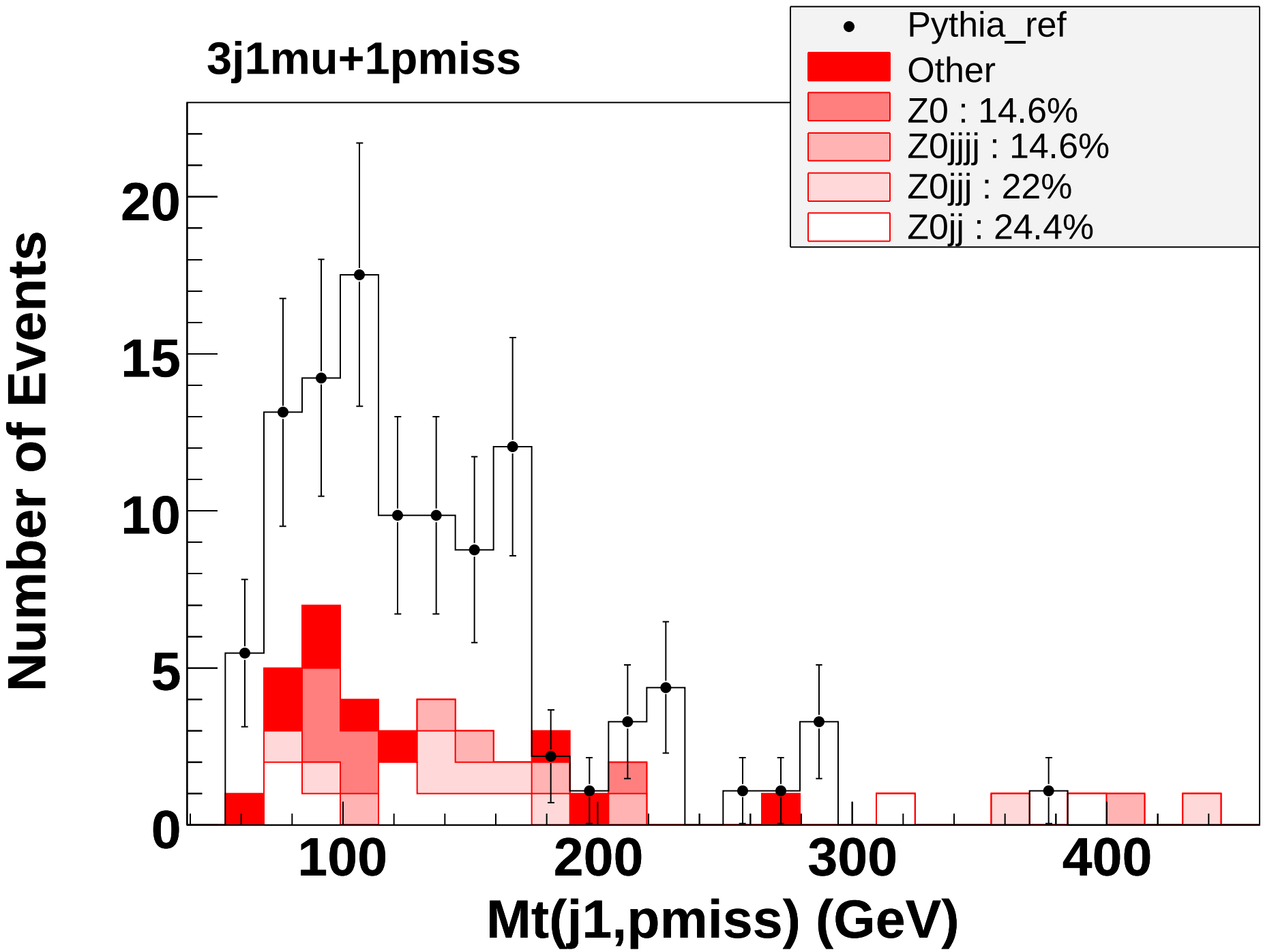

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
10
20
30
0
200
400
600
800
M(j1,j3) (GeV)

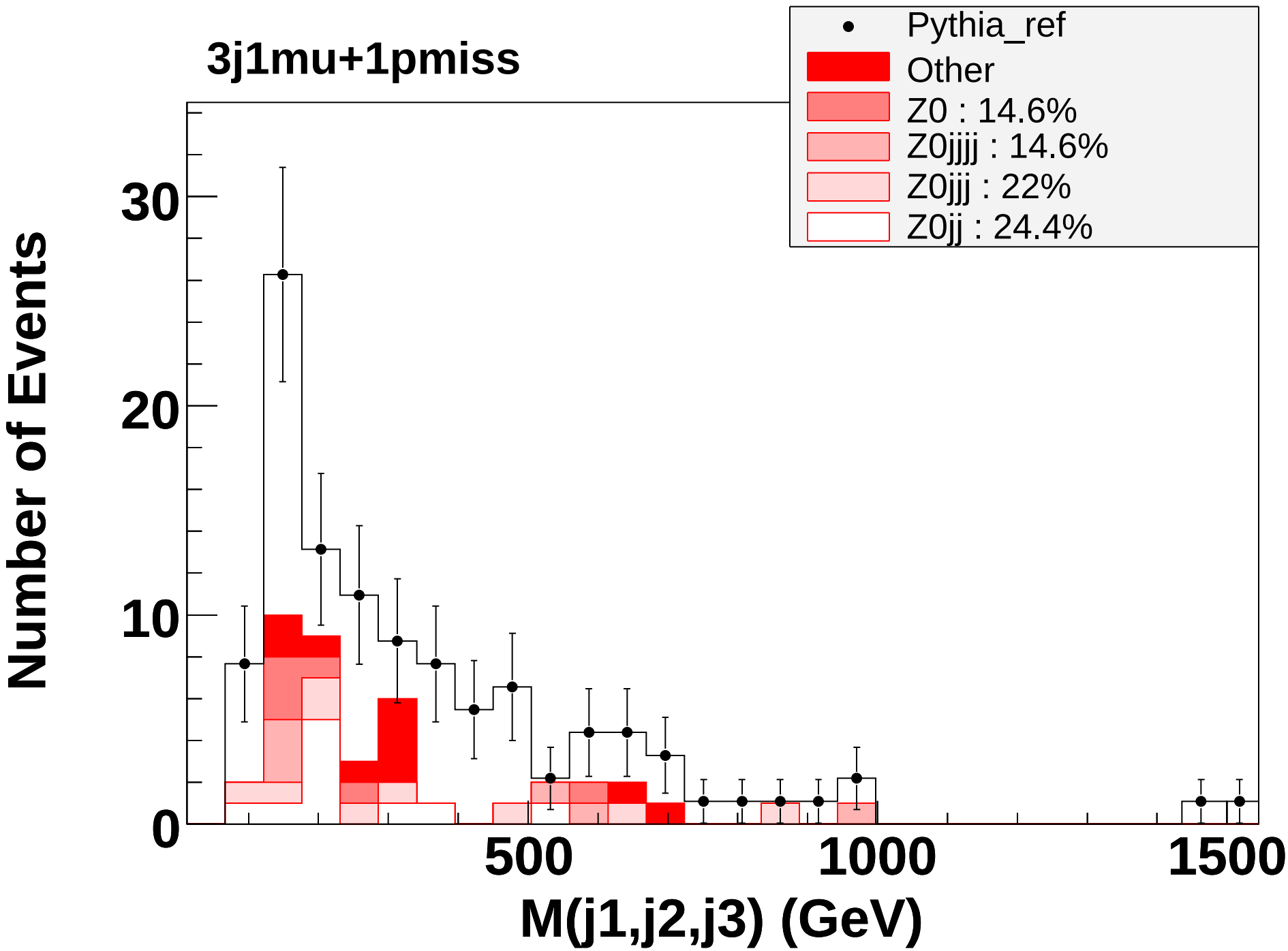

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
15
20
500
1000
1500
M(all) (GeV)

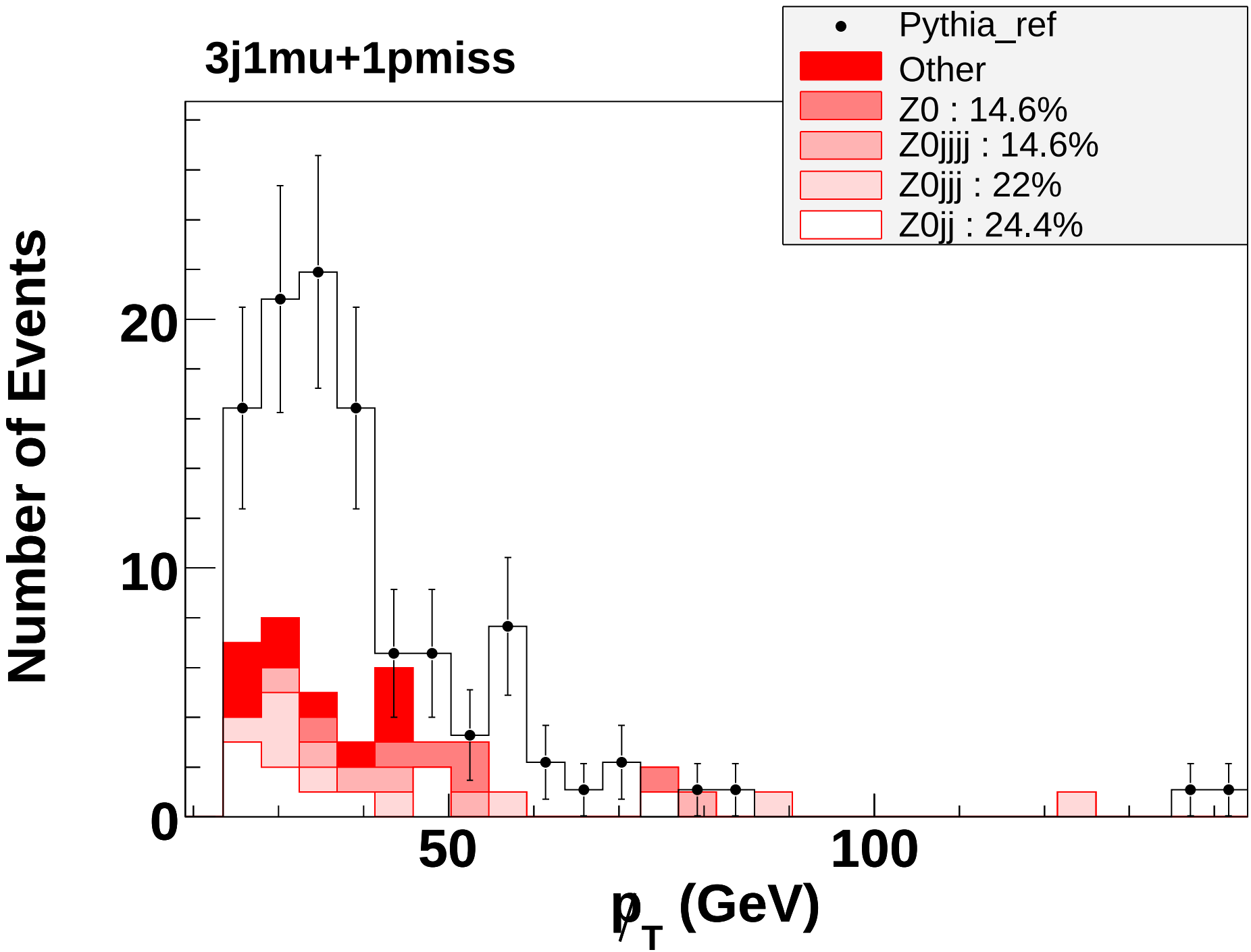

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
10
20
30
40
500
1000
1500
M(W,j3) (GeV)

