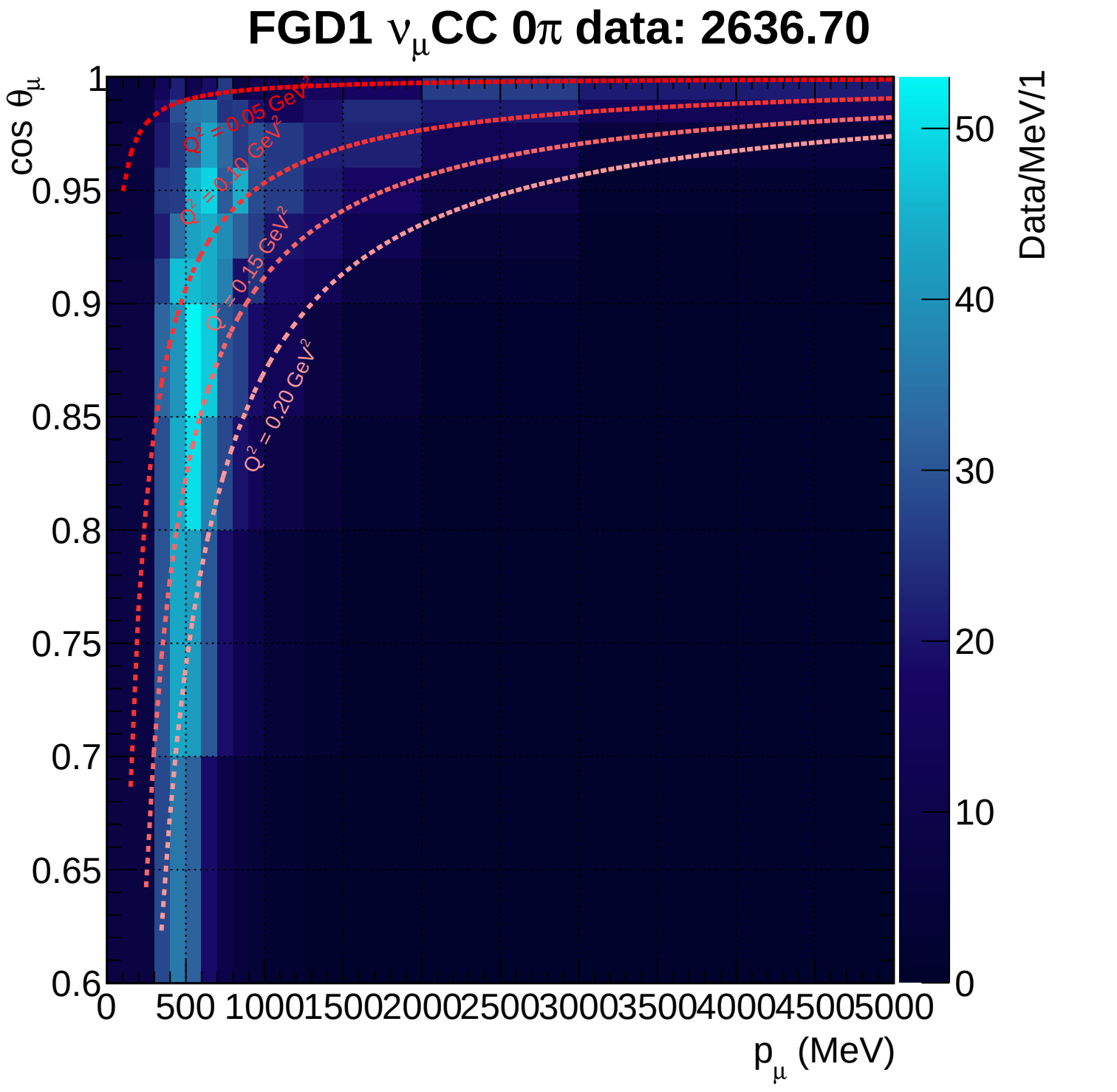
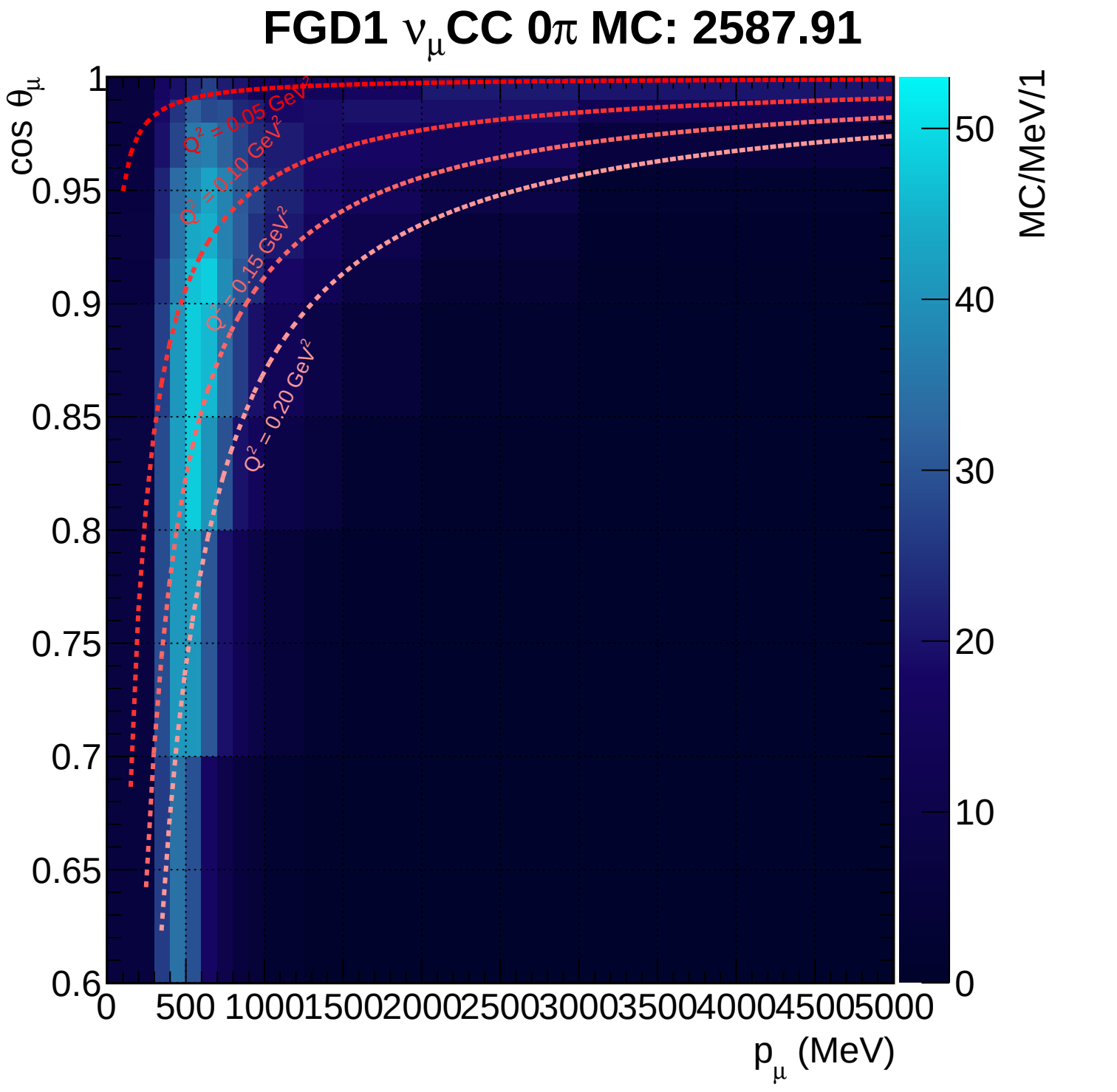
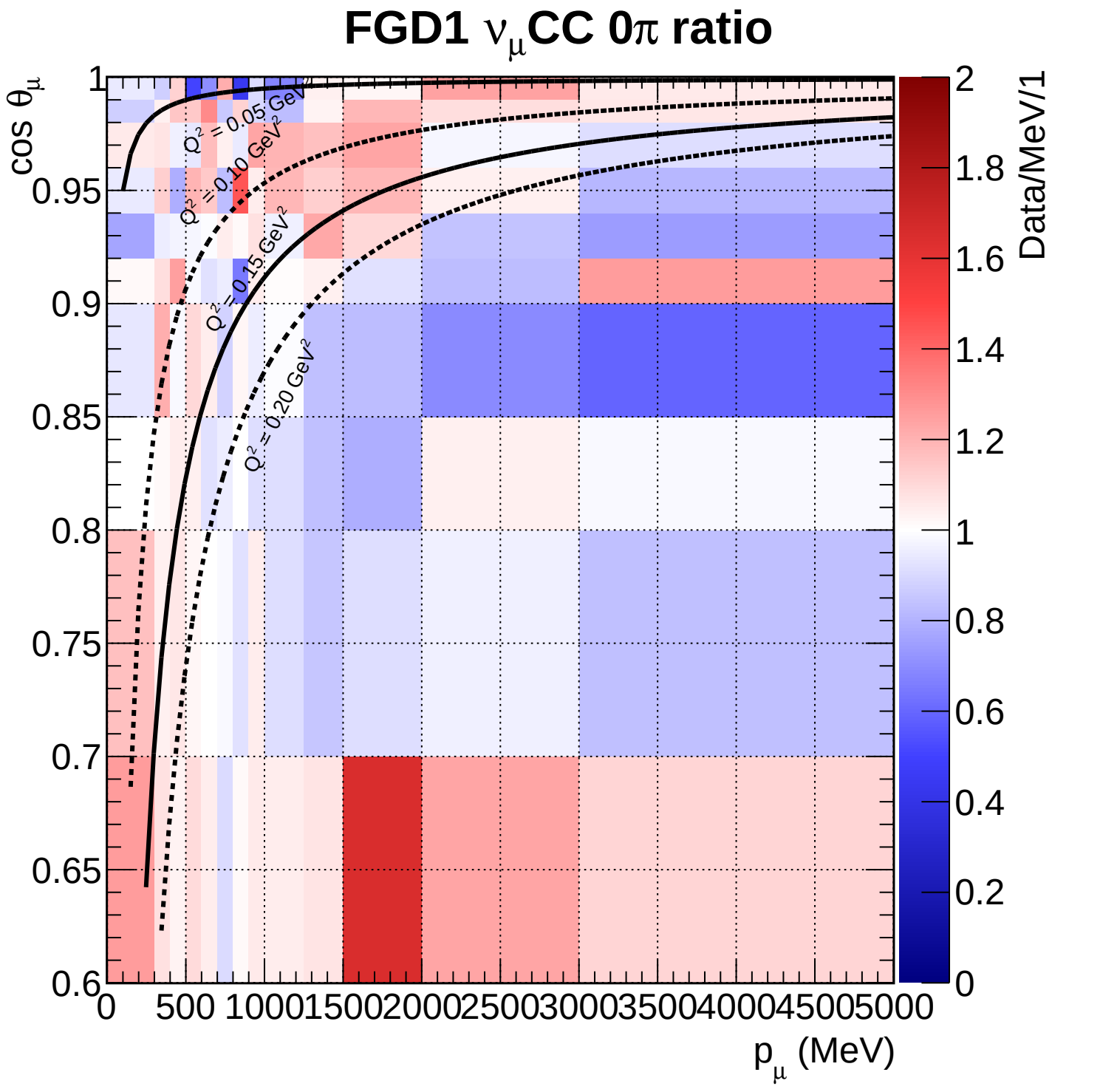
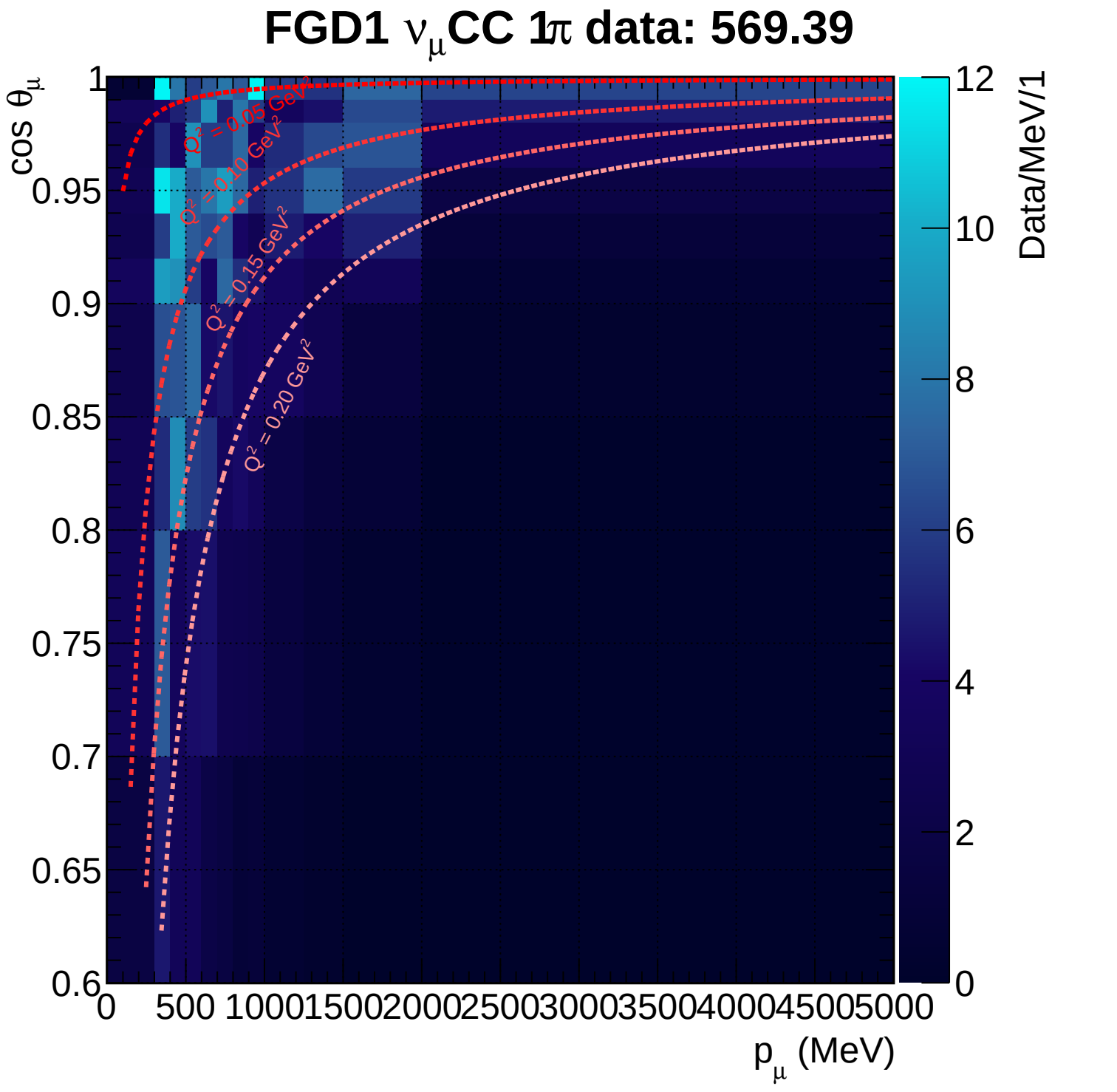
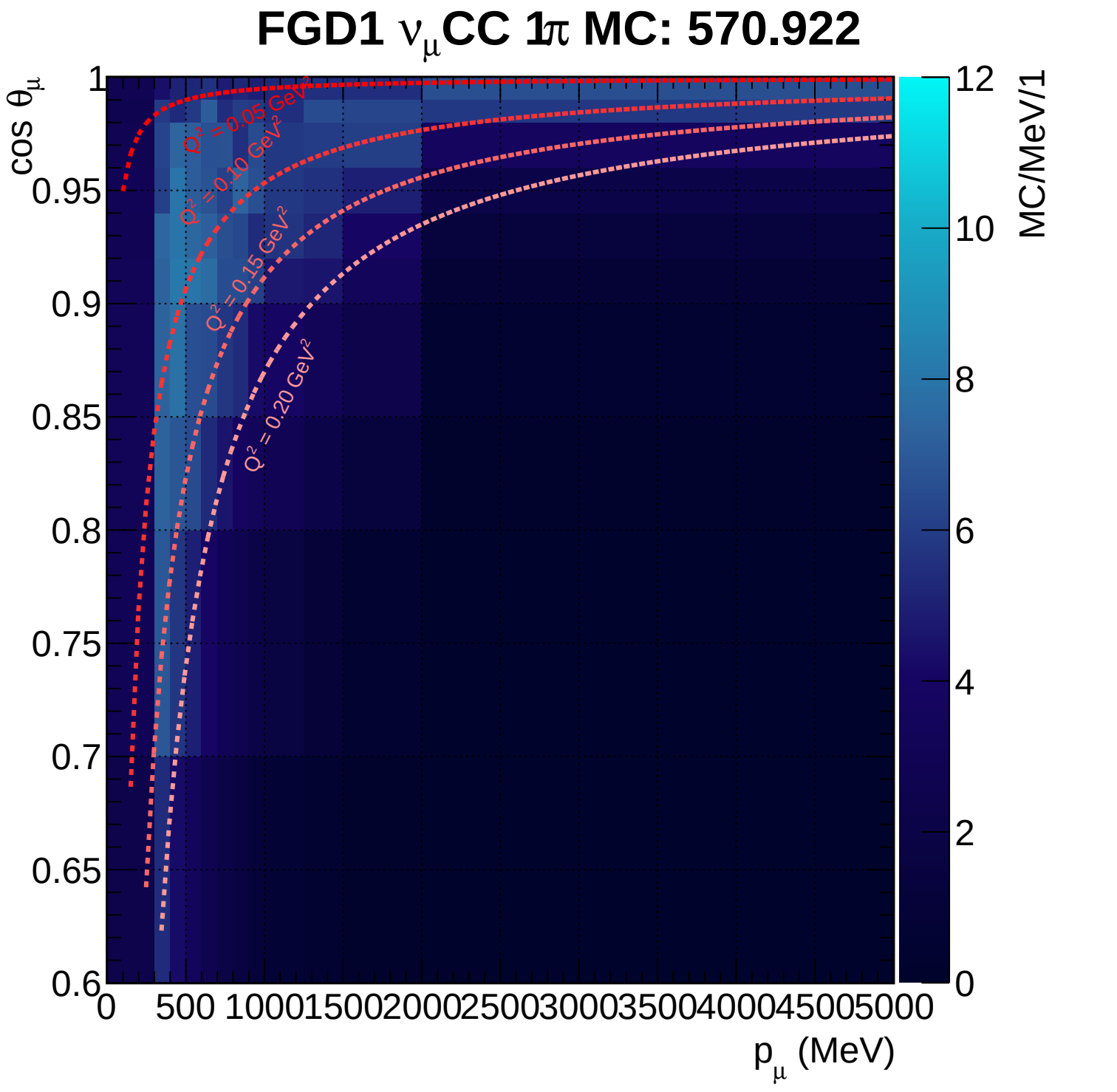
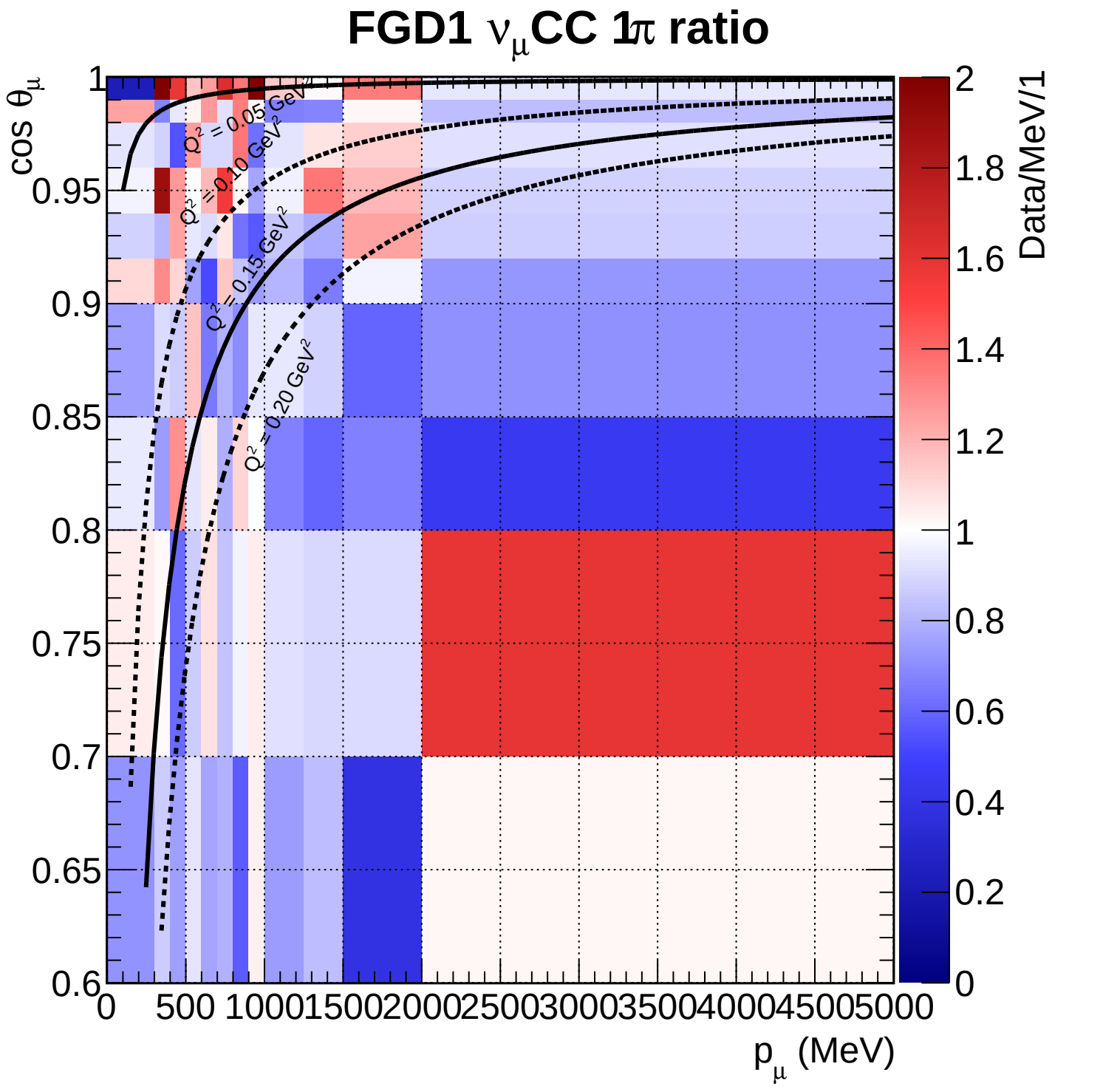

