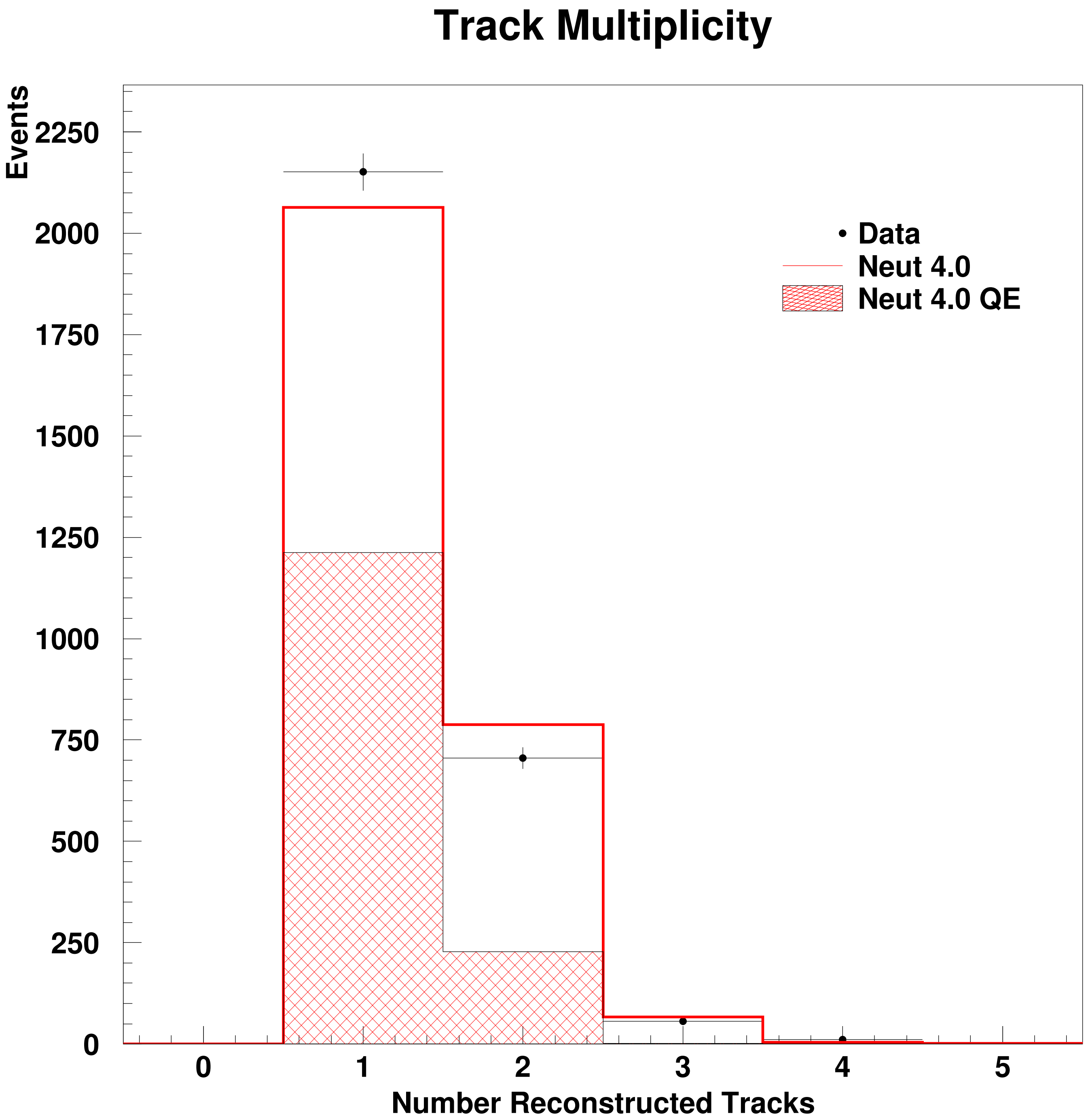
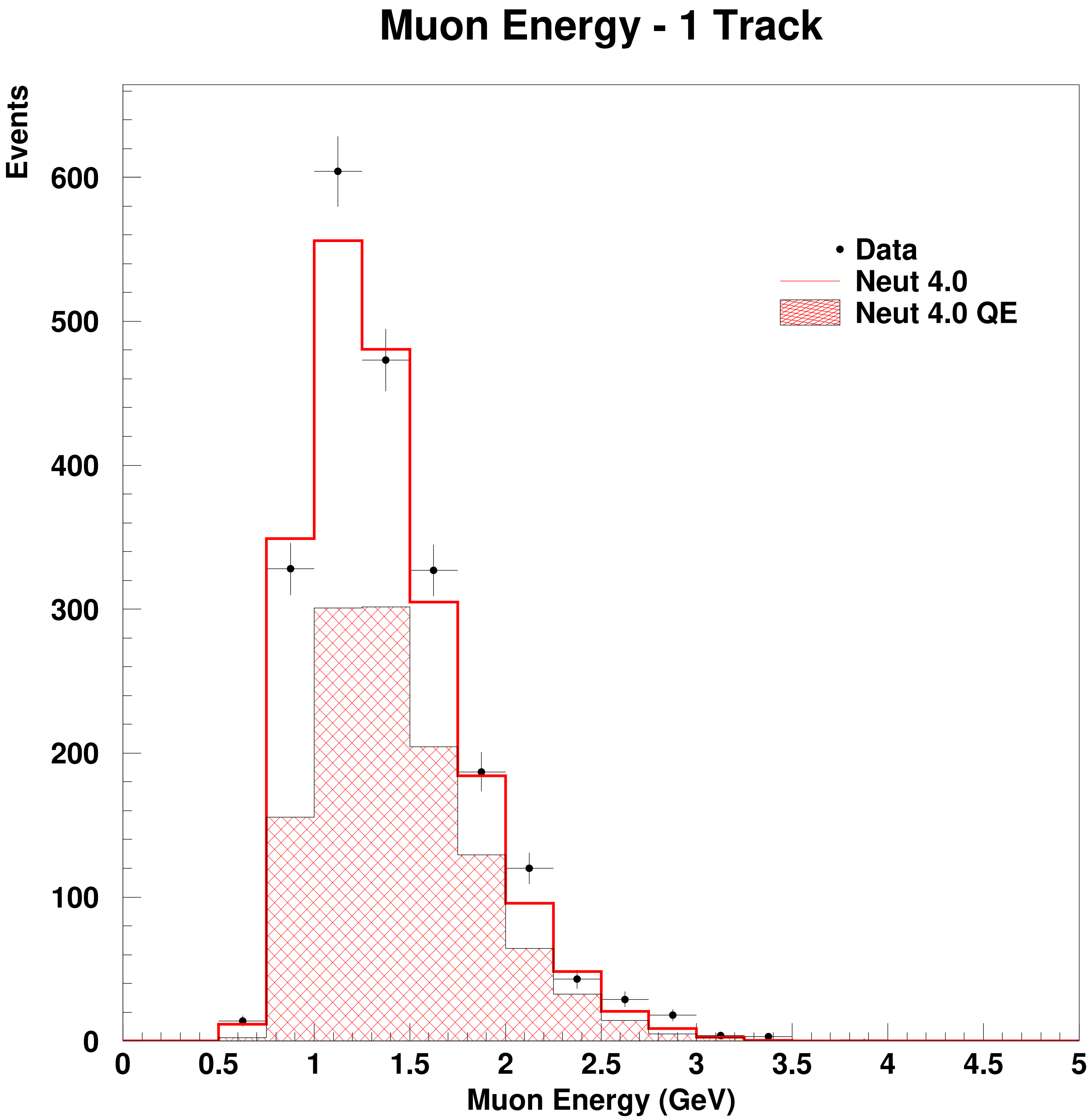
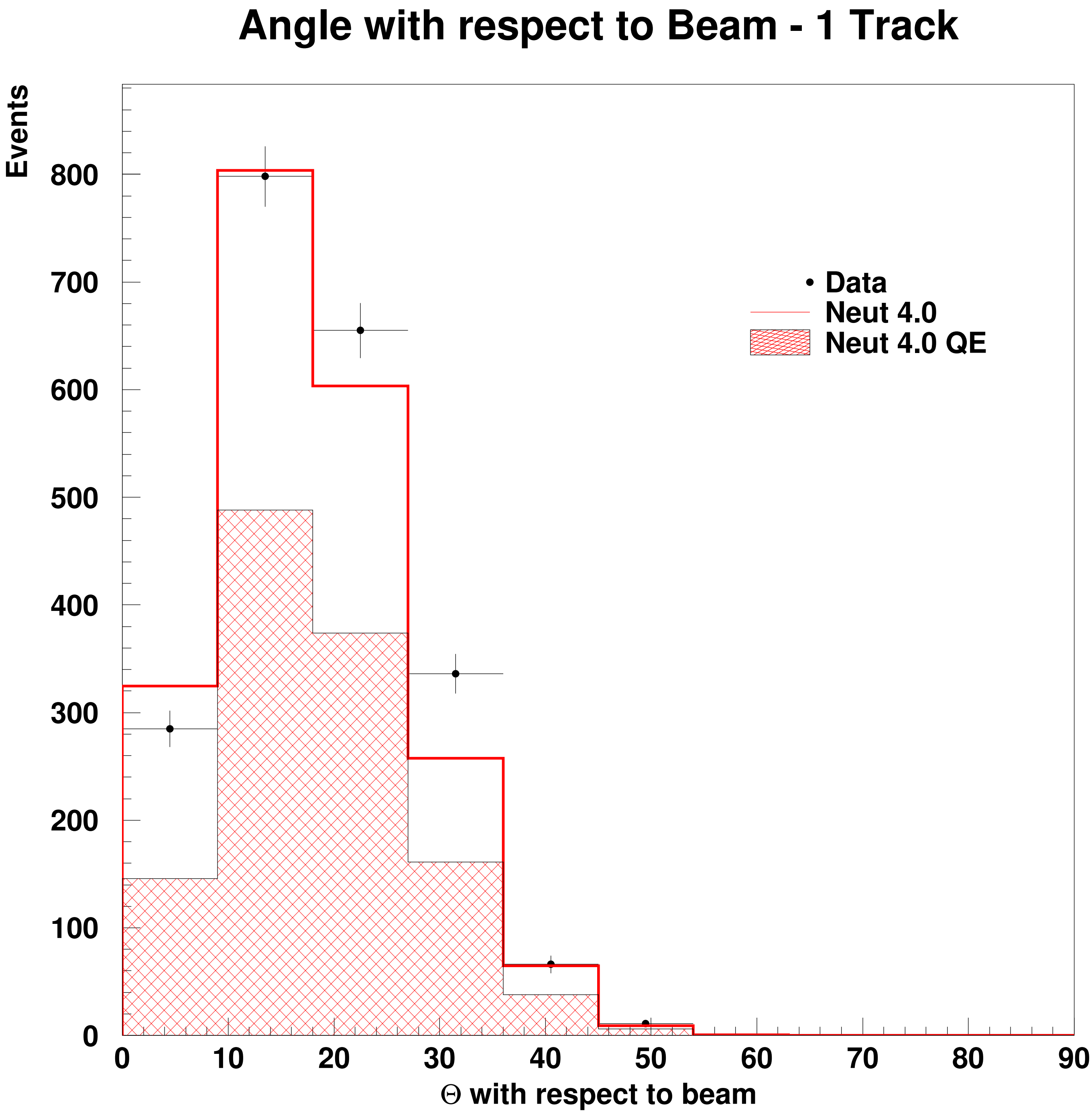


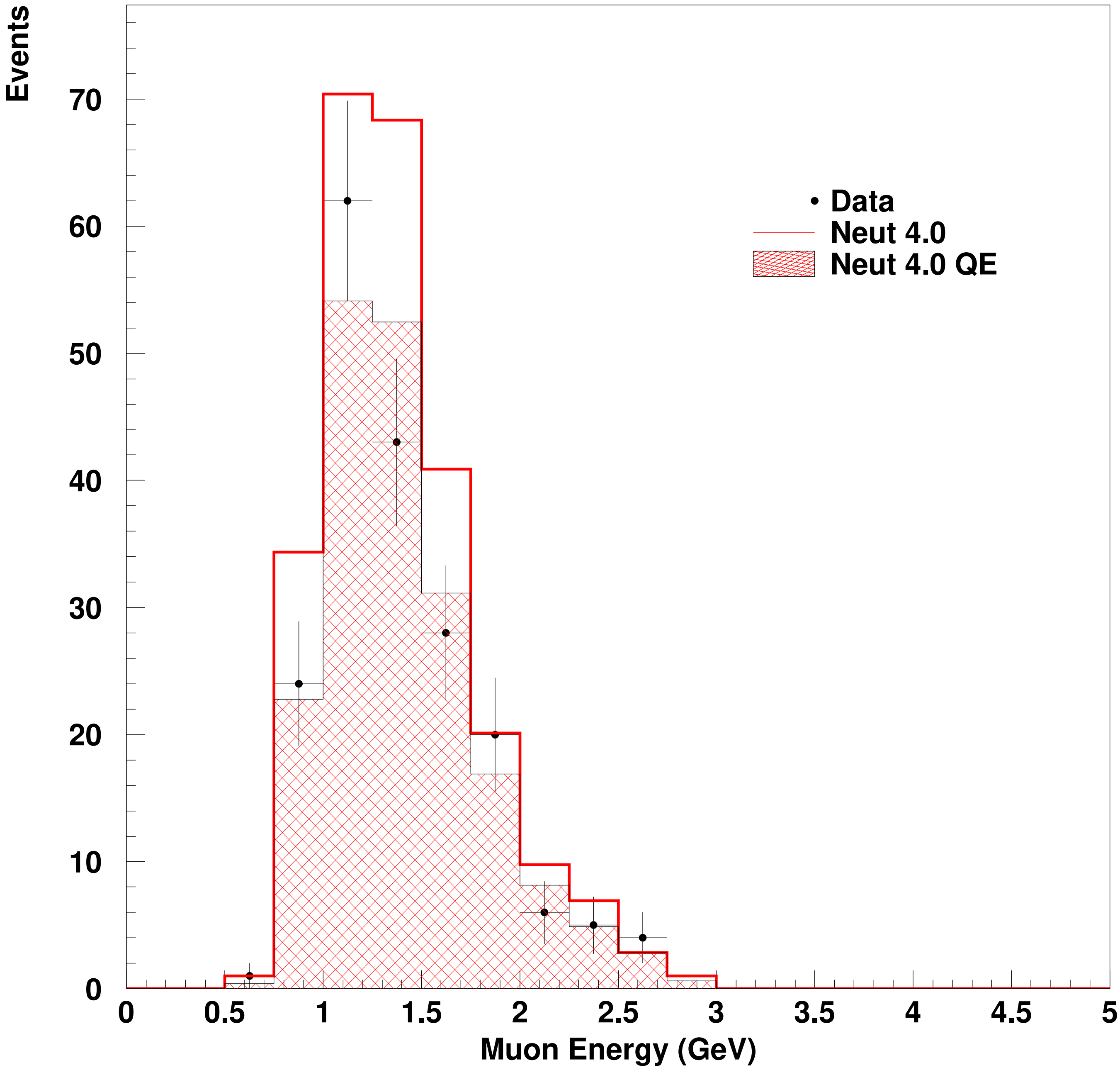
Track Multiplicity
Events
2250
2000
1750
1500