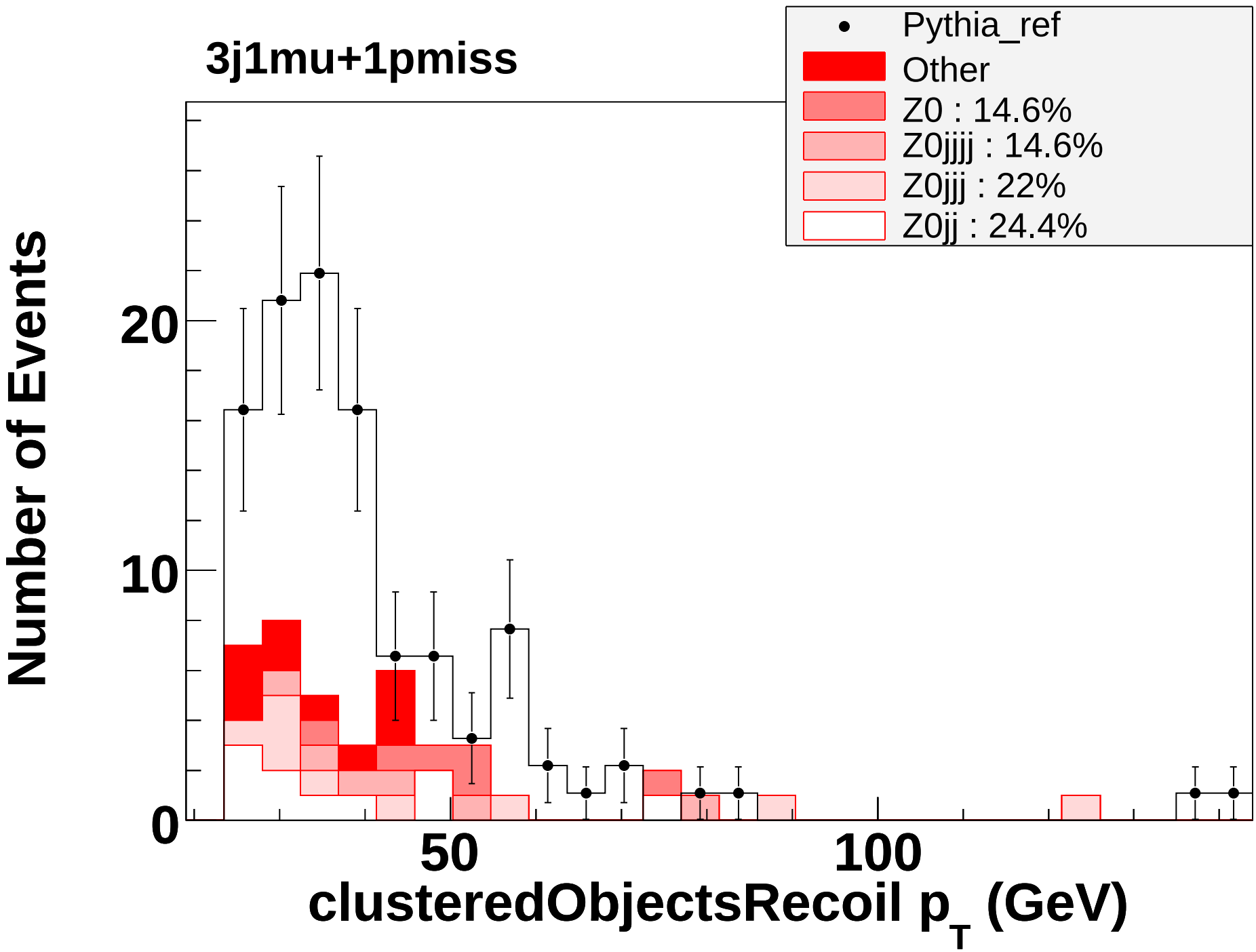

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
10
20
0
10
20
30
M(j2) (GeV)

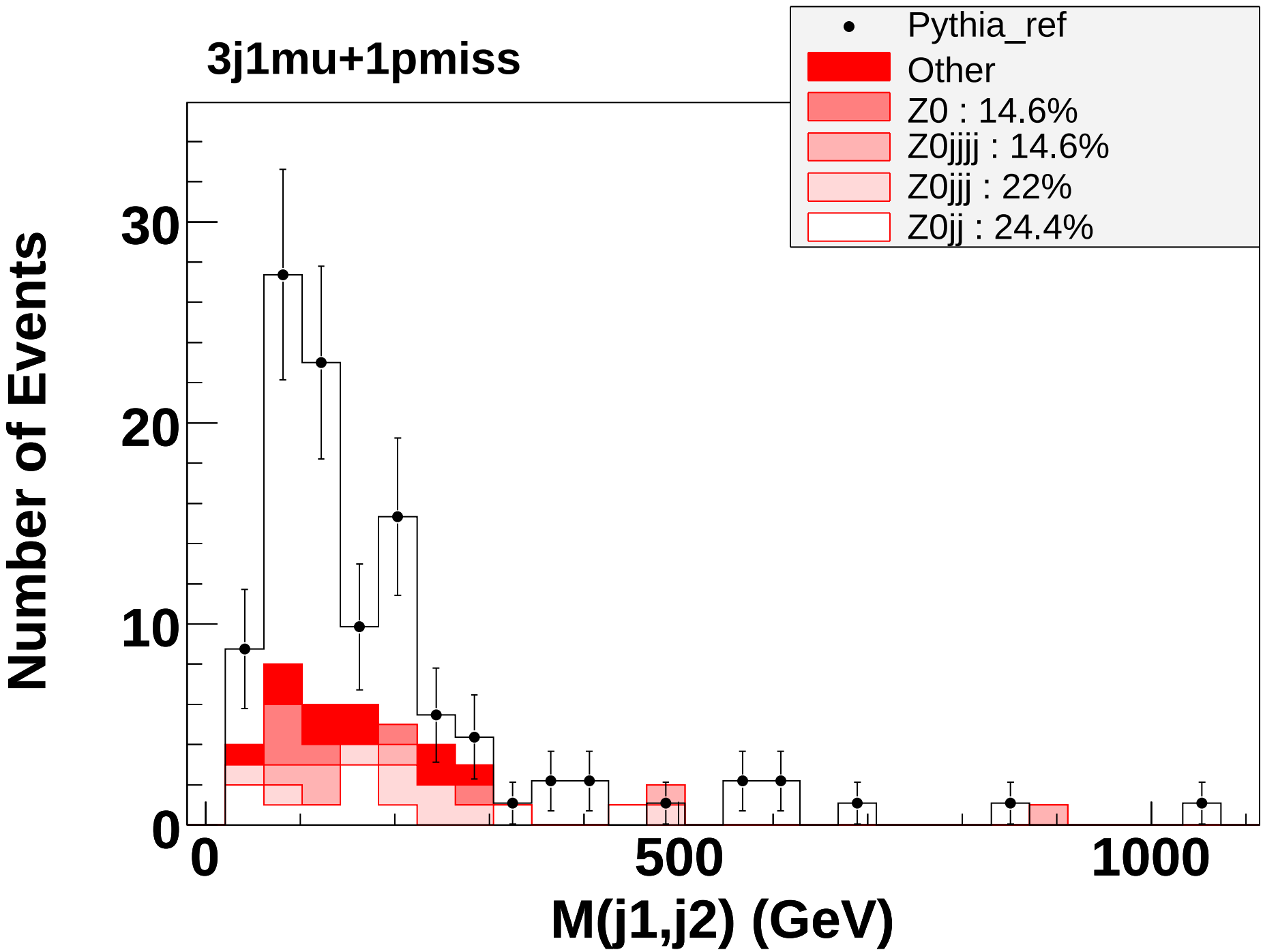

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
0
1
2
3
Δφ(μ+,j3) (radians)

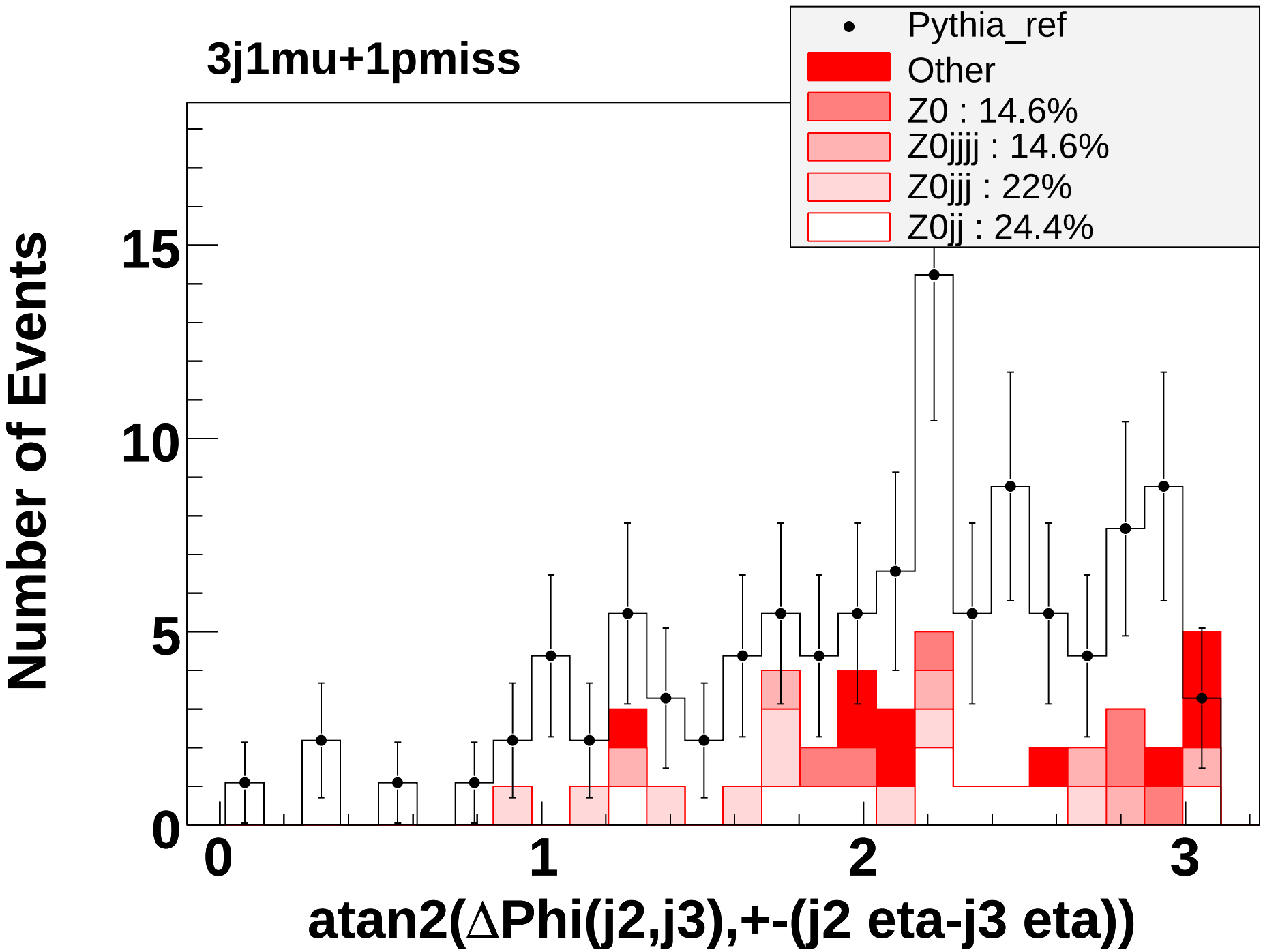

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
15
20
100
200
300
400
Mt(j1,pmiss) (GeV)