FGD1 ν_μCC 0π data: 2636.70
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
p_μ (MeV)
Data/MeV/1
50
40
30
20
10
0

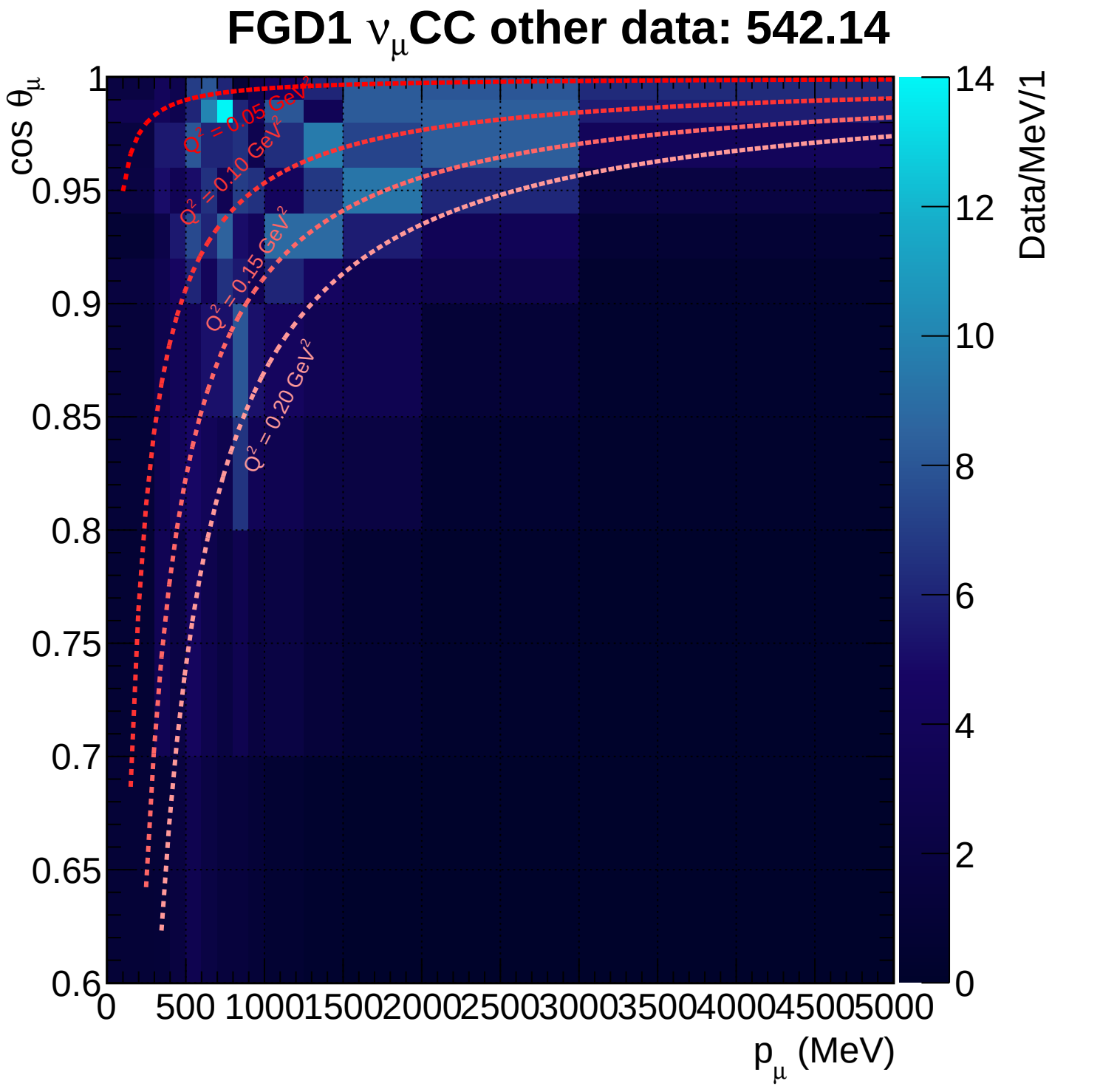

FGD1 νμCC 0π MC: 2587.91
cos θμ
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
pμ (MeV)
MC/MeV/1
50
40
30
20
10
0
Q² = 0.05 GeV²
Q² = 0.10 GeV²
Q² = 0.15 GeV²
Q² = 0.20 GeV²