1250
1000
750
500
250
0
0
1
2
3
4
5
Number Reconstructed Tracks
Data
Neut 4.0
Neut 4.0 QE

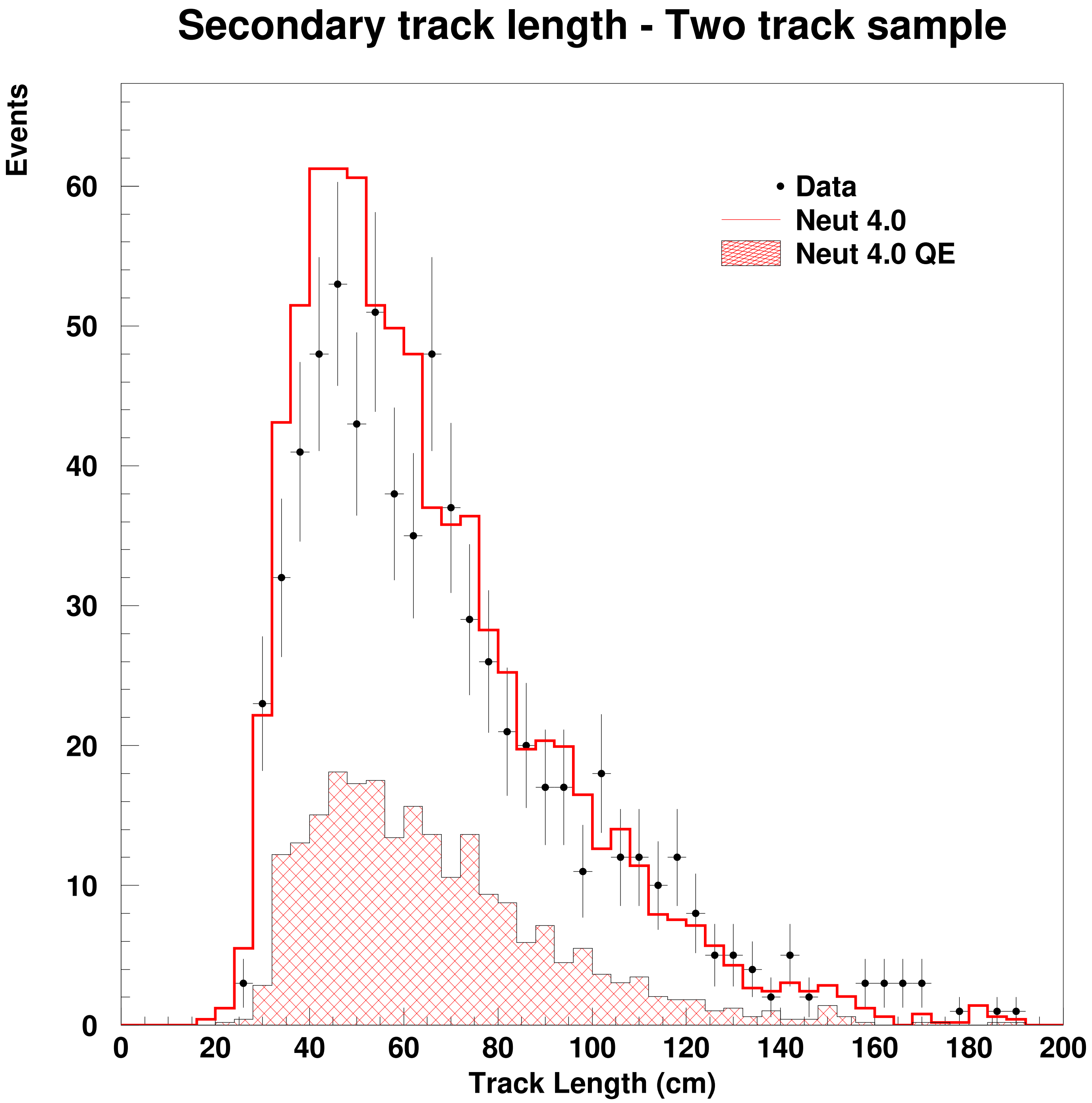

Muon Energy - 1 Track
Events
Data
Neut 4.0
Neut 4.0 QE
Muon Energy (GeV)
0
100
200