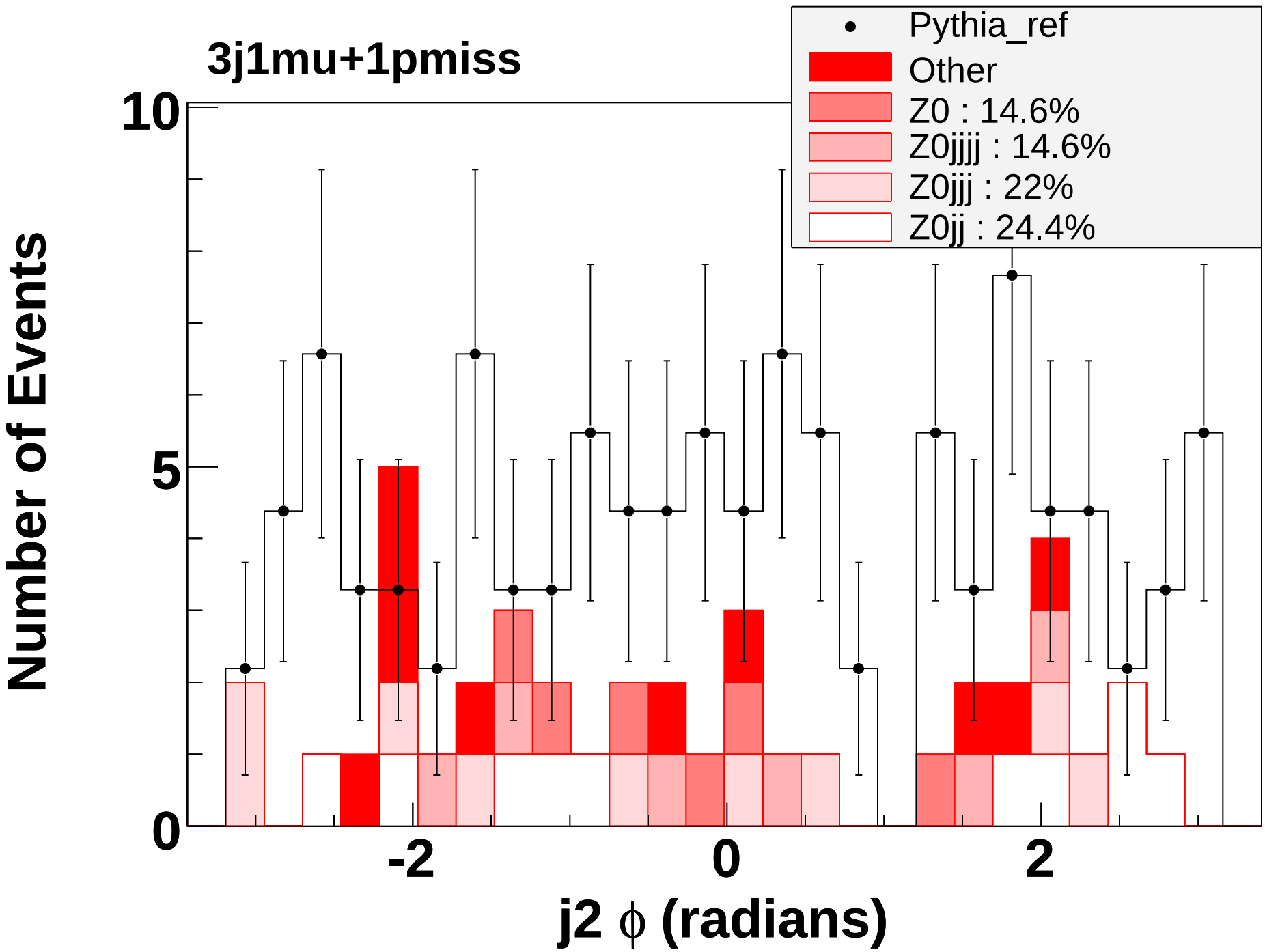

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
10
20
30
500
1000
1500
M(j1,j2,j3) (GeV)

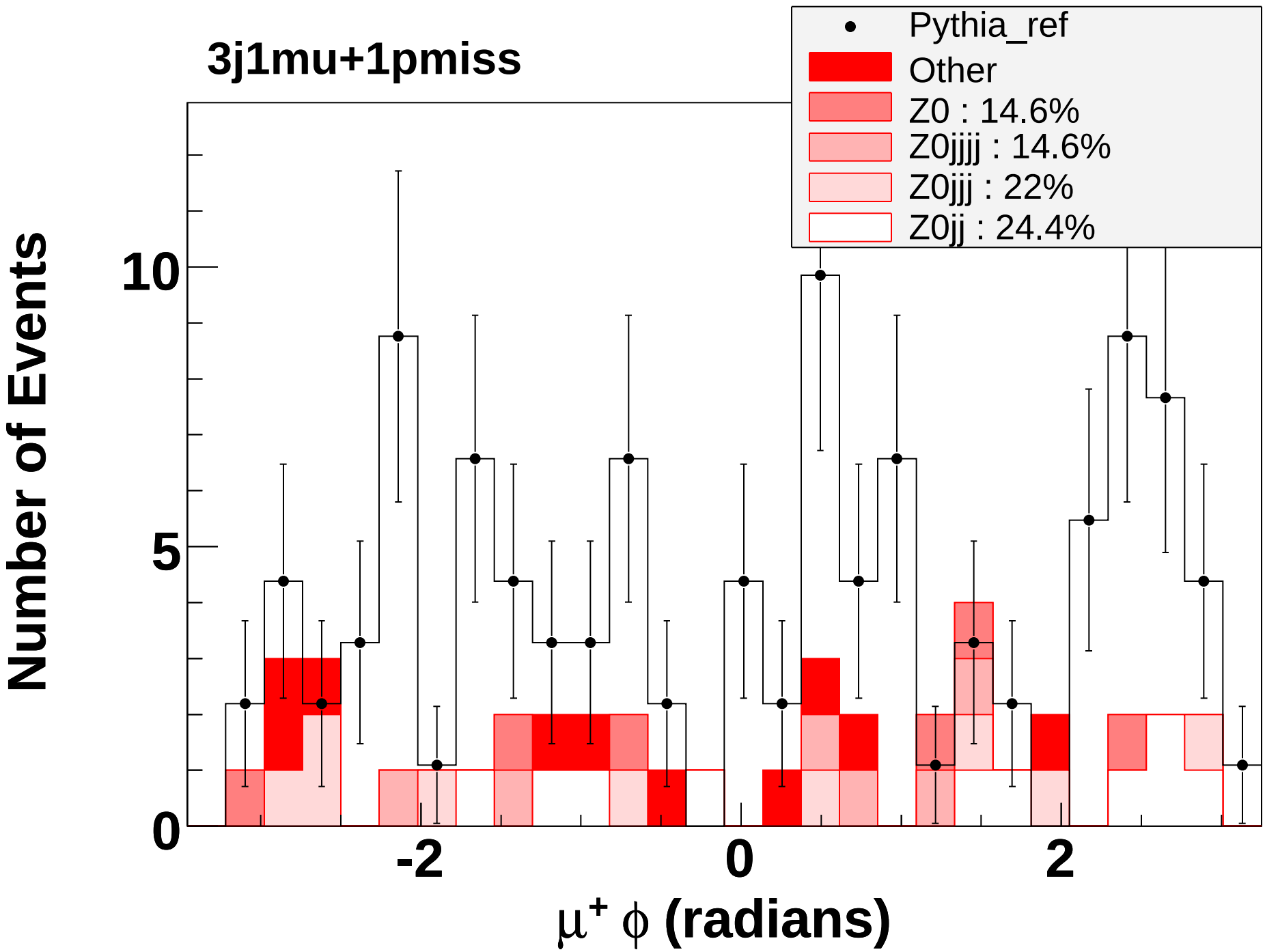

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
10
20
50
100
p_T (GeV)

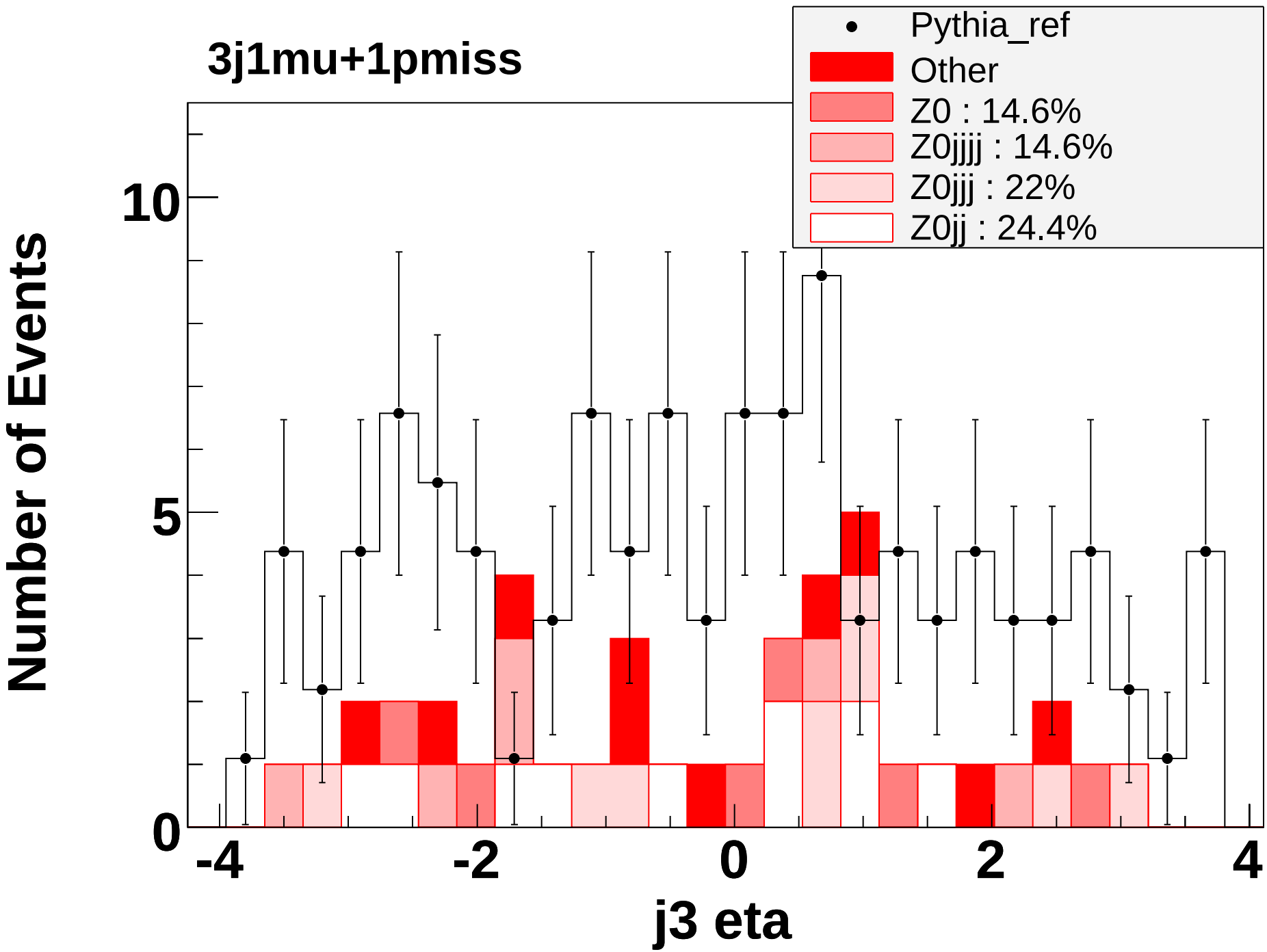

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
10
20
50
100
clusteredObjectsRecoil p_T (GeV)