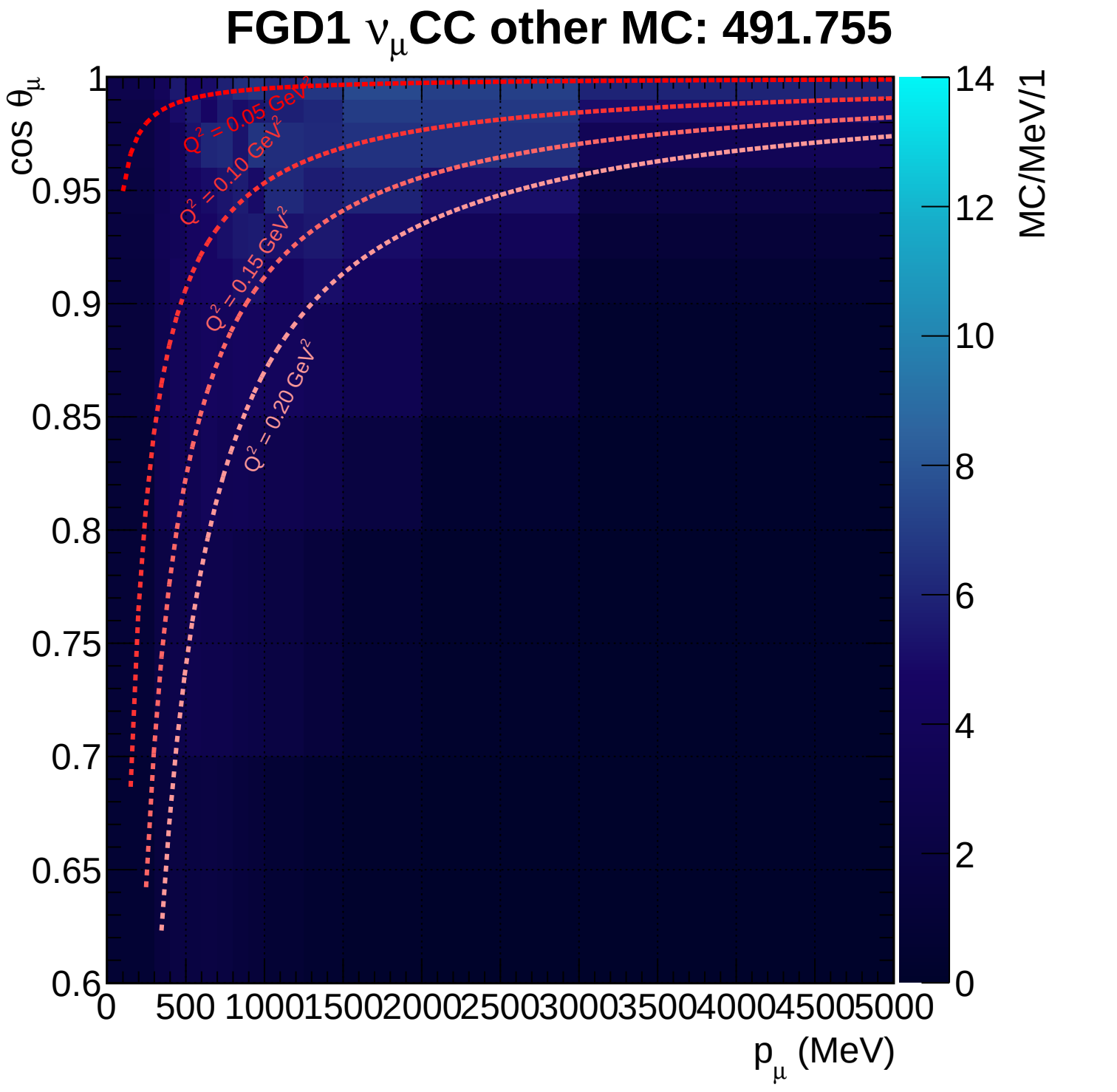

FGD1 ν_μCC 0π ratio
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
p_μ (MeV)
Data/MeV/1
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0

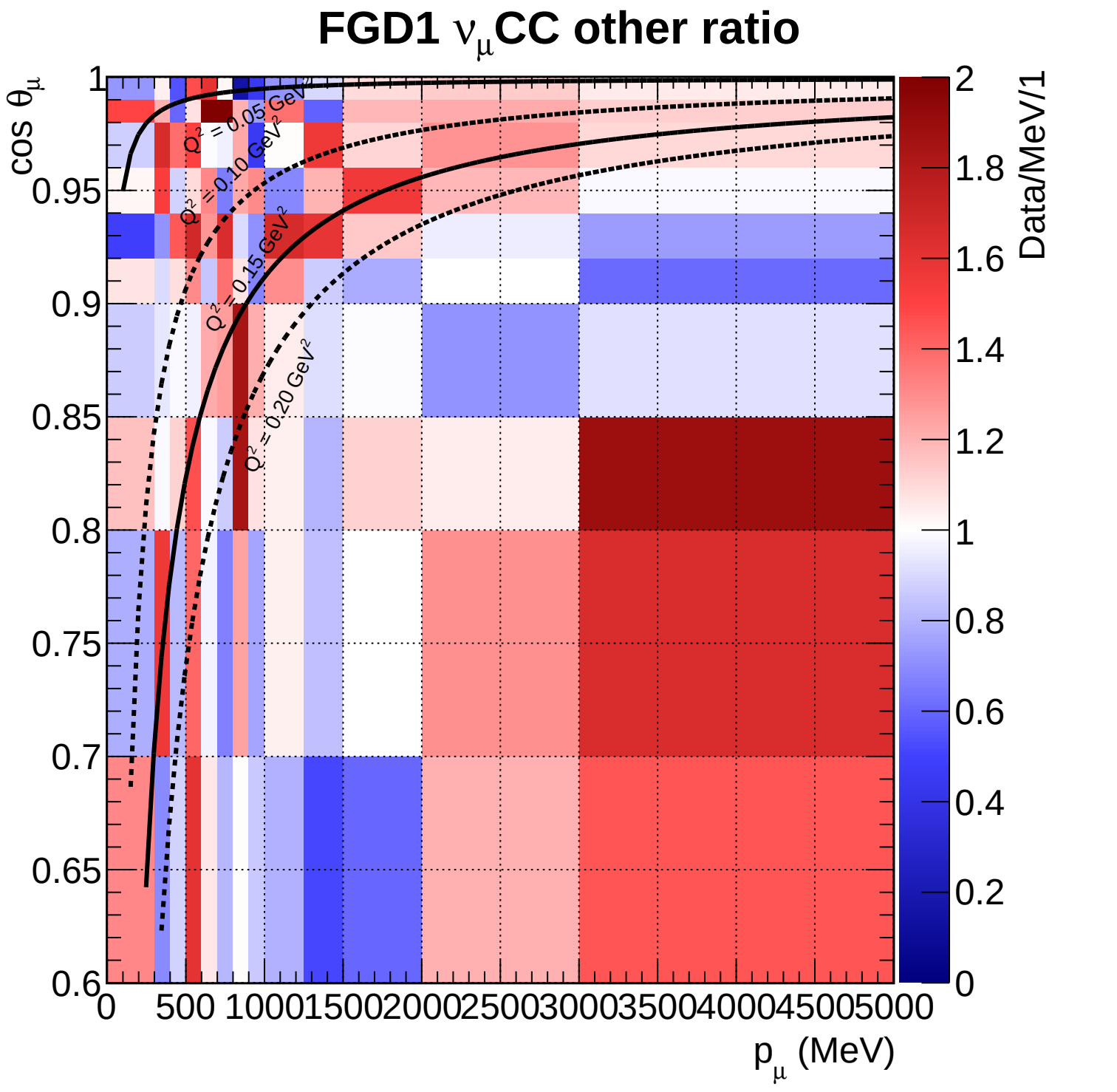

FGD1 ν_μCC 1π data: 569.39
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
p_μ (MeV)
Data/MeV/1
12
10
8
6
4
2
0

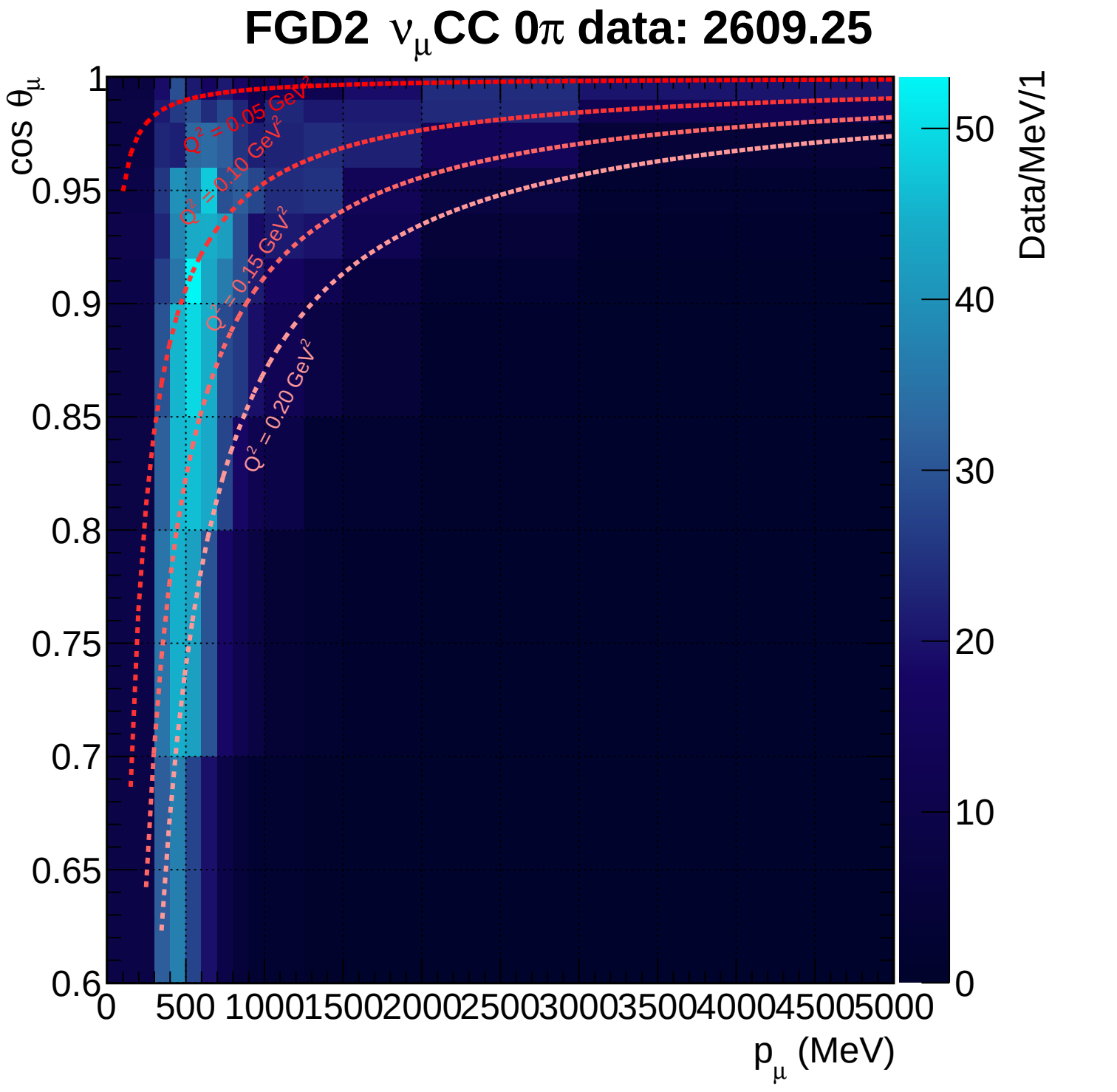

FGD1 ν_μCC 1π MC: 570.922
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
p_μ (MeV)
MC/MeV/1
12
10
8
6
4
2
0