300
400
500
600
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5



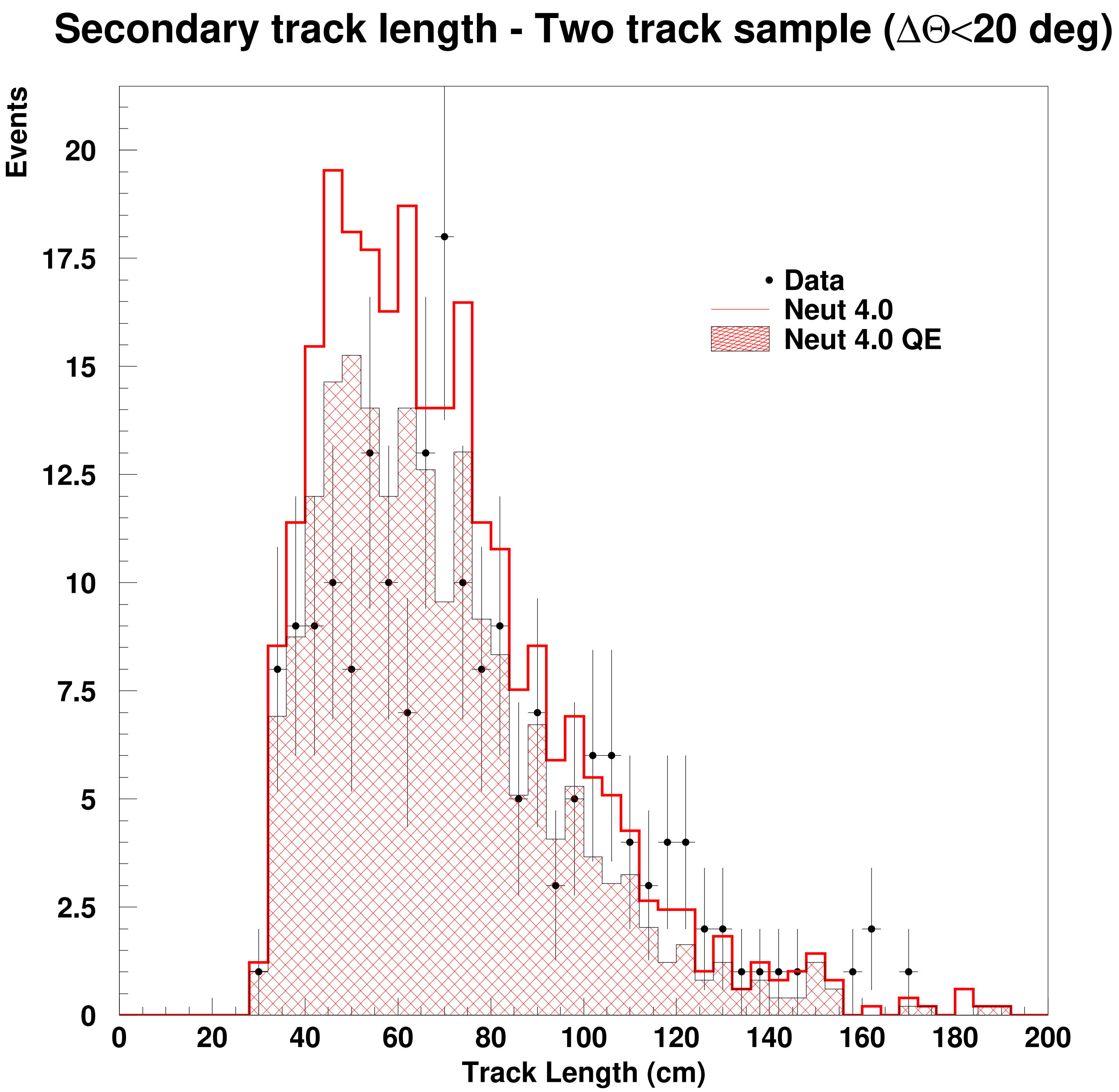
Angle with respect to Beam - 1 Track
Events
800
700
600
500
400
300
200
100
0
0
10
20
30
40
50
60
70