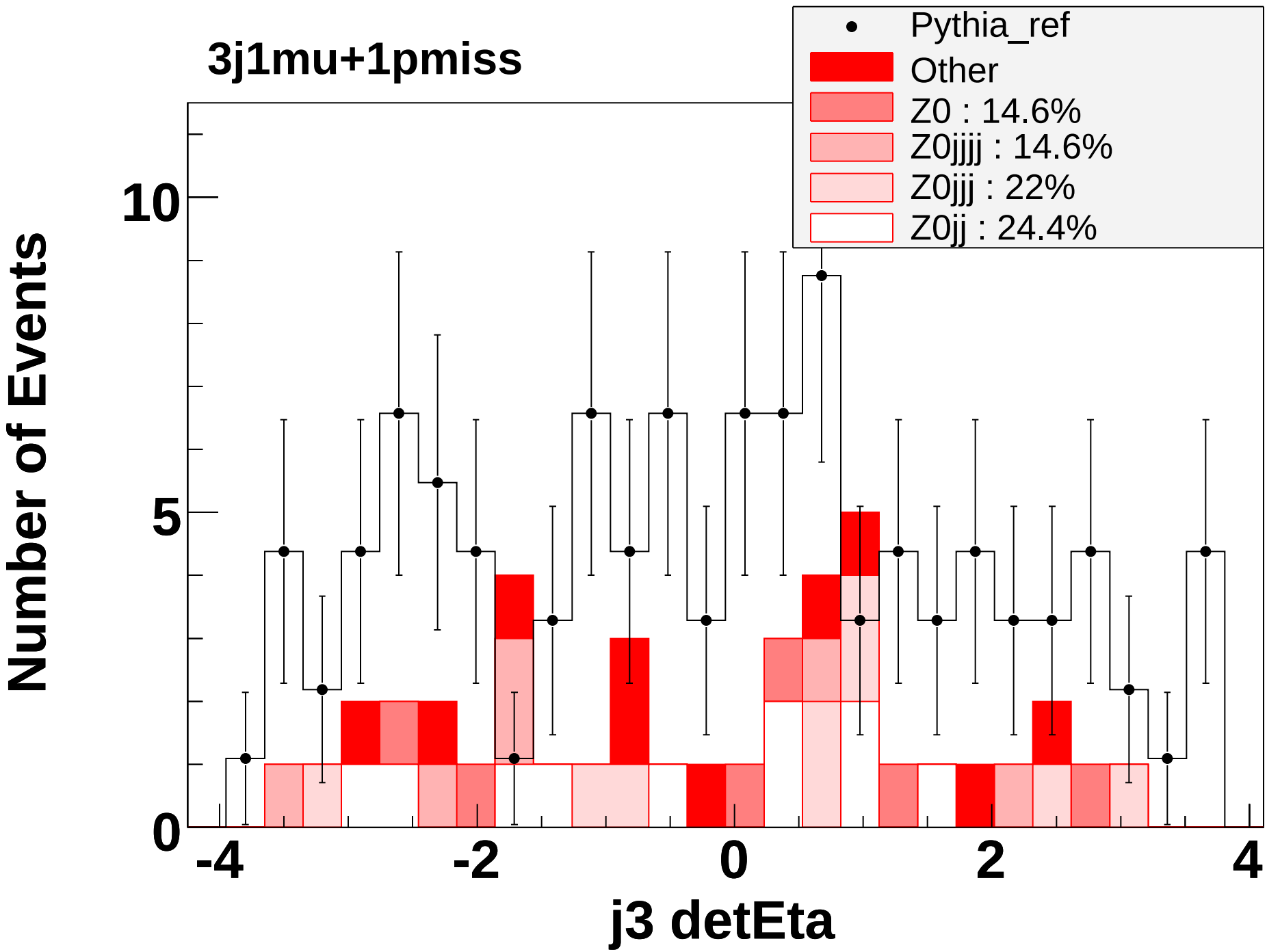

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
10
20
30
0
500
1000
M(j1,j2) (GeV)

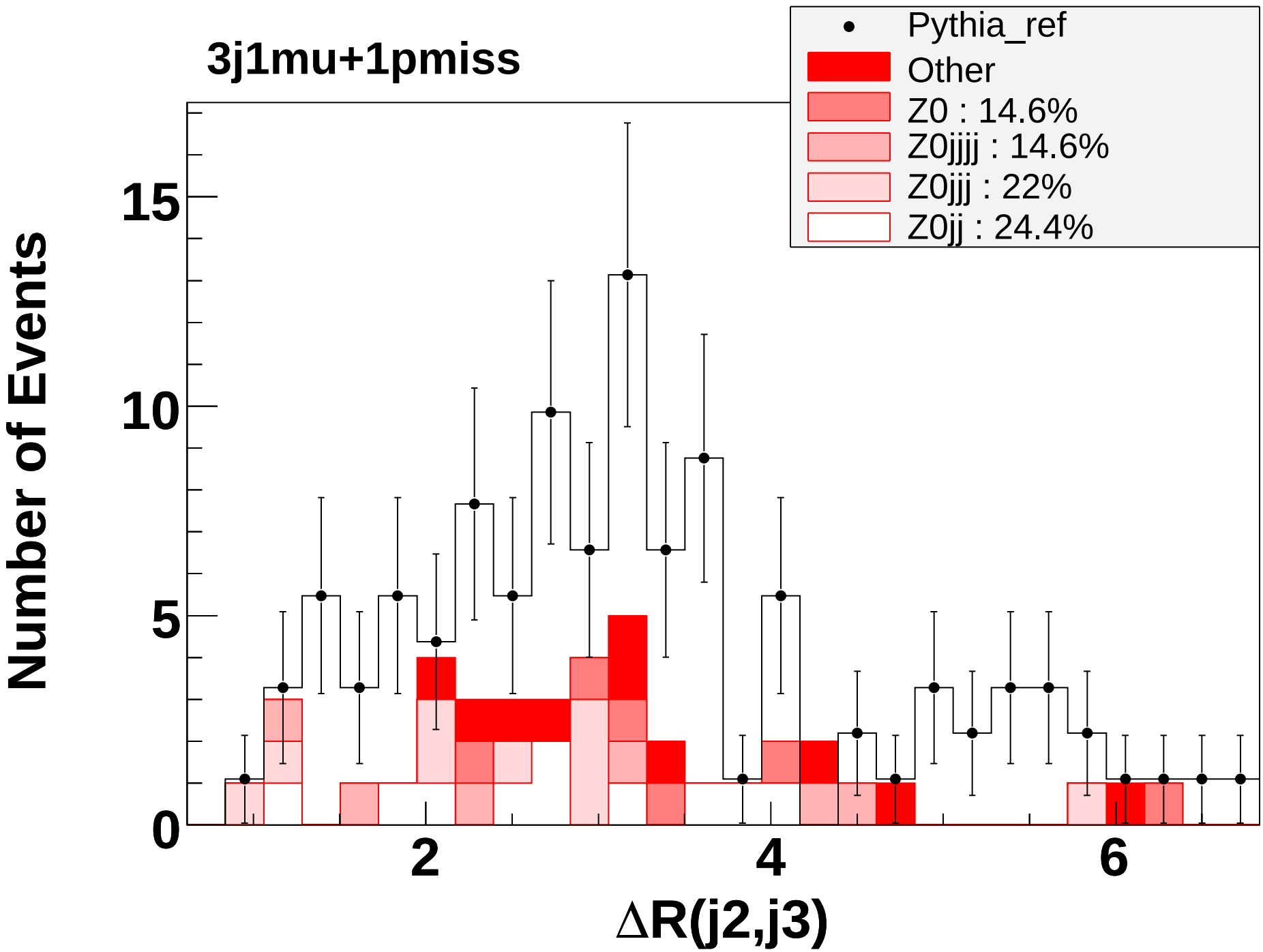

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
15
0
1
2
3
atan2(ΔPhi(j2,j3),+-(j2 eta-j3 eta))

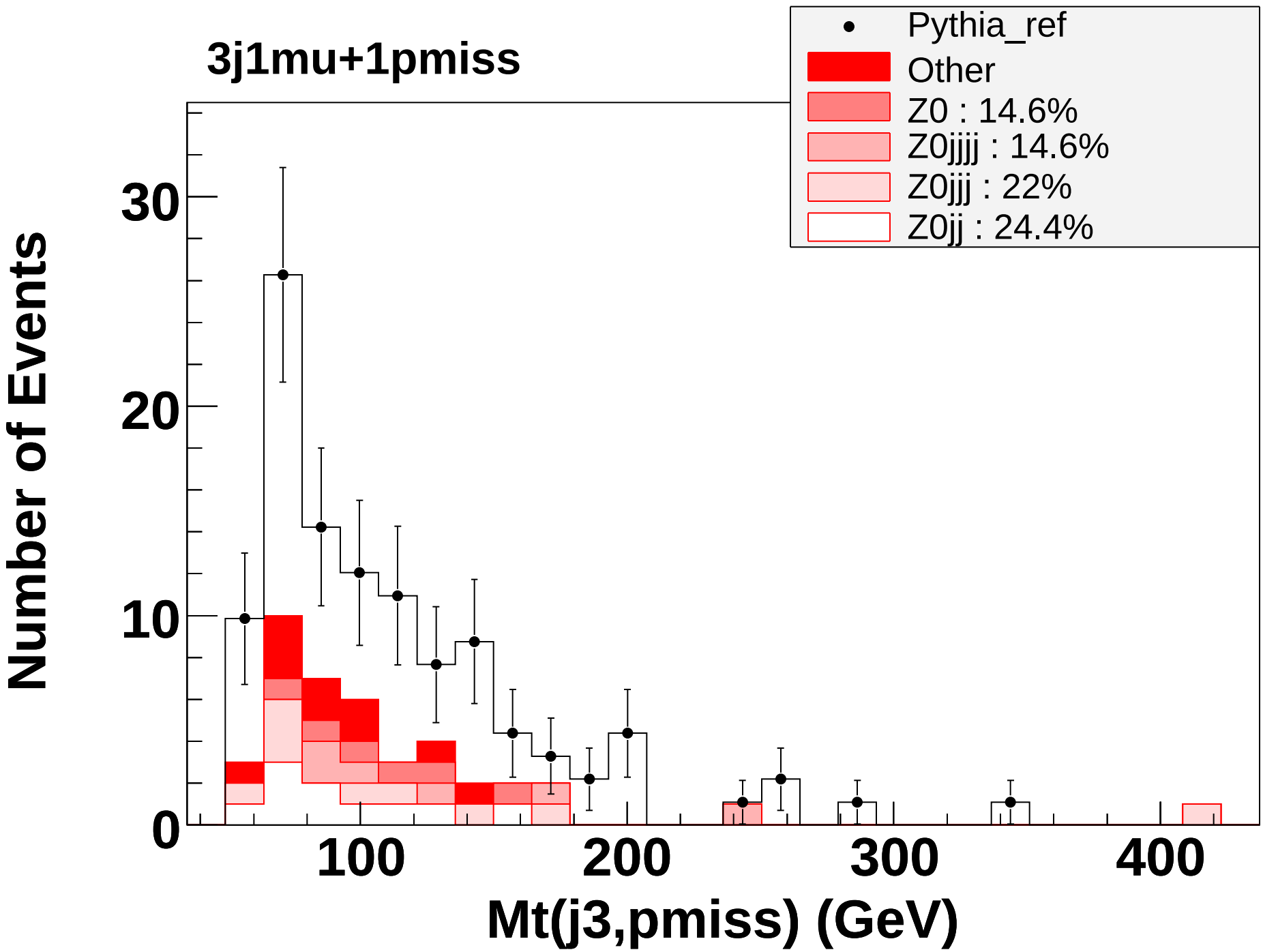

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
10
5
0
-2
0
2
j2 ϕ (radians)