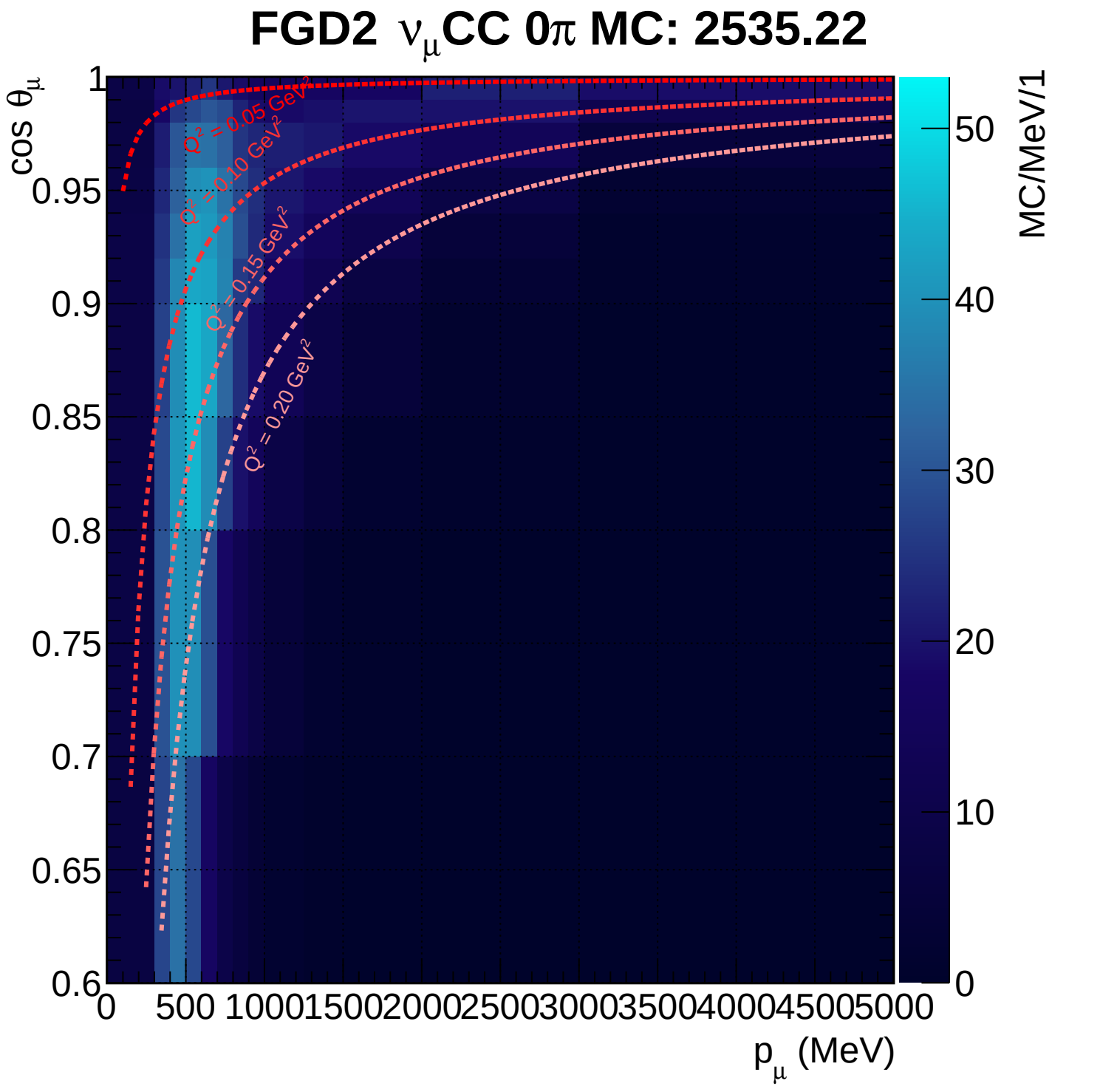

FGD1 ν_μCC 1π ratio
cos θ_μ
p_μ (MeV)
Data/MeV/1
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0

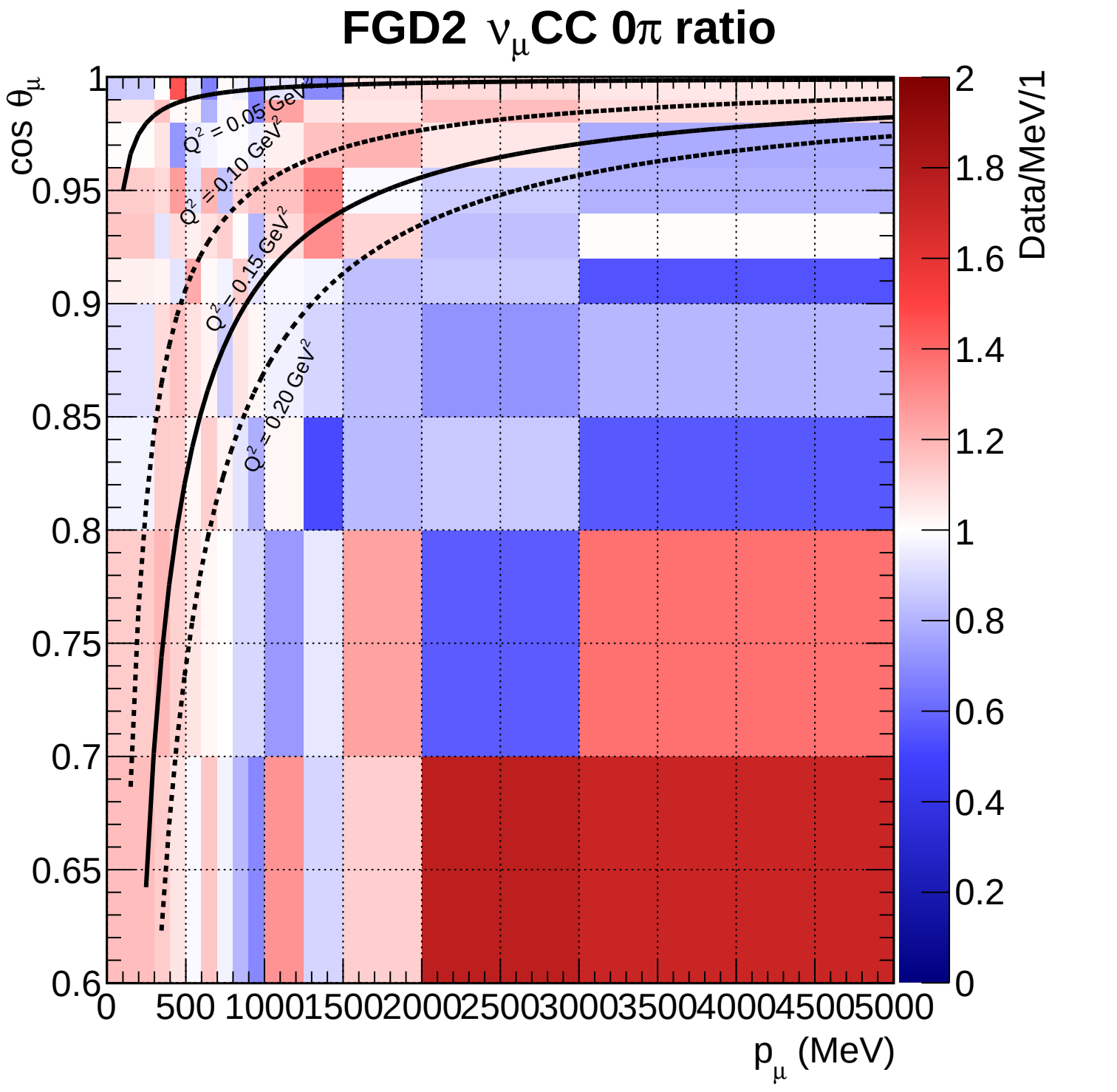

FGD1 ν_μCC other data: 542.14
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
p_μ (MeV)
Data/MeV/1
14
12
10
8
6
4
2
0

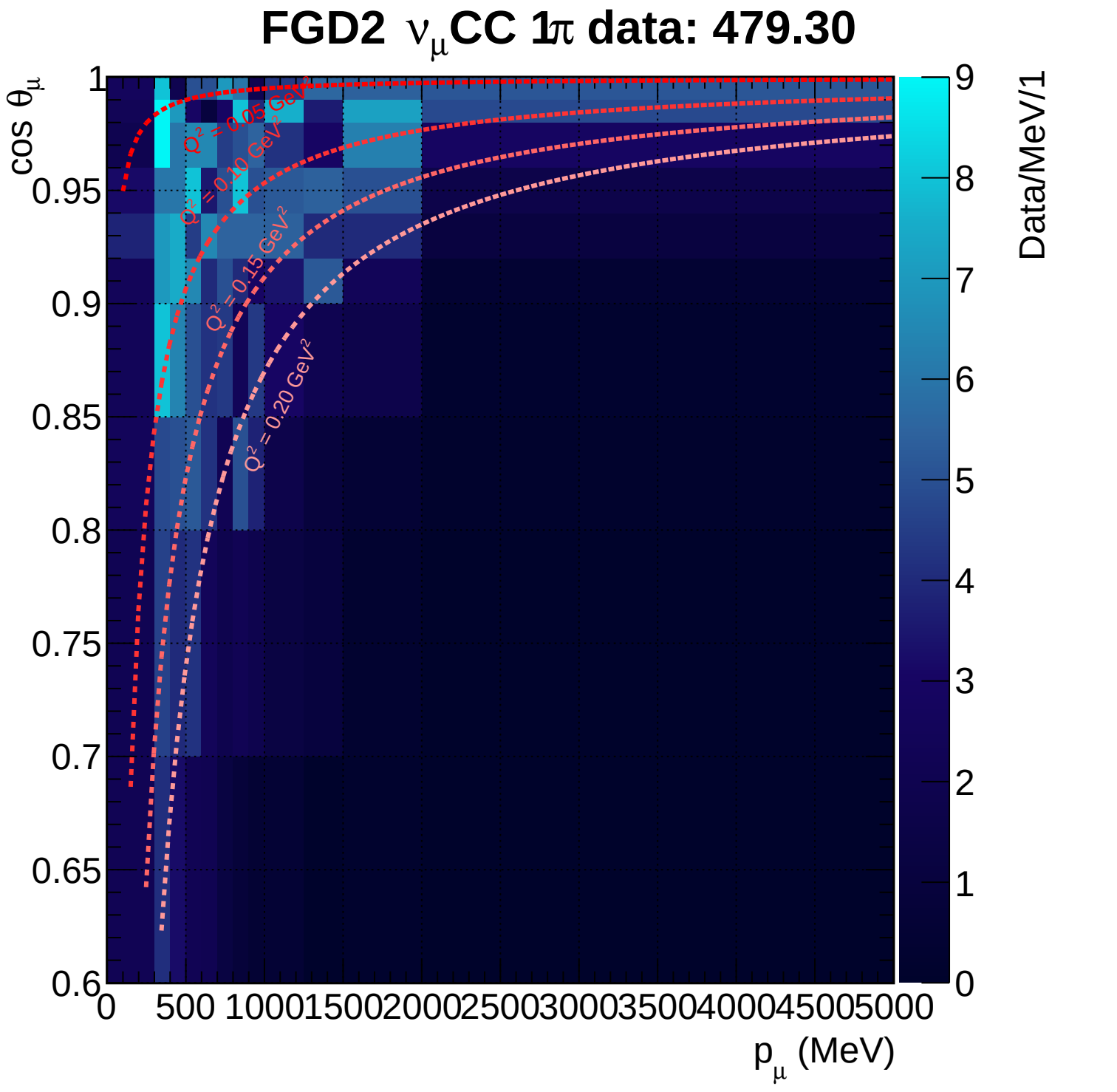

FGD1 ν_μCC other MC: 491.755
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
p_μ (MeV)
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
MC/MeV/1
14
12
10
8
6
4
2
0

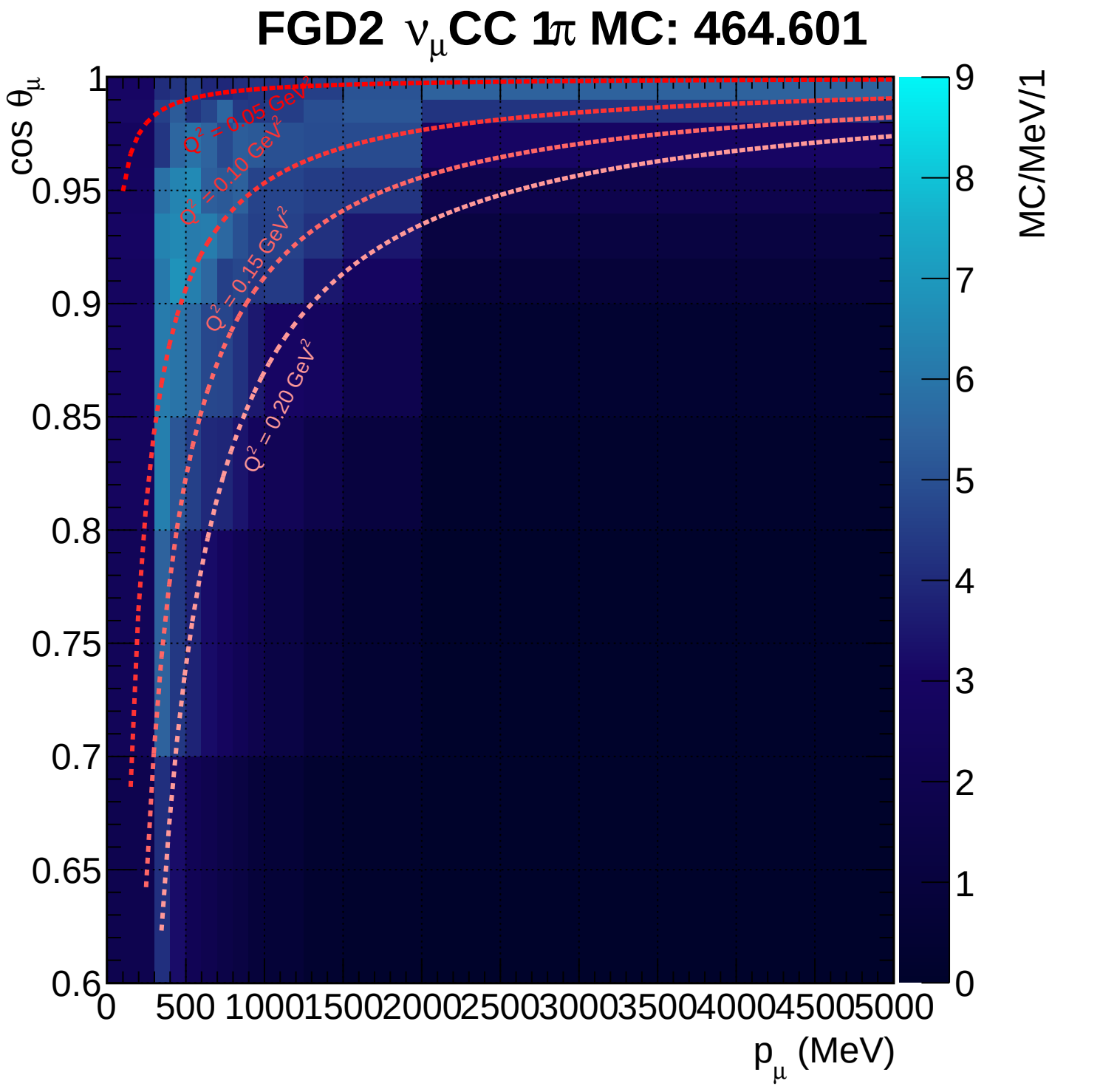

FGD1 ν_μCC other ratio
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
p_μ (MeV)
Data/MeV/1
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0