80
90
Θ with respect to beam
Data
Neut 4.0
Neut 4.0 QE

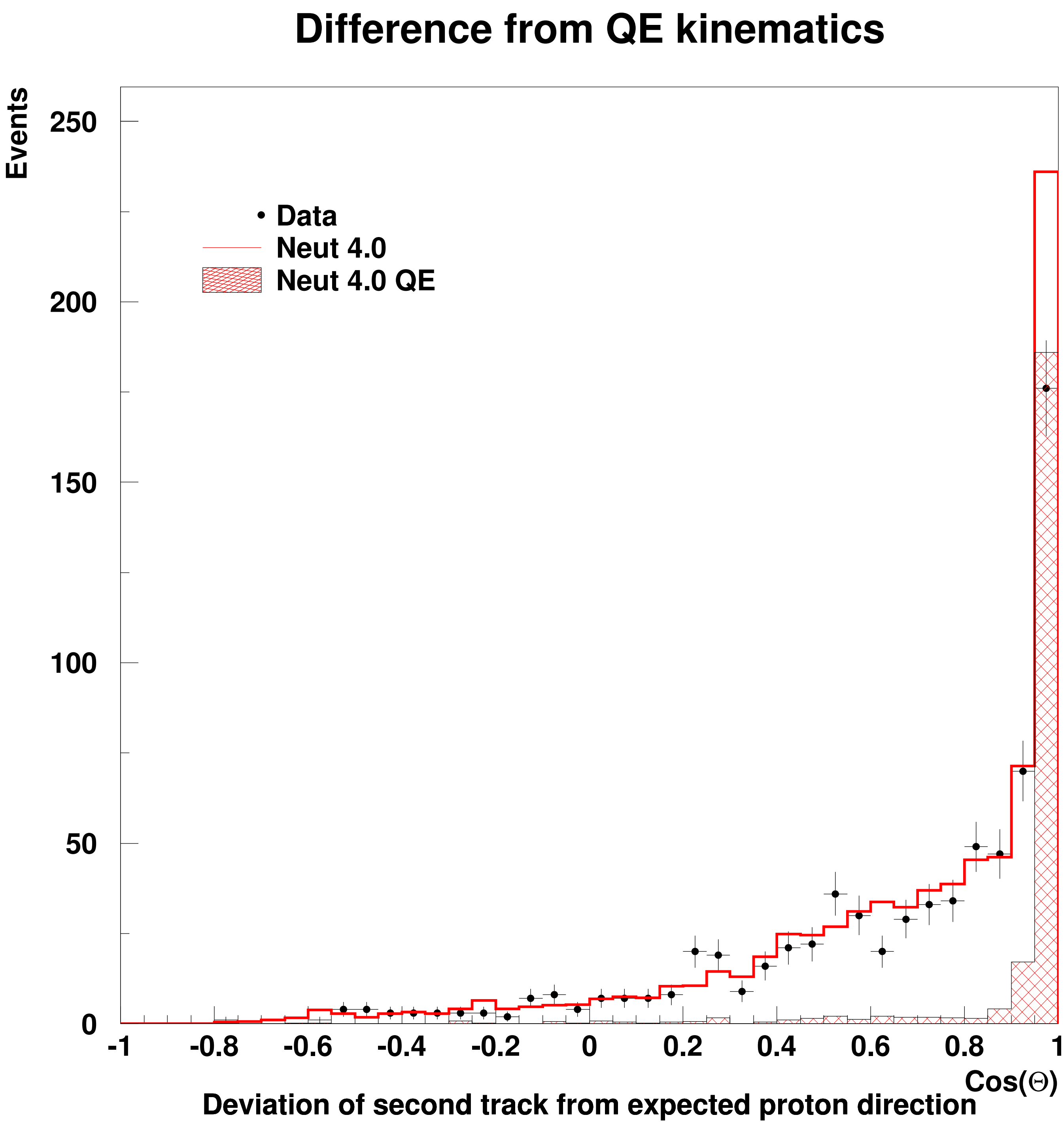
## Muon Energy - 2 Track sample

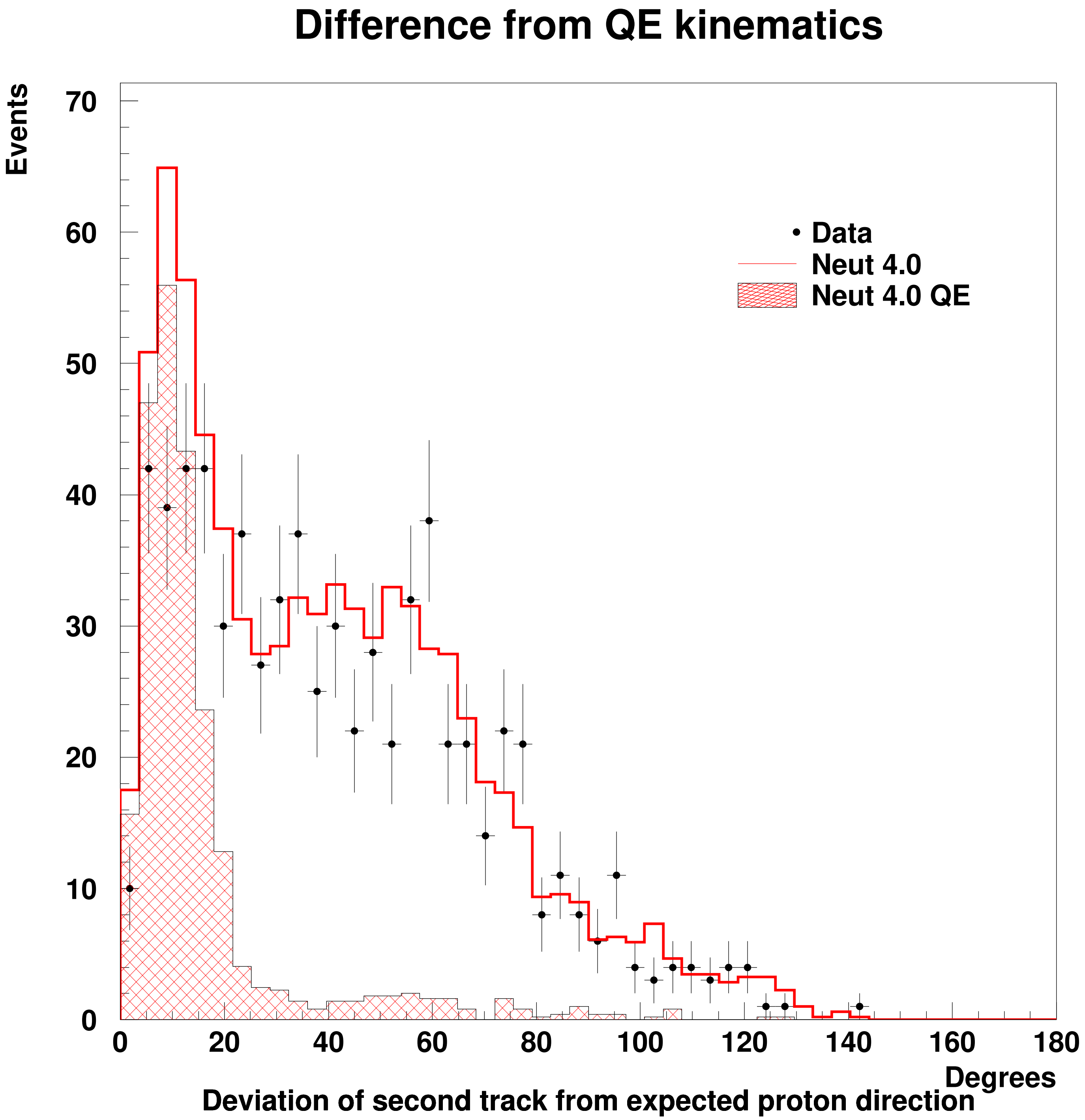


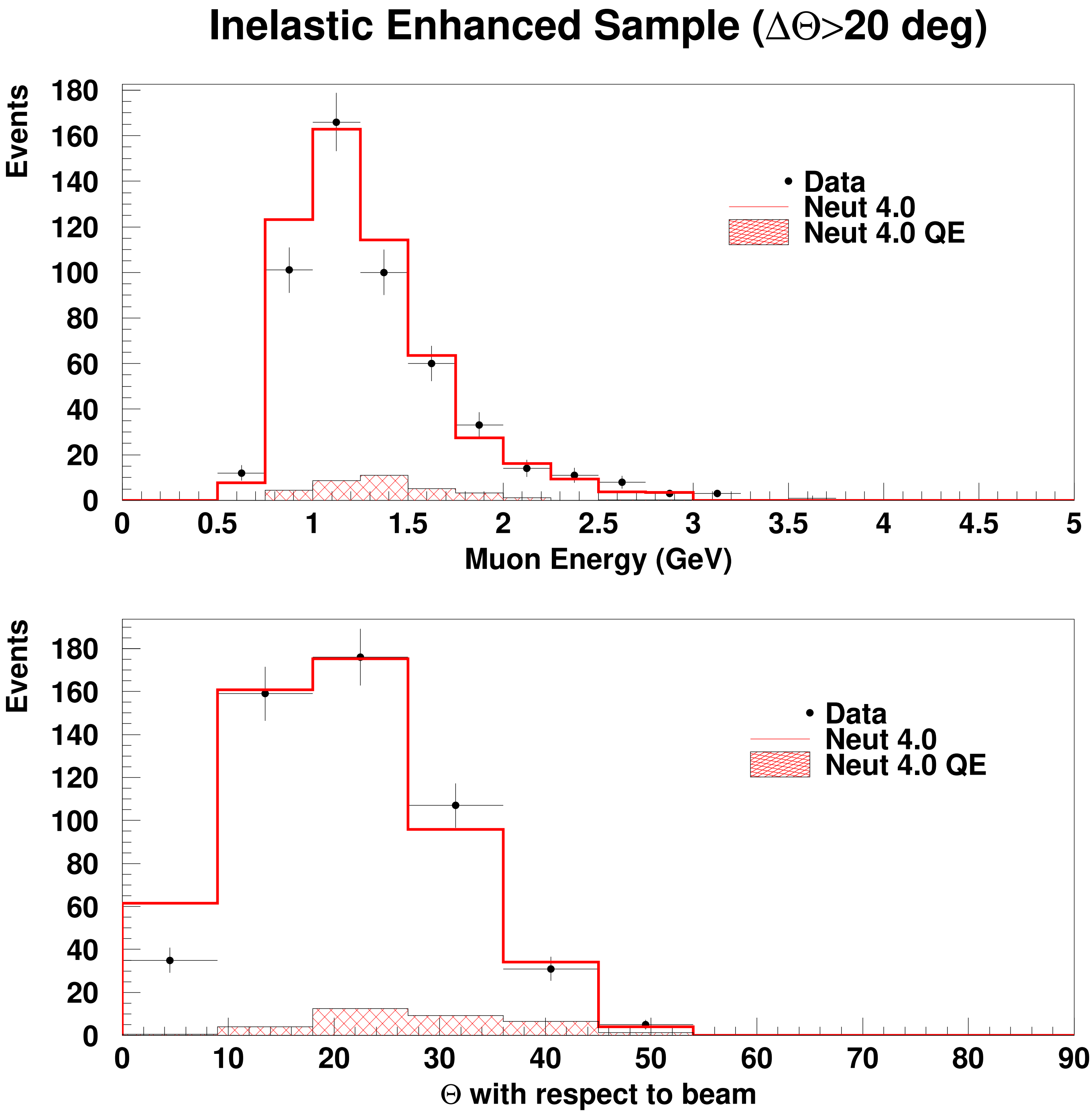


Secondary track length - Two track sample
Events
Data
Neut 4.0
Neut 4.0 QE
0
10
20
30
40
50
60
0
20
40
60
80
100
120
140
160
180
200
Track Length (cm)


Secondary track length - Two track sample (ΔΘ<20 deg)
Events
Track Length (cm)
Data
Neut 4.0
Neut 4.0 QE
0
2.5
5
7.5
10
12.5
15
17.5
20
0
20
40
60
80
100
120
140
160
180
200


Difference from QE kinematics
Events
250
200
150
100
50
0
Data
Neut 4.0
Neut 4.0 QE
-1
-0.8
-0.6
-0.4
-0.2
0
0.2
0.4
0.6
0.8
1
Cos(Θ)
Deviation of second track from expected proton direction


Difference from QE kinematics
Events
70
60
50
40
30
20
10
0
Data
Neut 4.0
Neut 4.0 QE
0
20
40
60
80
100
120
140
160
180
Degrees
Deviation of second track from expected proton direction



Inelastic Enhanced Sample (ΔΘ>20 deg)
Events
Data
Neut 4.0
Neut 4.0 QE
Muon Energy (GeV)
Events
Data
Neut 4.0
Neut 4.0 QE
Θ with respect to beam