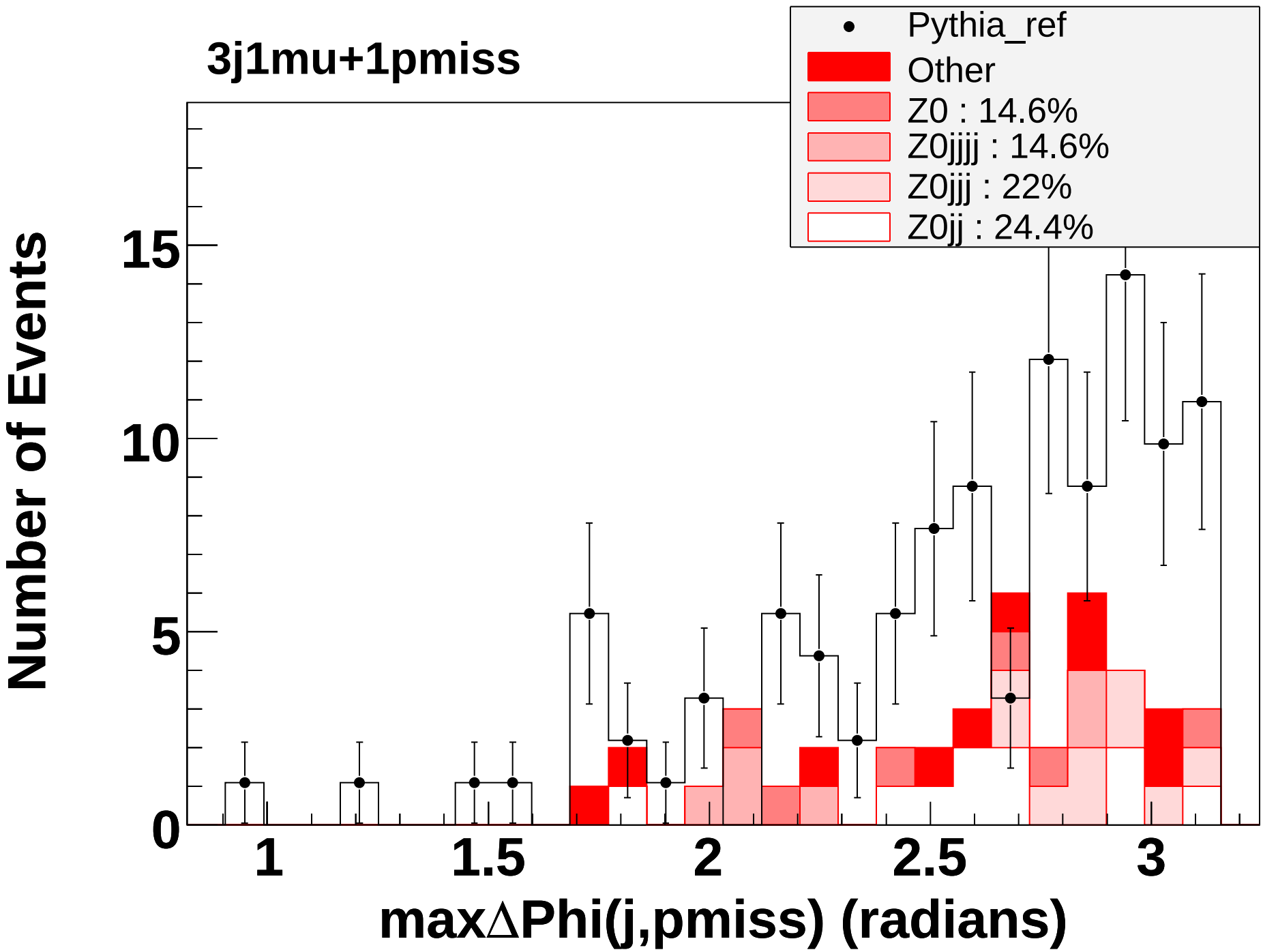

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
-2
0
2
μ+ φ (radians)