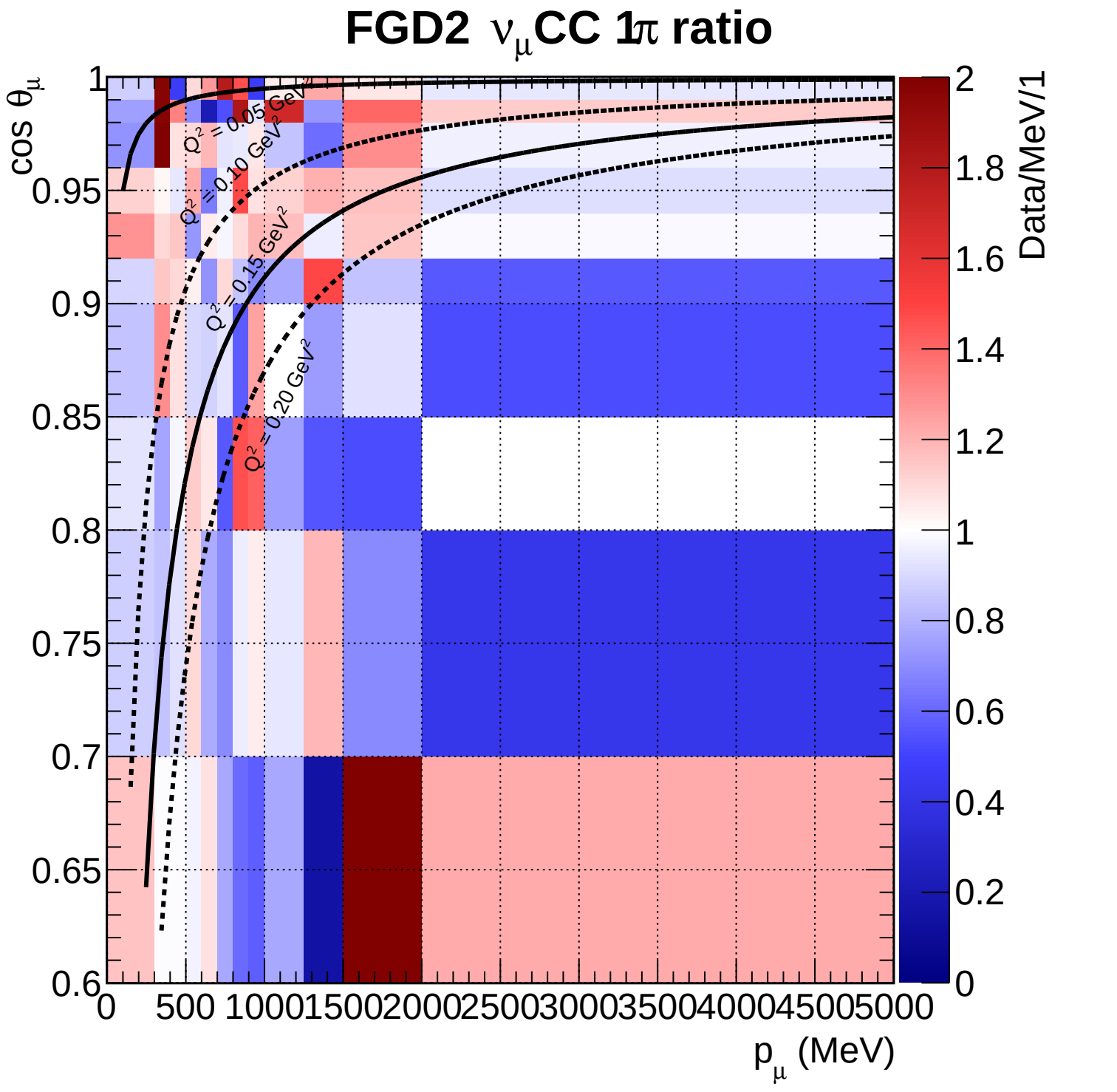

FGD2 ν_μCC 0π data: 2609.25
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
p_μ (MeV)
Data/MeV/1
50
40
30
20
10
0

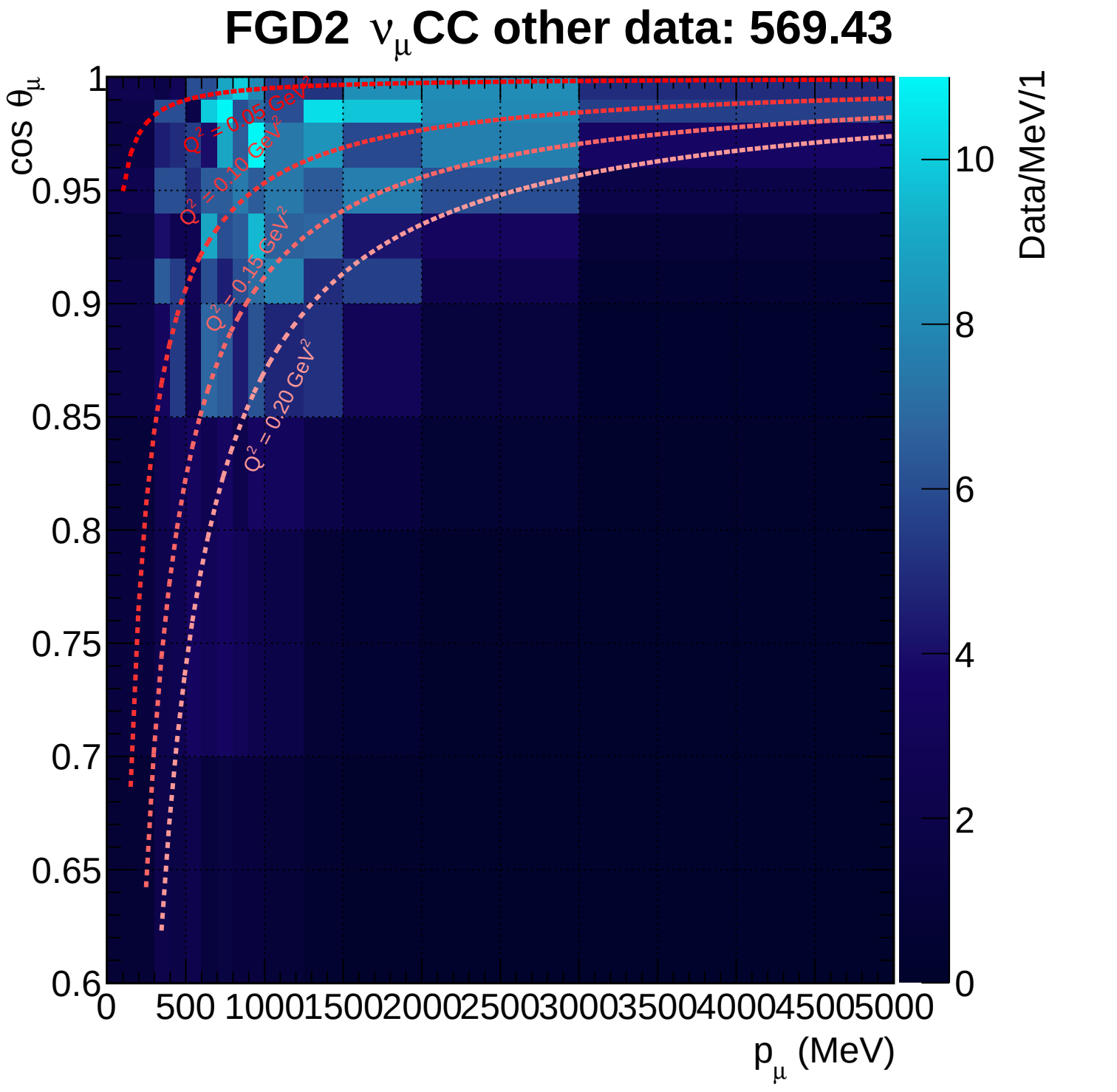

FGD2 ν_μCC 0π MC: 2535.22
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
p_μ (MeV)
MC/MeV/1
50
40
30
20
10
0

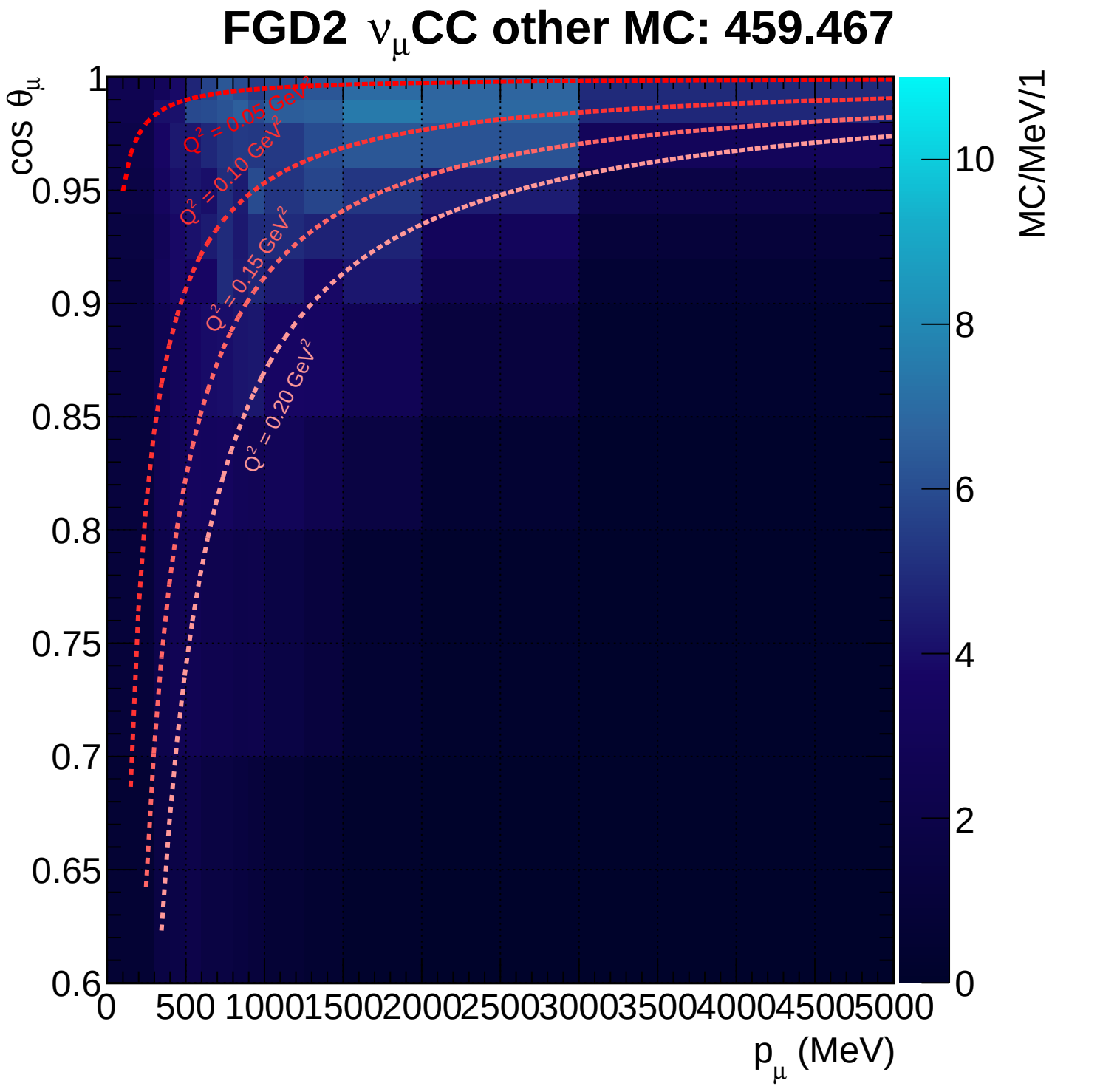

FGD2 ν_μCC 0π ratio
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
p_μ (MeV)
Data/MeV/1
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0

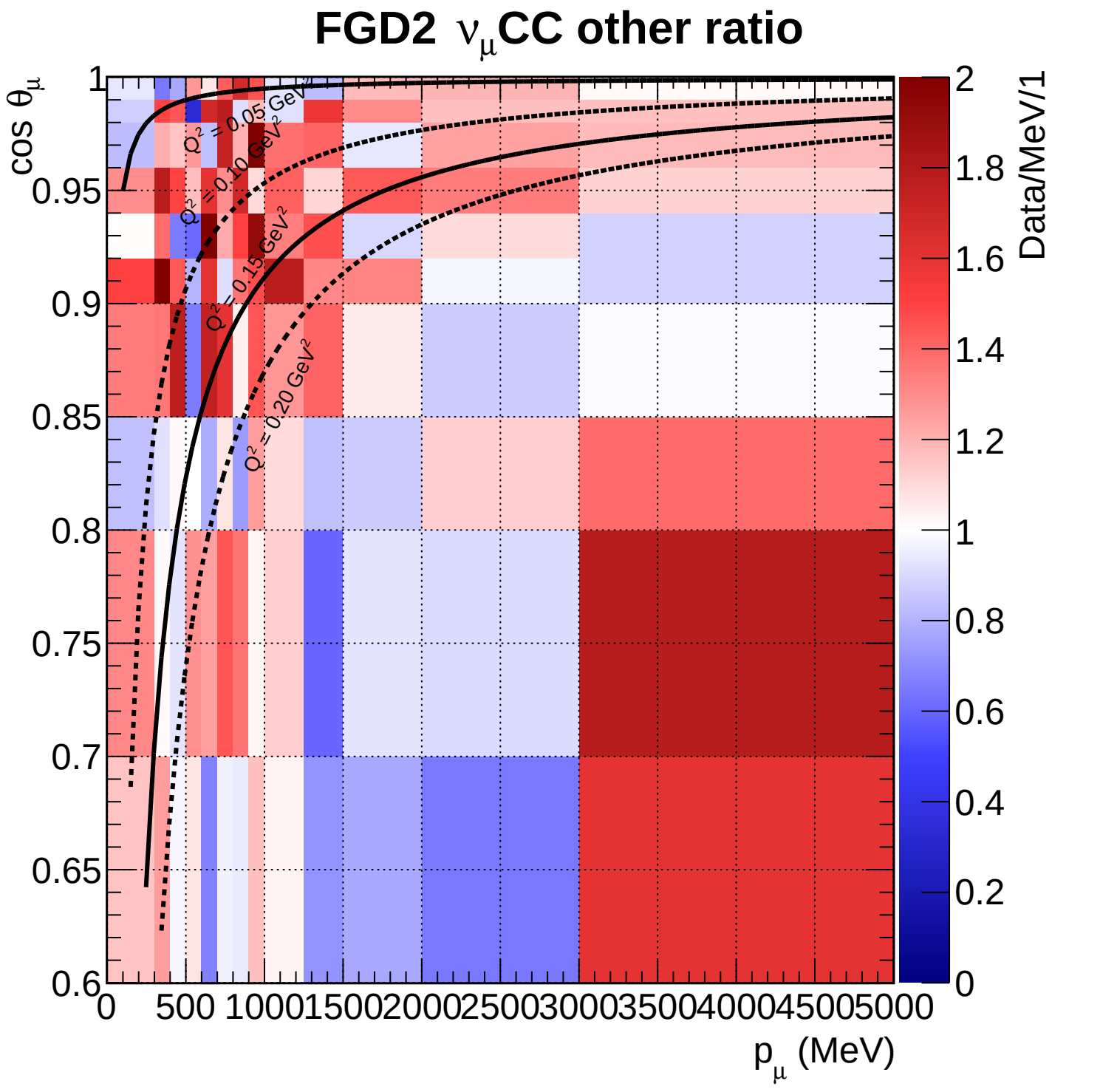

FGD2 ν_μCC 1π data: 479.30
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
p_μ (MeV)
Data/MeV/1
9
8
7
6
5
4
3
2
1
0

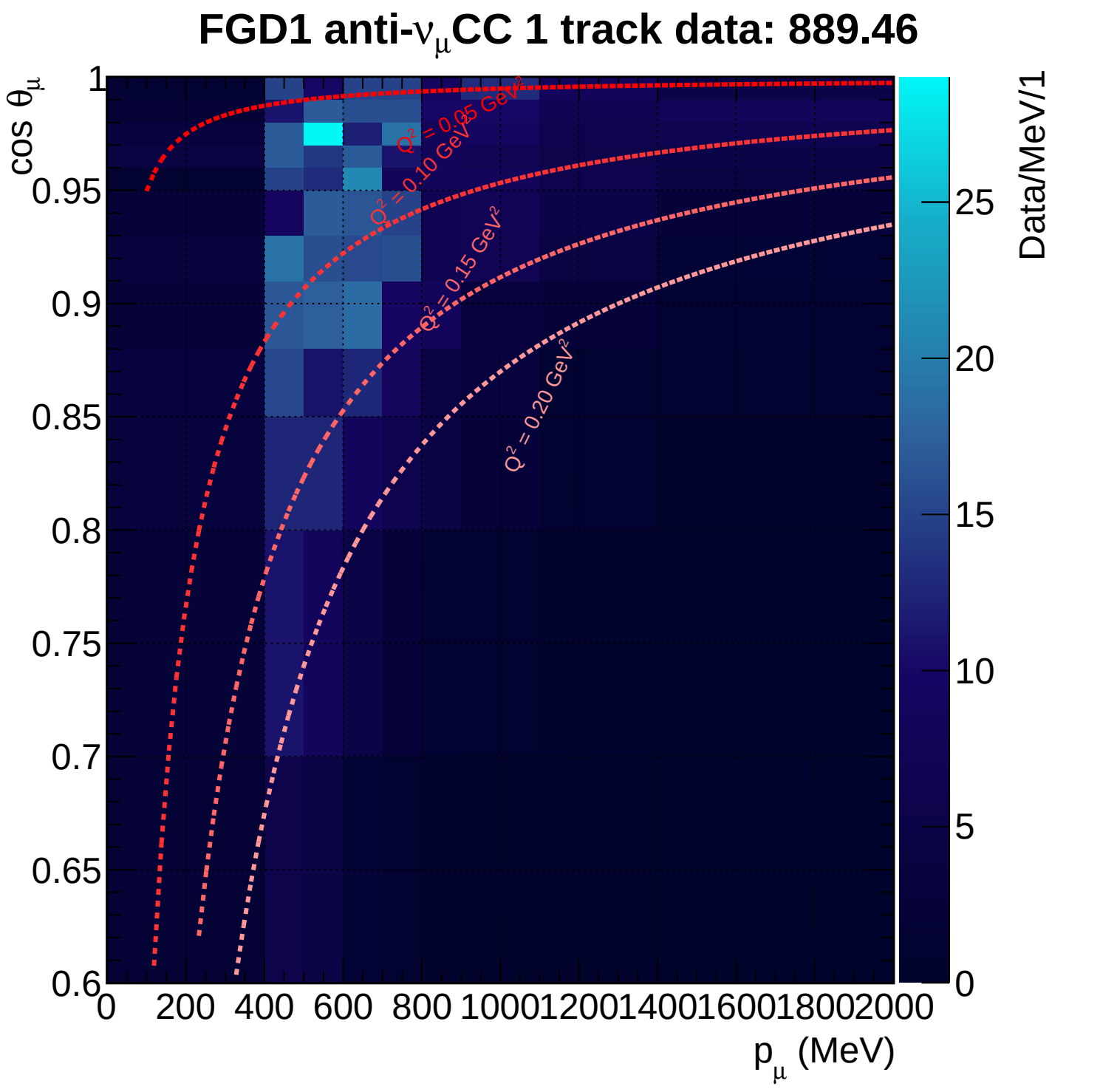

FGD2 ν_μCC 1π MC: 464.601
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
p_μ (MeV)
MC/MeV/1
9
8
7
6
5
4
3
2
1
0

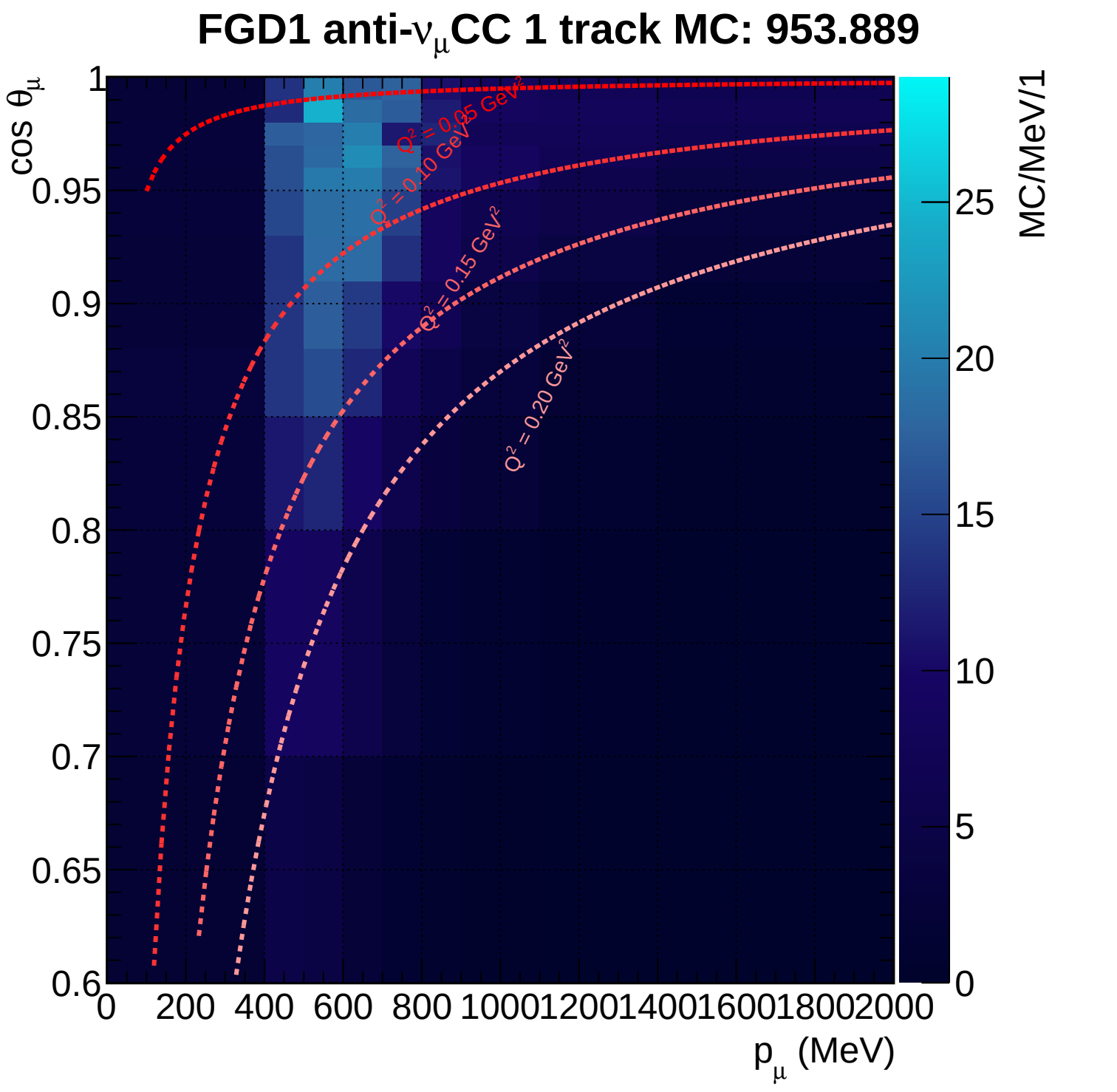

FGD2 ν_μCC 1π ratio
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
p_μ (MeV)
Data/MeV/1
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0