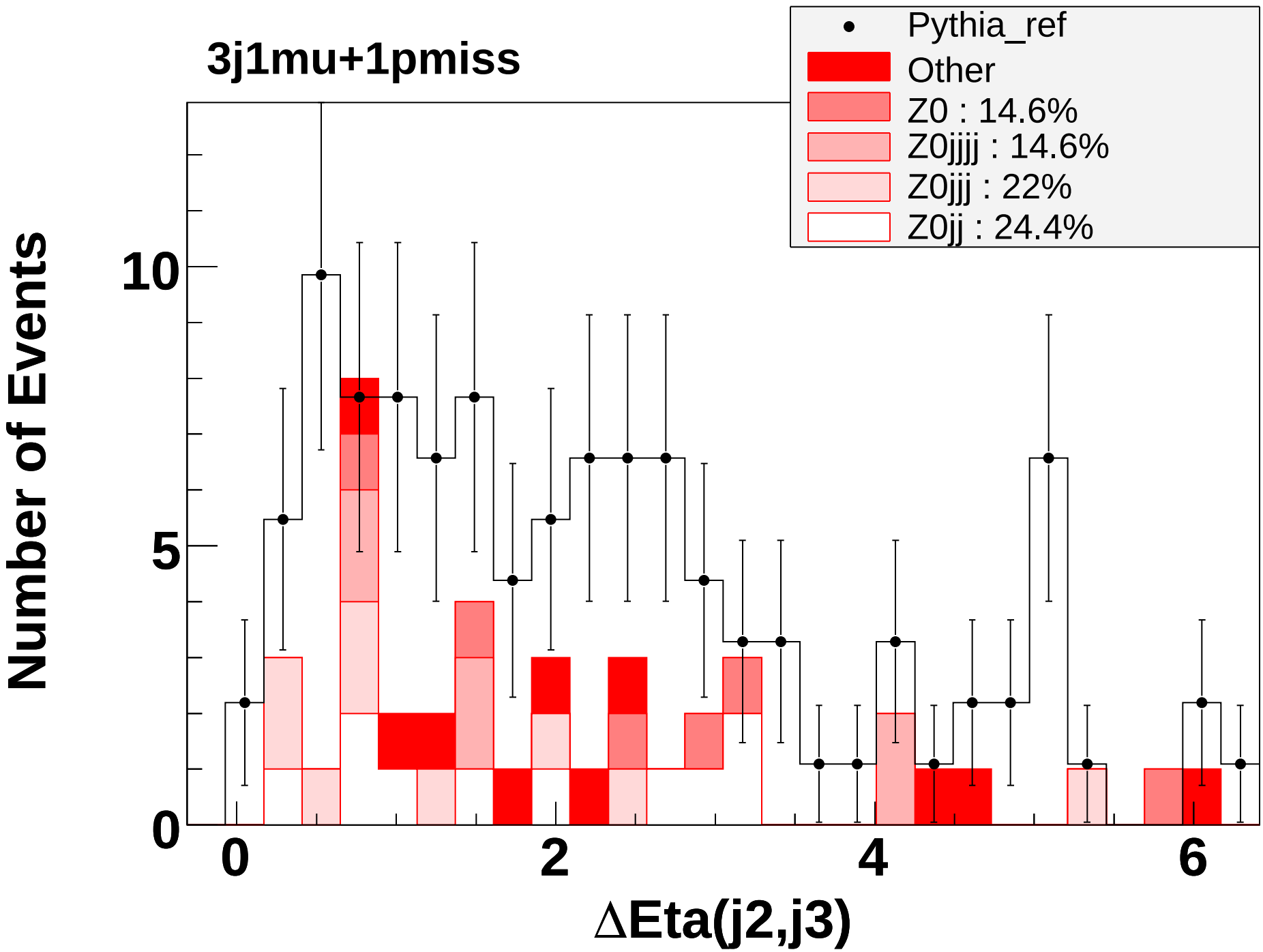

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
-4
-2
0
2
4
j3 eta

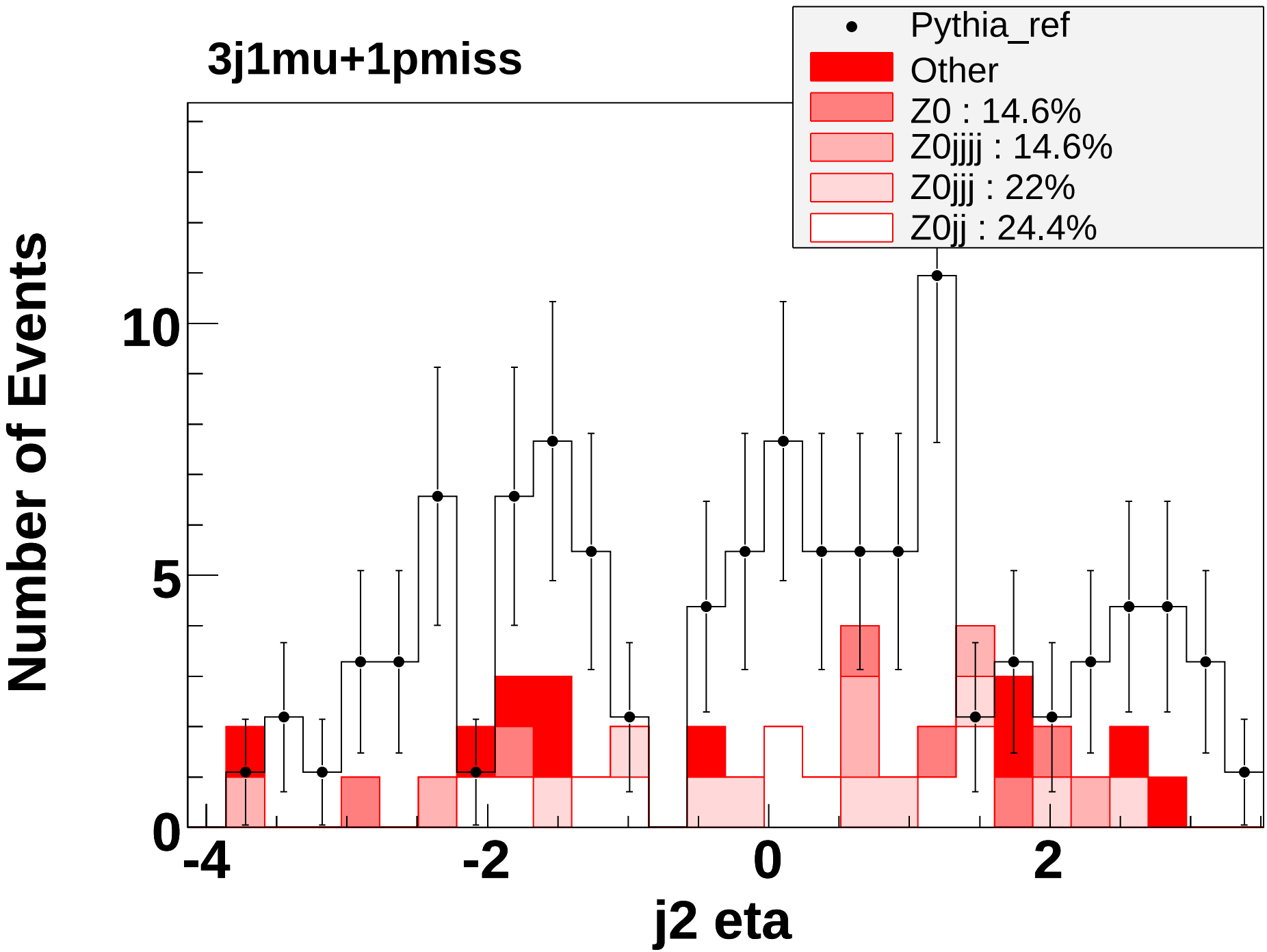

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
-4
-2
0
2
4
j3 detEta

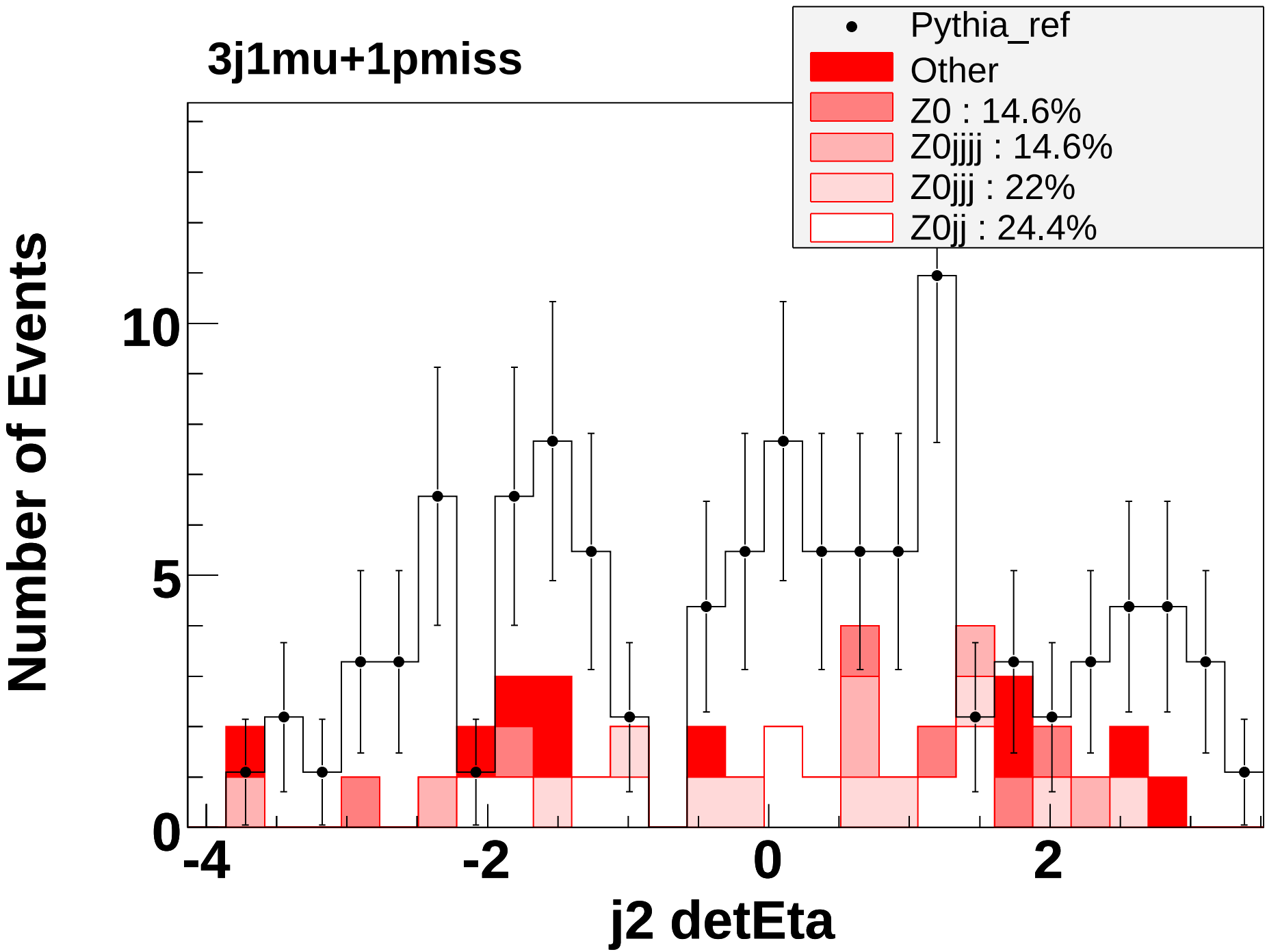

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
15
2
4
6
ΔR(j2,j3)

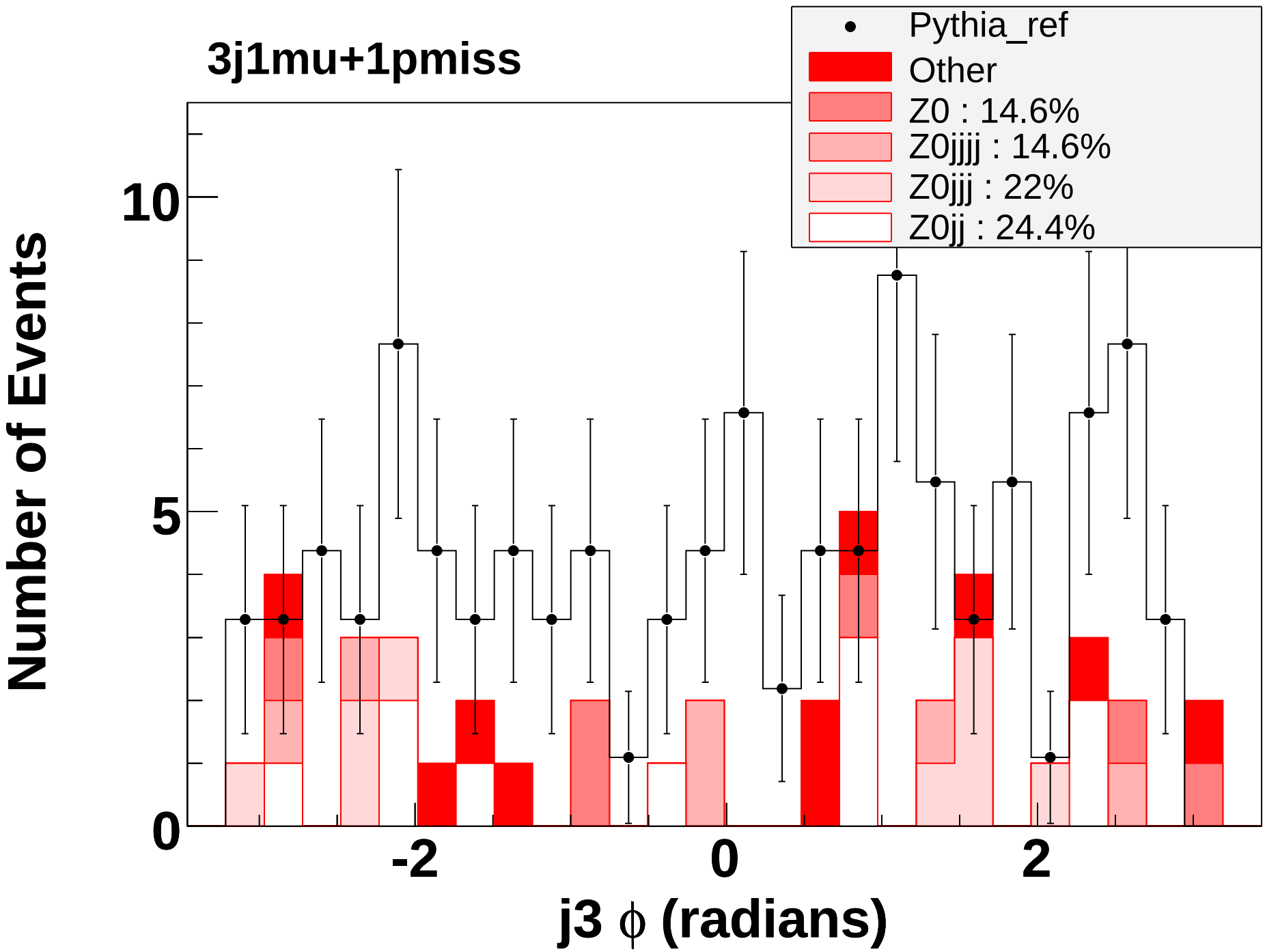

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
10
20
30
100
200
300
400
Mt(j3,pmiss) (GeV)

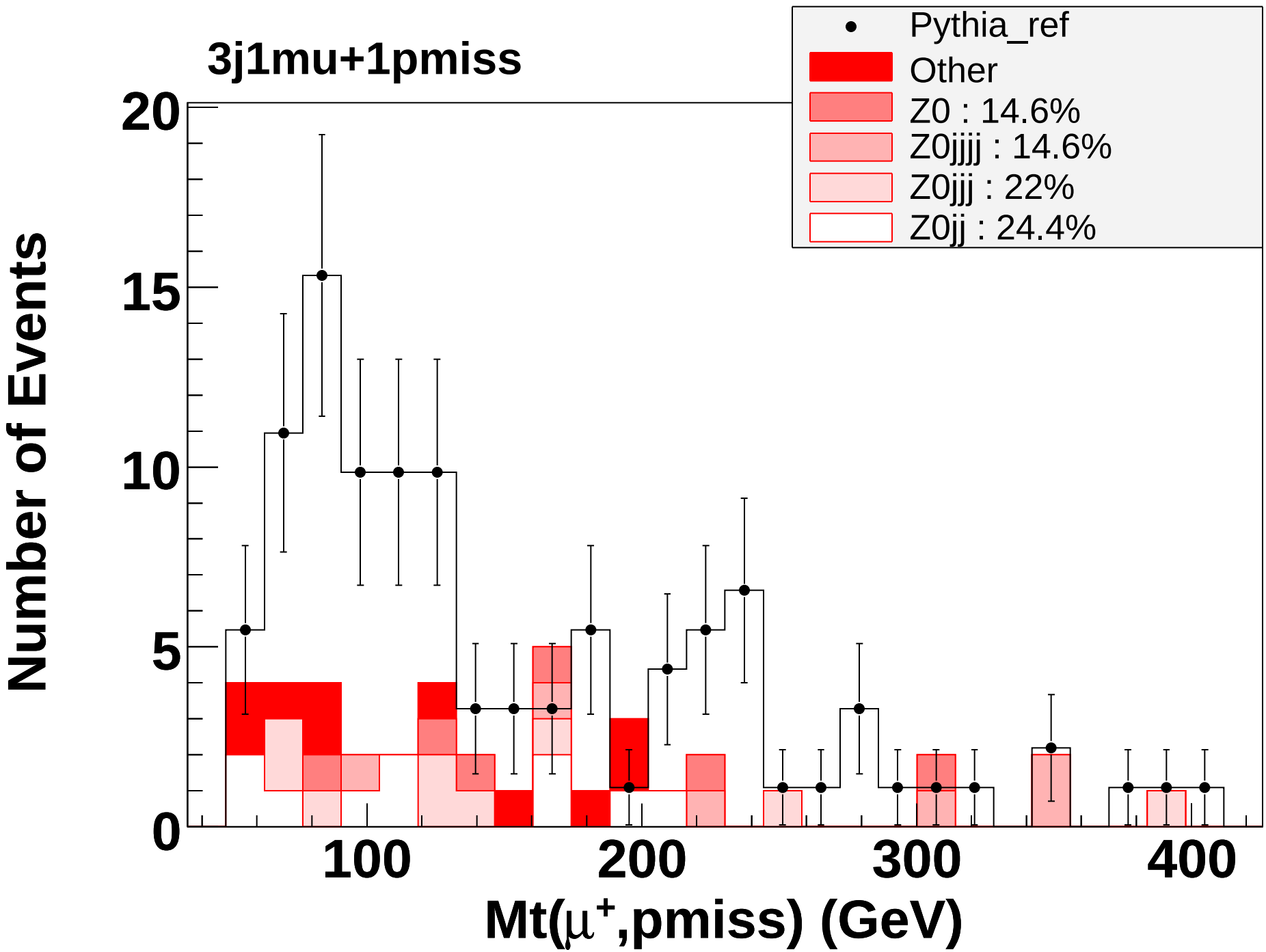

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
15
1
1.5
2
2.5
3
maxΔPhi(j,pmiss) (radians)

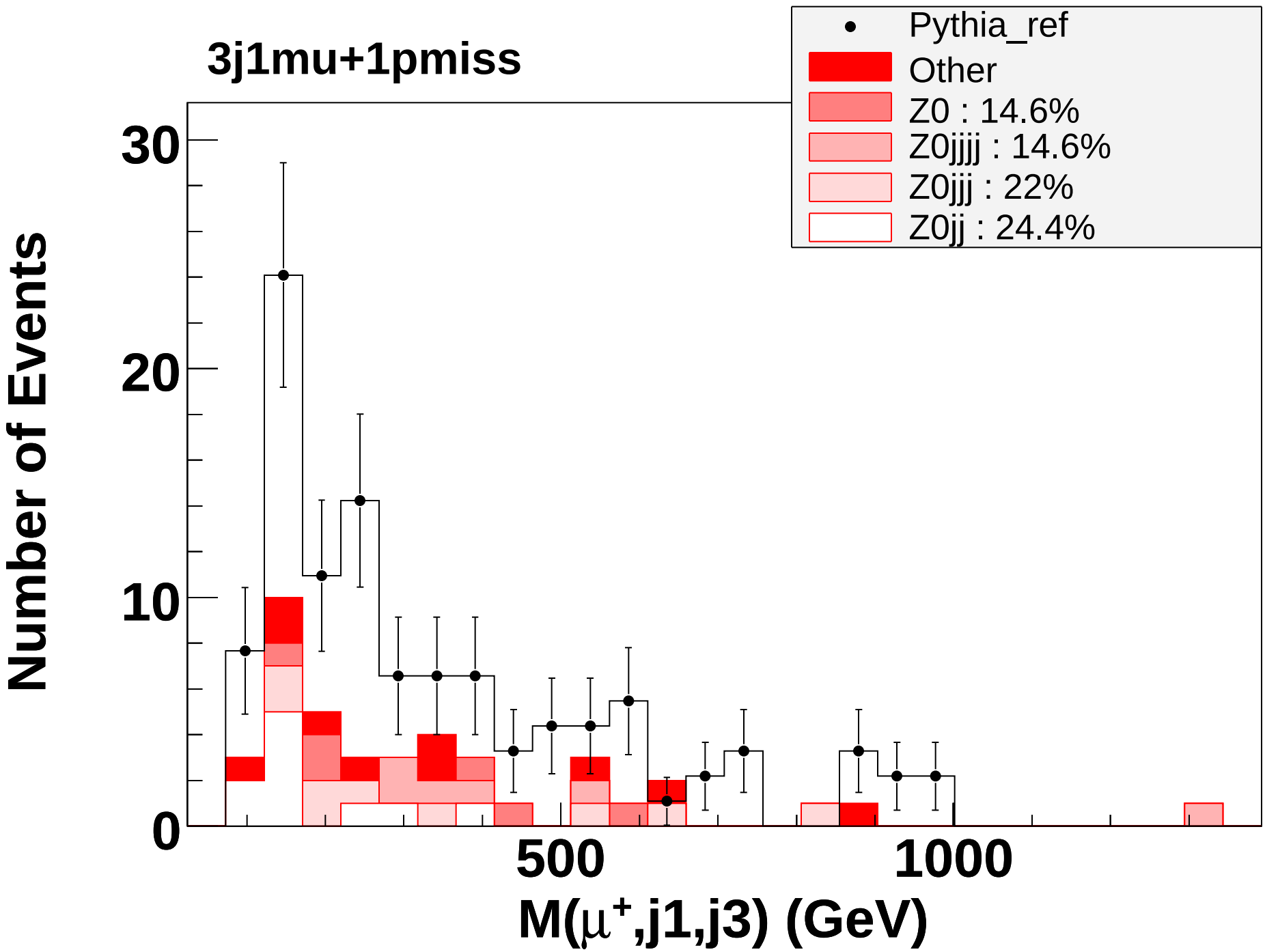

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
0
2
4
6
ΔEta(j2,j3)