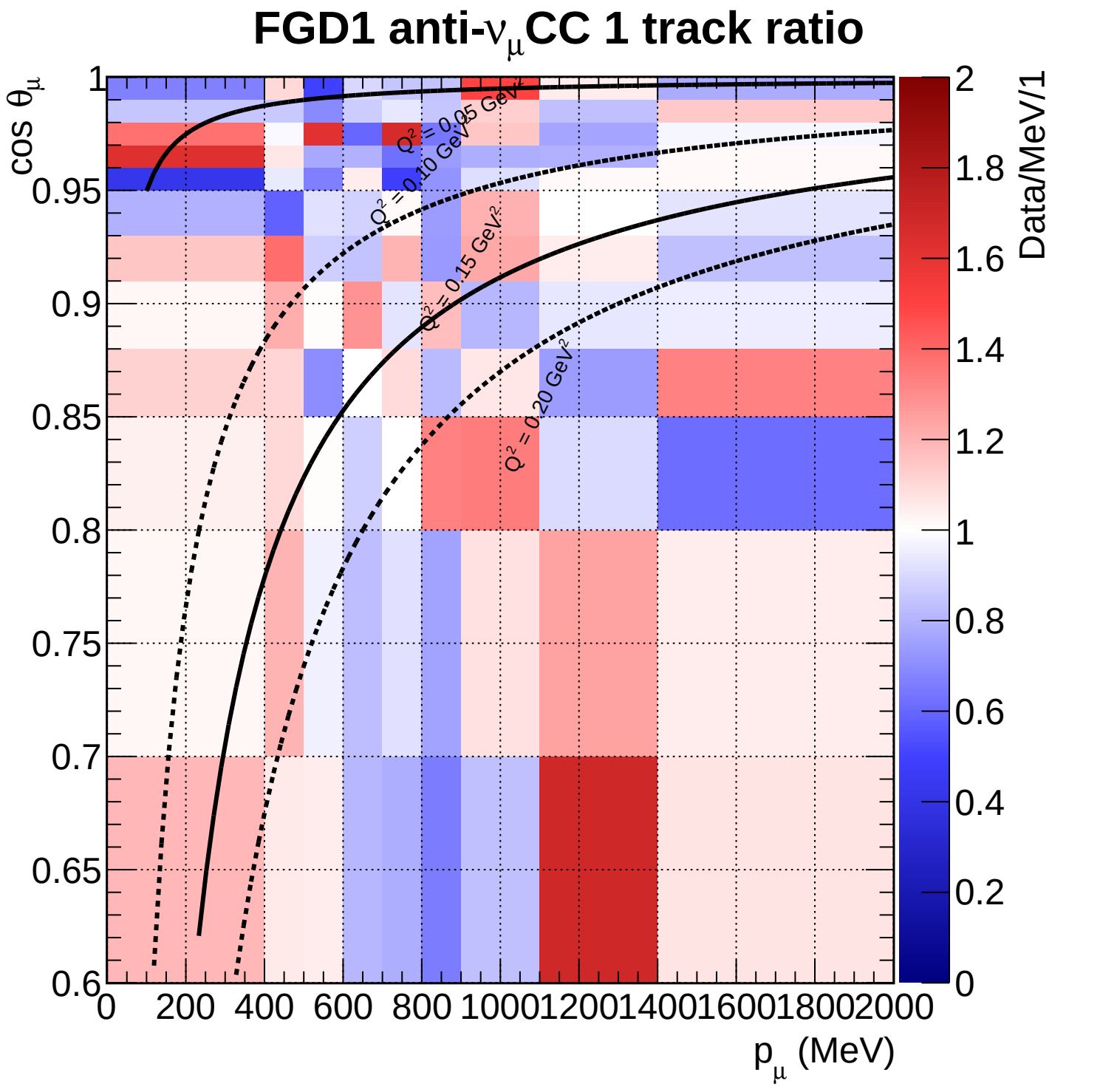

FGD2 ν_μCC other data: 569.43
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
p_μ (MeV)
Data/MeV/1
10
8
6
4
2
0

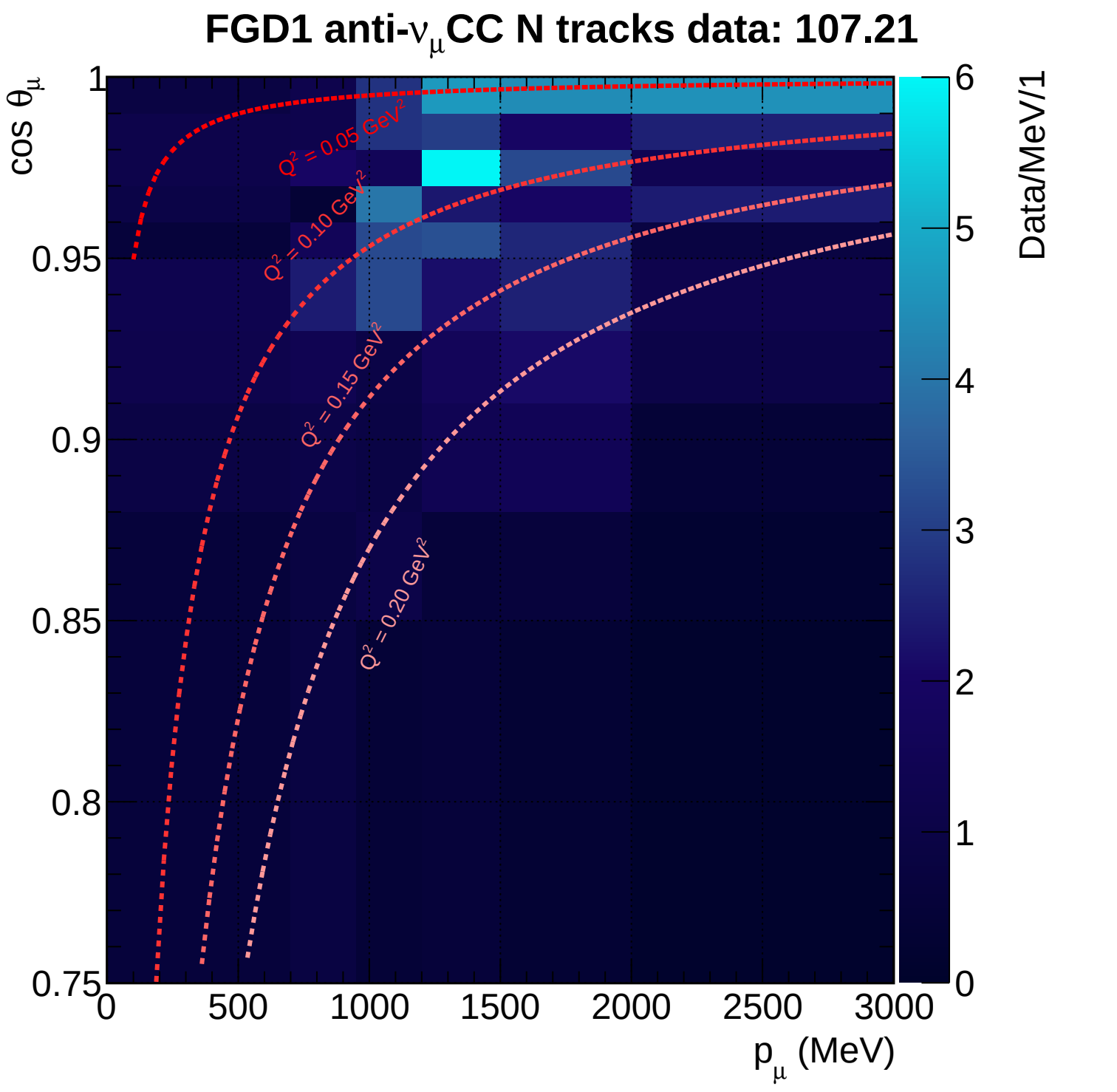

FGD2 ν_μCC other MC: 459.467
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
p_μ (MeV)
MC/MeV/1
10
8
6
4
2
0

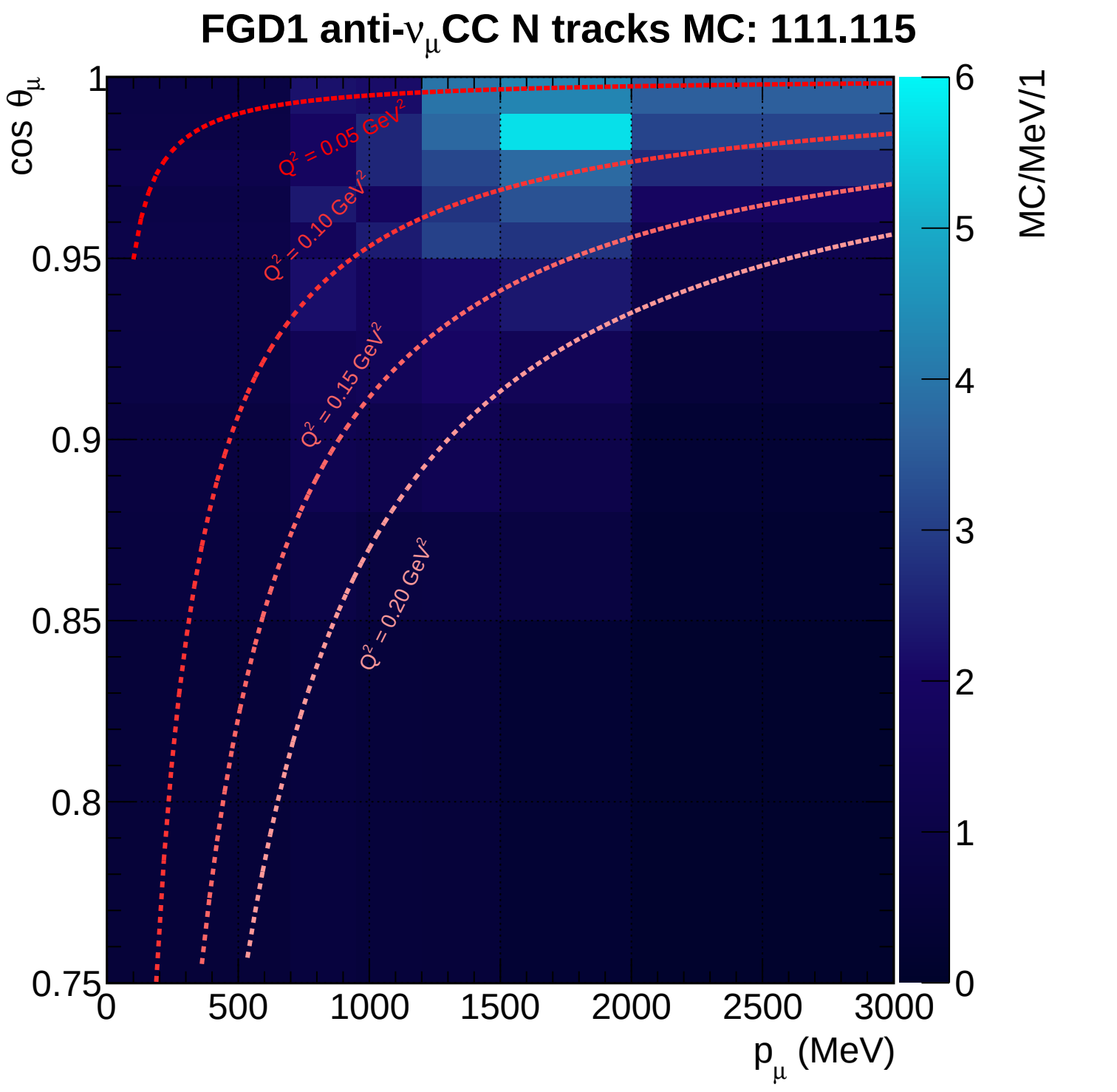

FGD2 ν_μCC other ratio
cos θ_μ
p_μ (MeV)
Data/MeV/1
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0

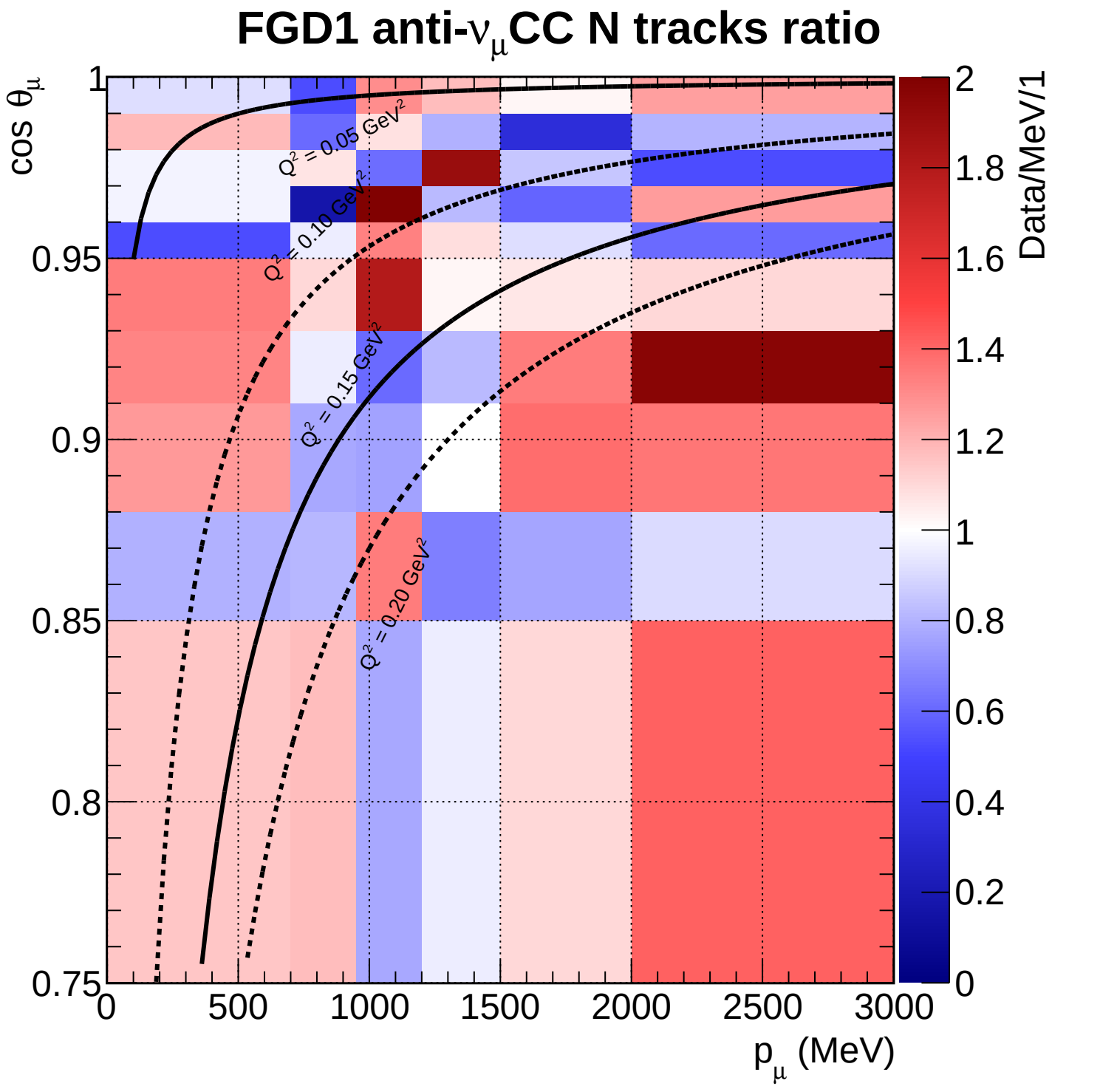

FGD1 anti-ν_μCC 1 track data: 889.46
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0
200
400
600
800
1000
1200
1400
1600
1800
2000
p_μ (MeV)
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
Data/MeV/1
25
20
15
10
5
0