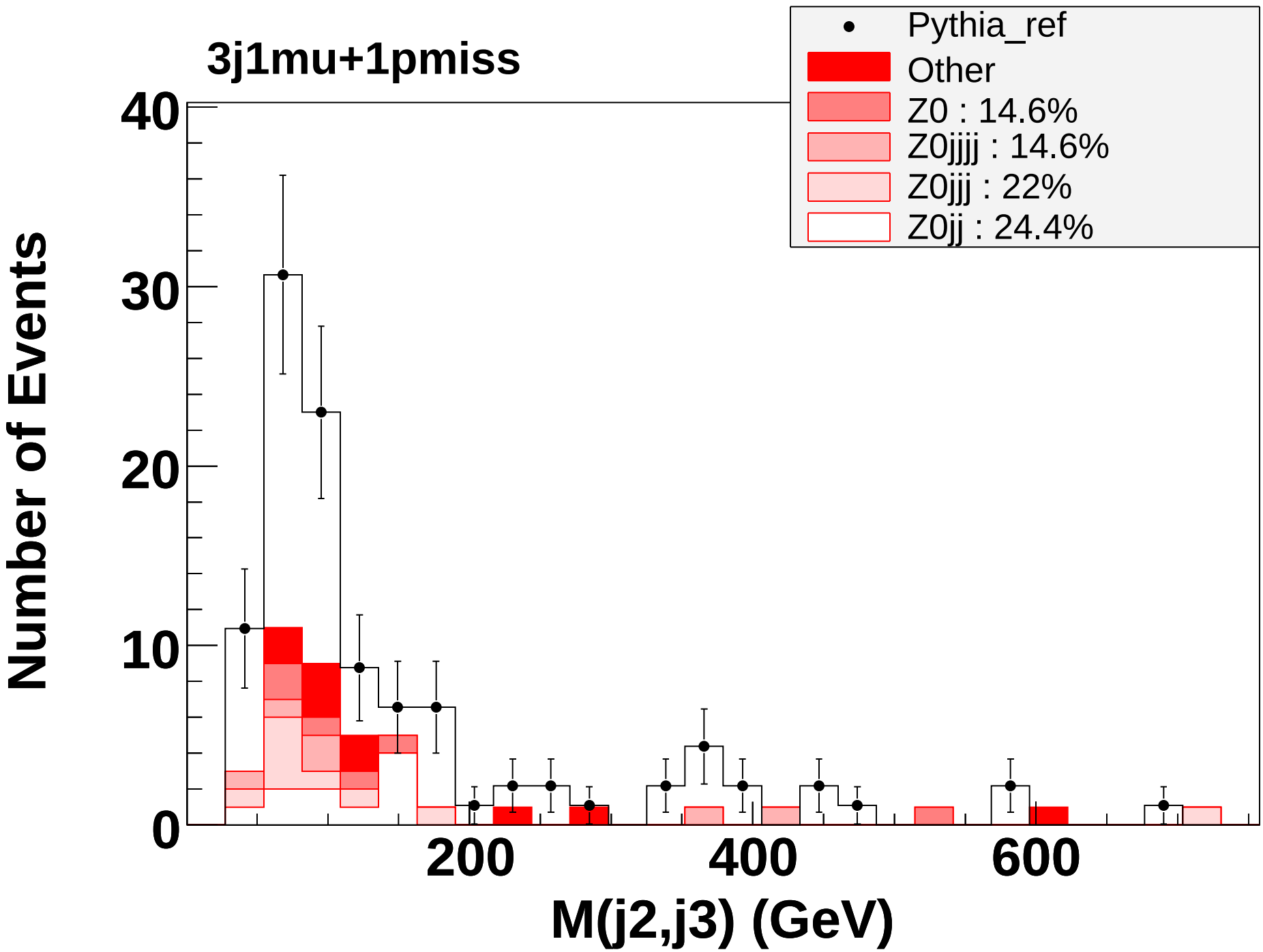

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
-4
-2
0
2
j2 eta

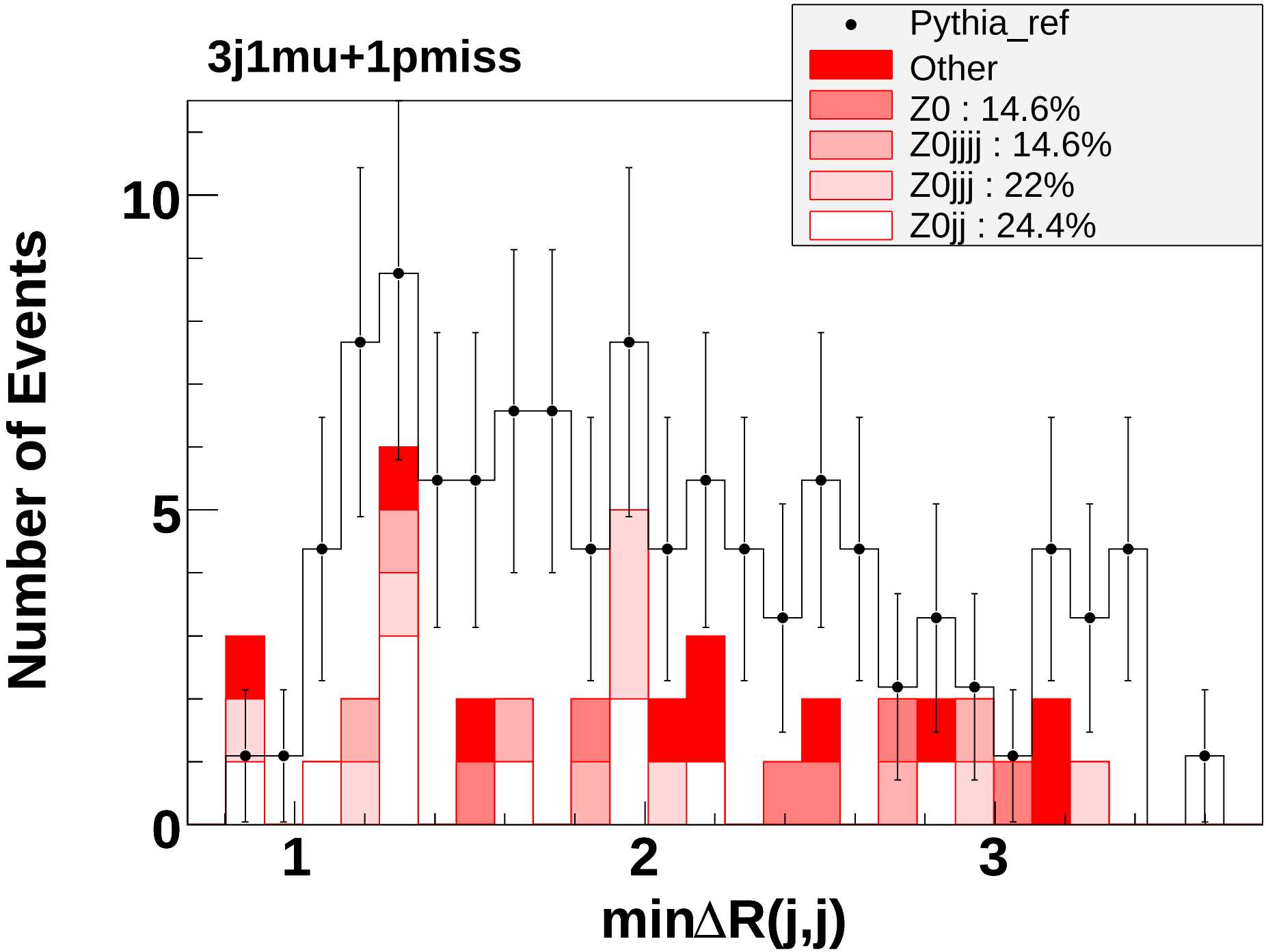

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
-4
-2
0
2
j2 detEta

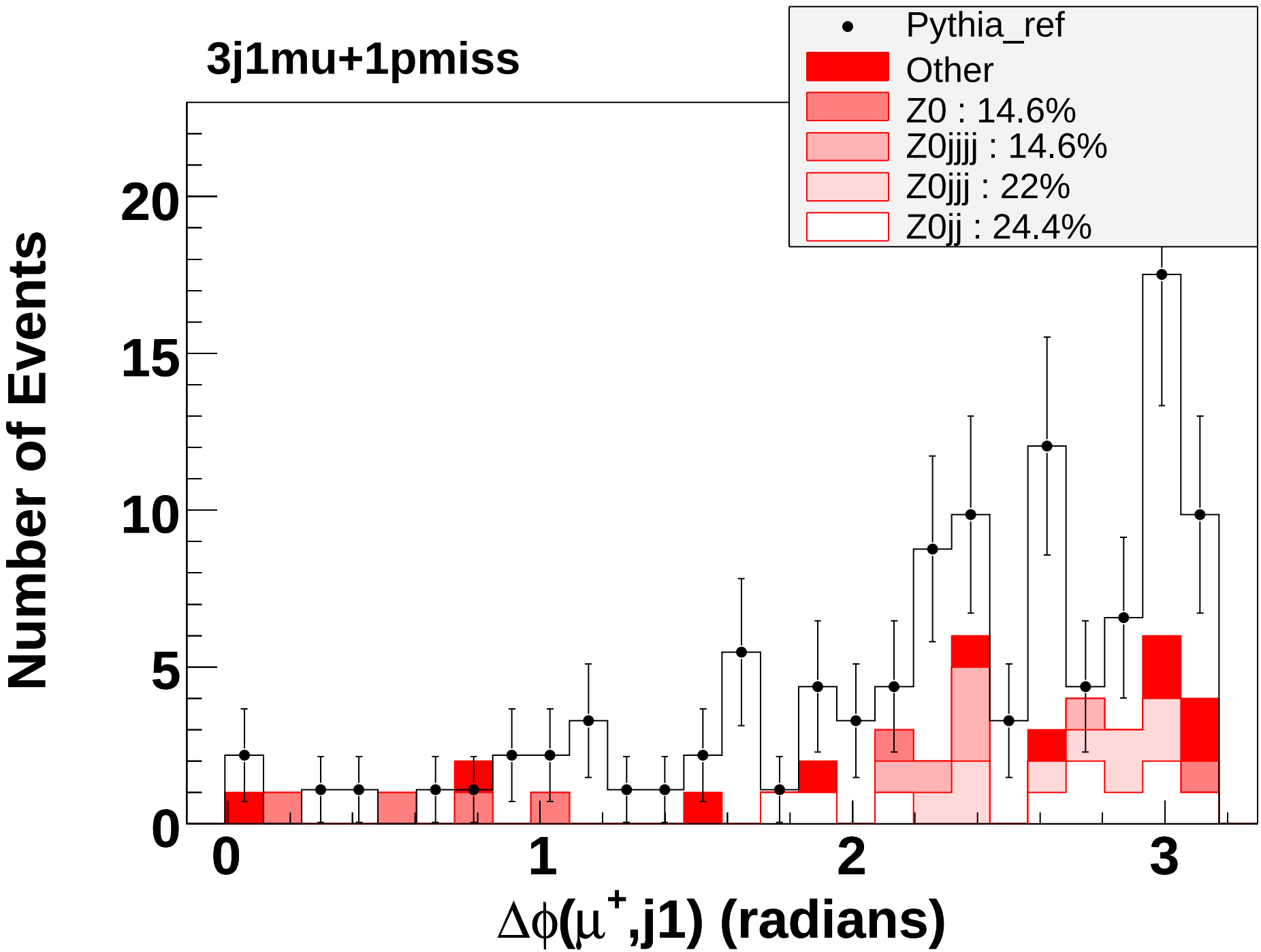

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
-2
0
2
j3 ϕ (radians)

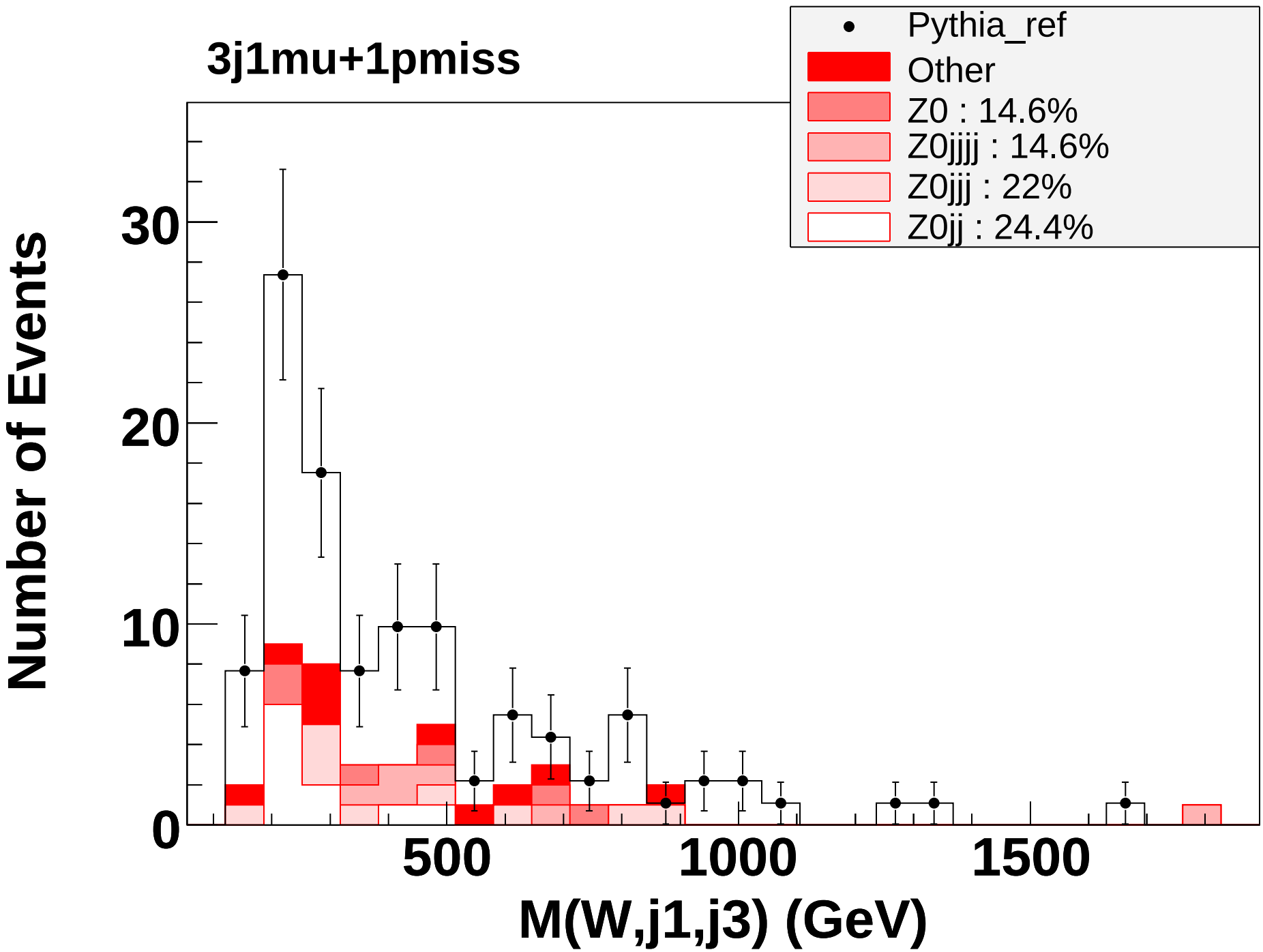

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
15
20
100
200
300
400
Mt(μ+,pmiss) (GeV)

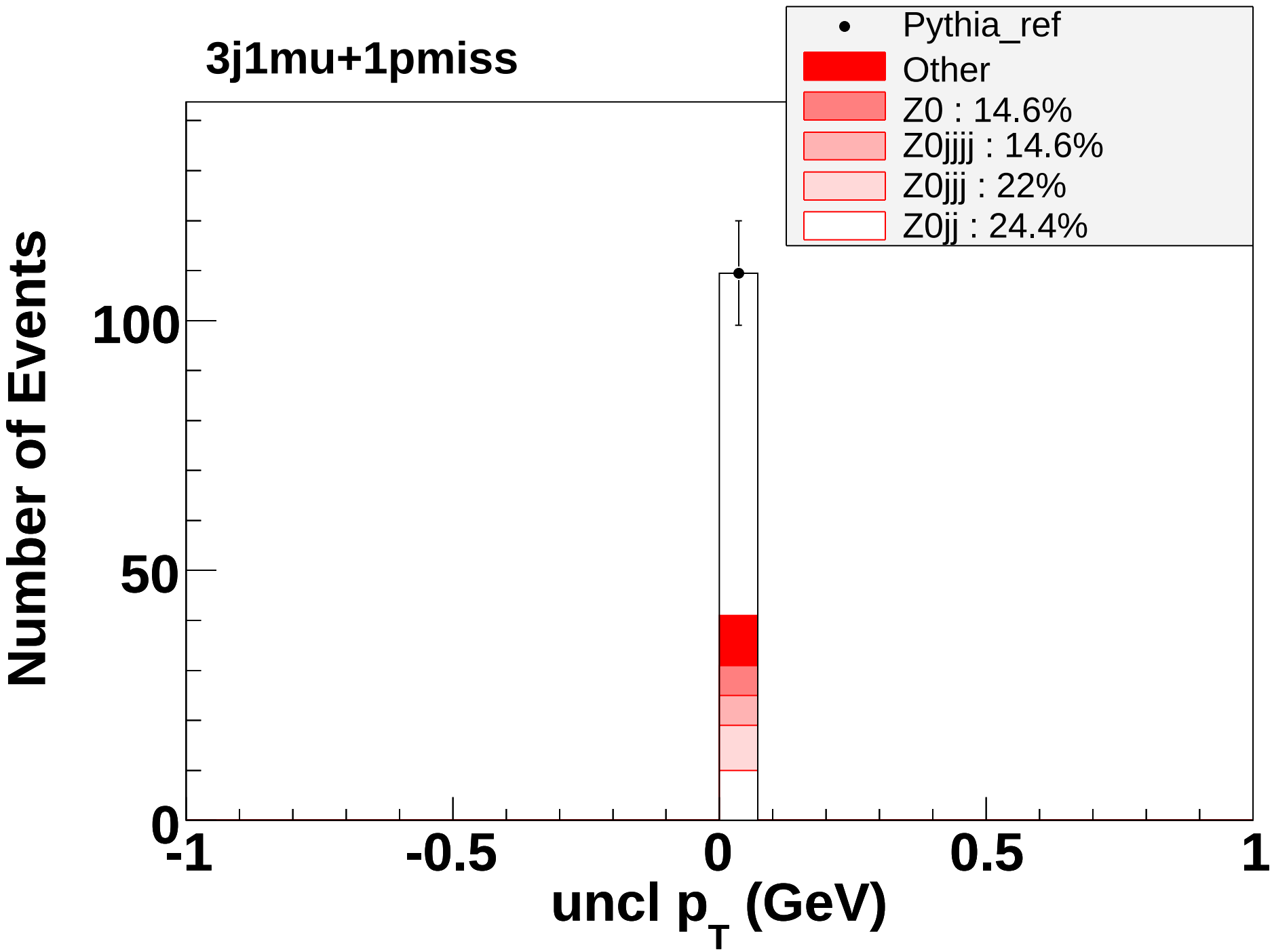

3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
10
20
30
500
1000
M(μ+,j1,j3) (GeV)


3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
10
20
30
40
200
400
600
M(j2,j3) (GeV)


3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
1
2
3
minΔR(j,j)


3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
5
10
15
20
0
1
2
3
Δφ(μ+,j1) (radians)


3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
10
20
30
500
1000
1500
M(W,j1,j3) (GeV)


3j1mu+1pmiss
Pythia_ref
Other
Z0 : 14.6%
Z0jjjj : 14.6%
Z0jjj : 22%
Z0jj : 24.4%
Number of Events
0
50
100
-1
-0.5
0
0.5
1
uncl p_T (GeV)