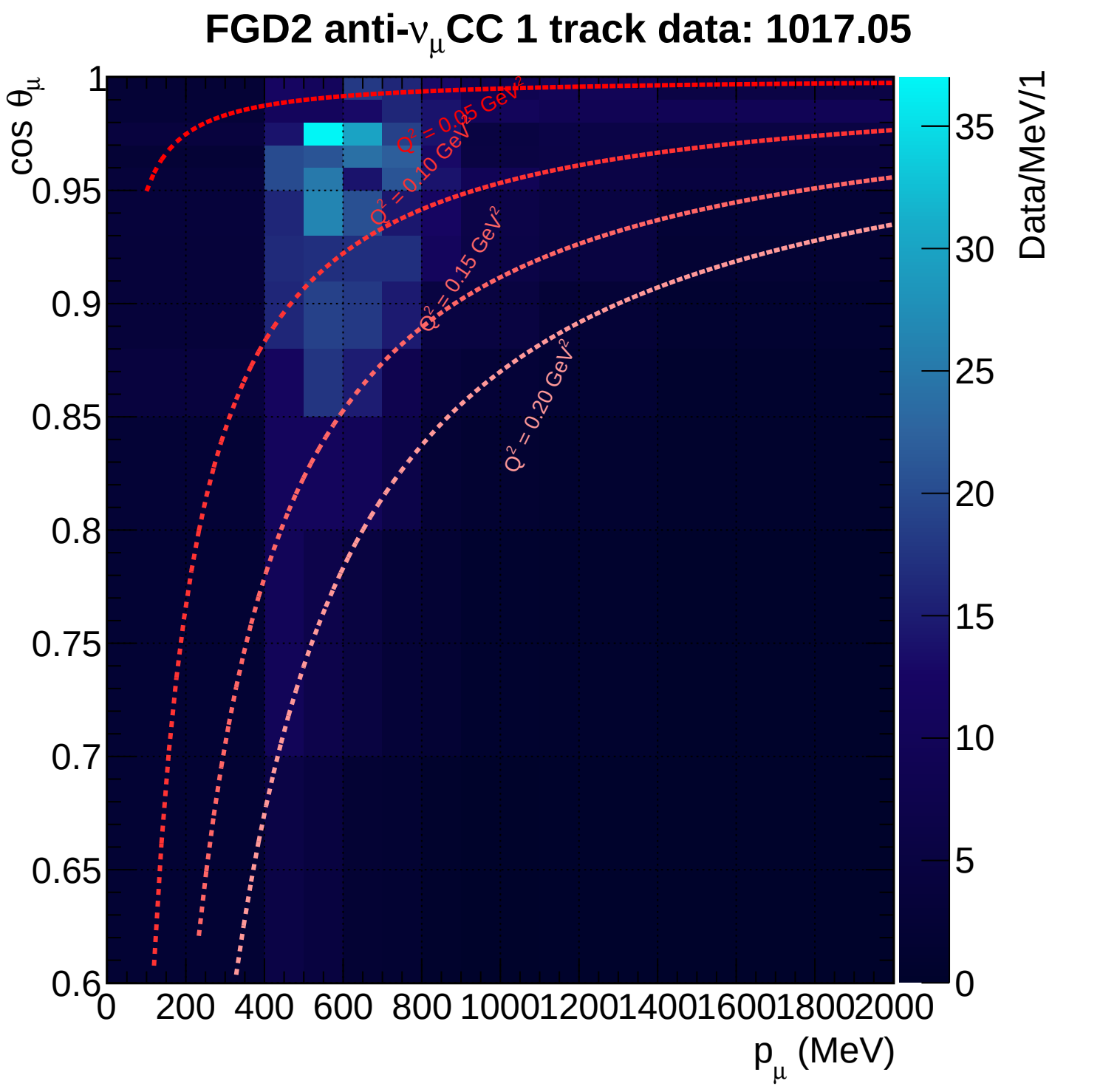

FGD1 anti-ν_μCC 1 track MC: 953.889
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0
200
400
600
800
1000
1200
1400
1600
1800
2000
p_μ (MeV)
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
MC/MeV/1
25
20
15
10
5
0

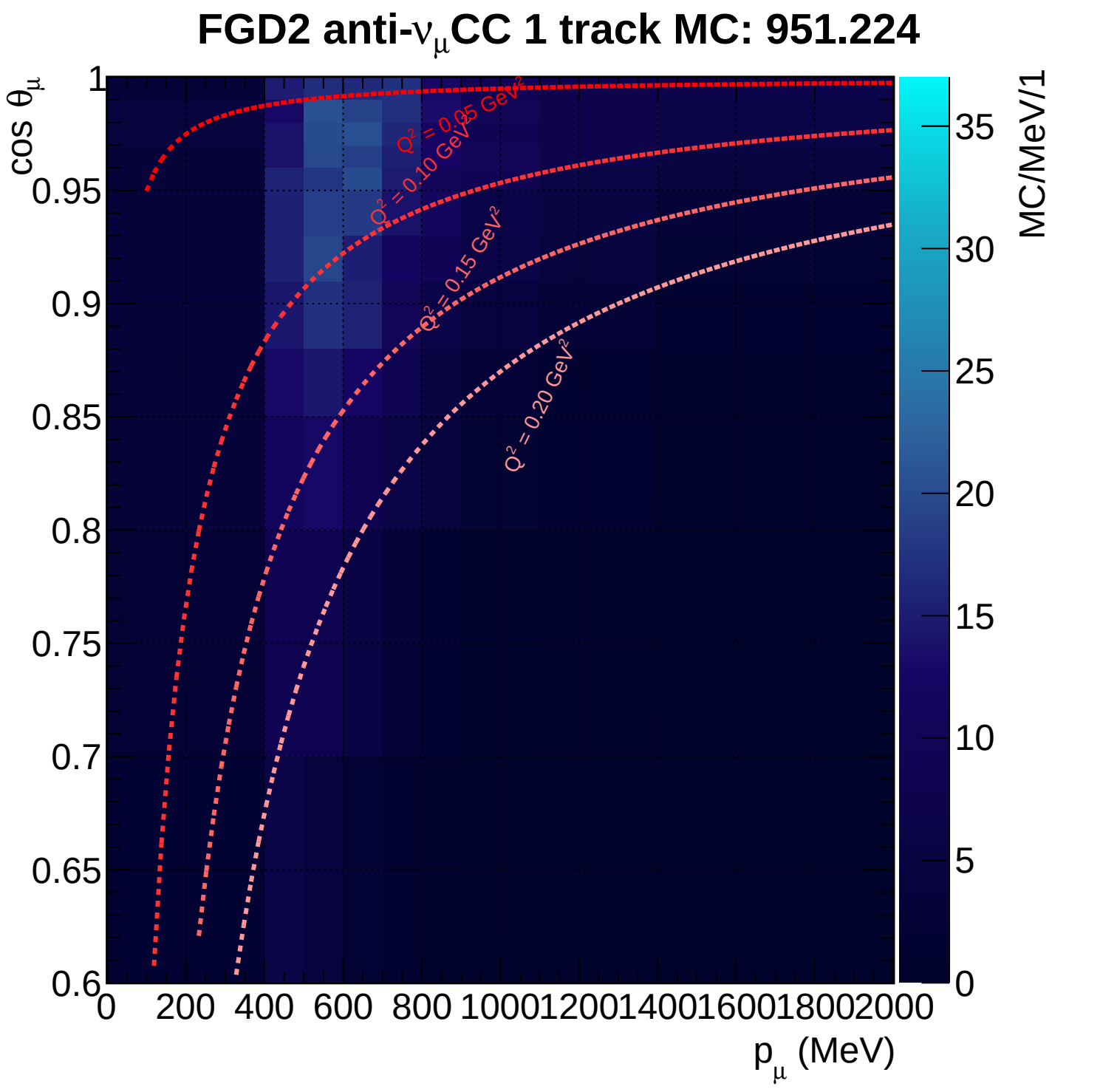

FGD1 anti-ν_μCC 1 track ratio
cos θ_μ
p_μ (MeV)
Data/MeV/1
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0
200
400
600
800
1000
1200
1400
1600
1800
2000
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0

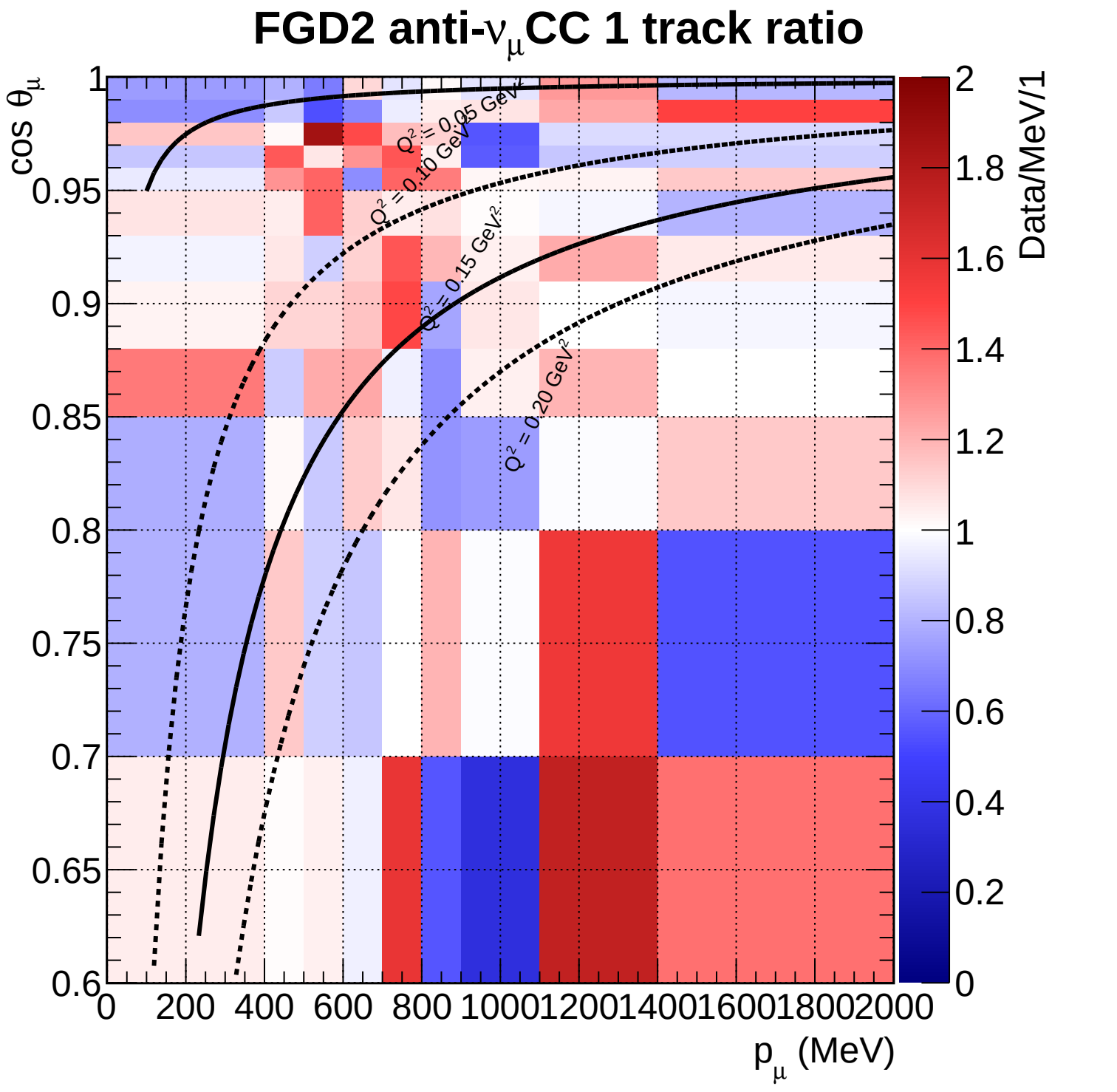

FGD1 anti-ν_μCC N tracks data: 107.21
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0
500
1000
1500
2000
2500
3000
p_μ (MeV)
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
Data/MeV/1
6
5
4
3
2
1
0

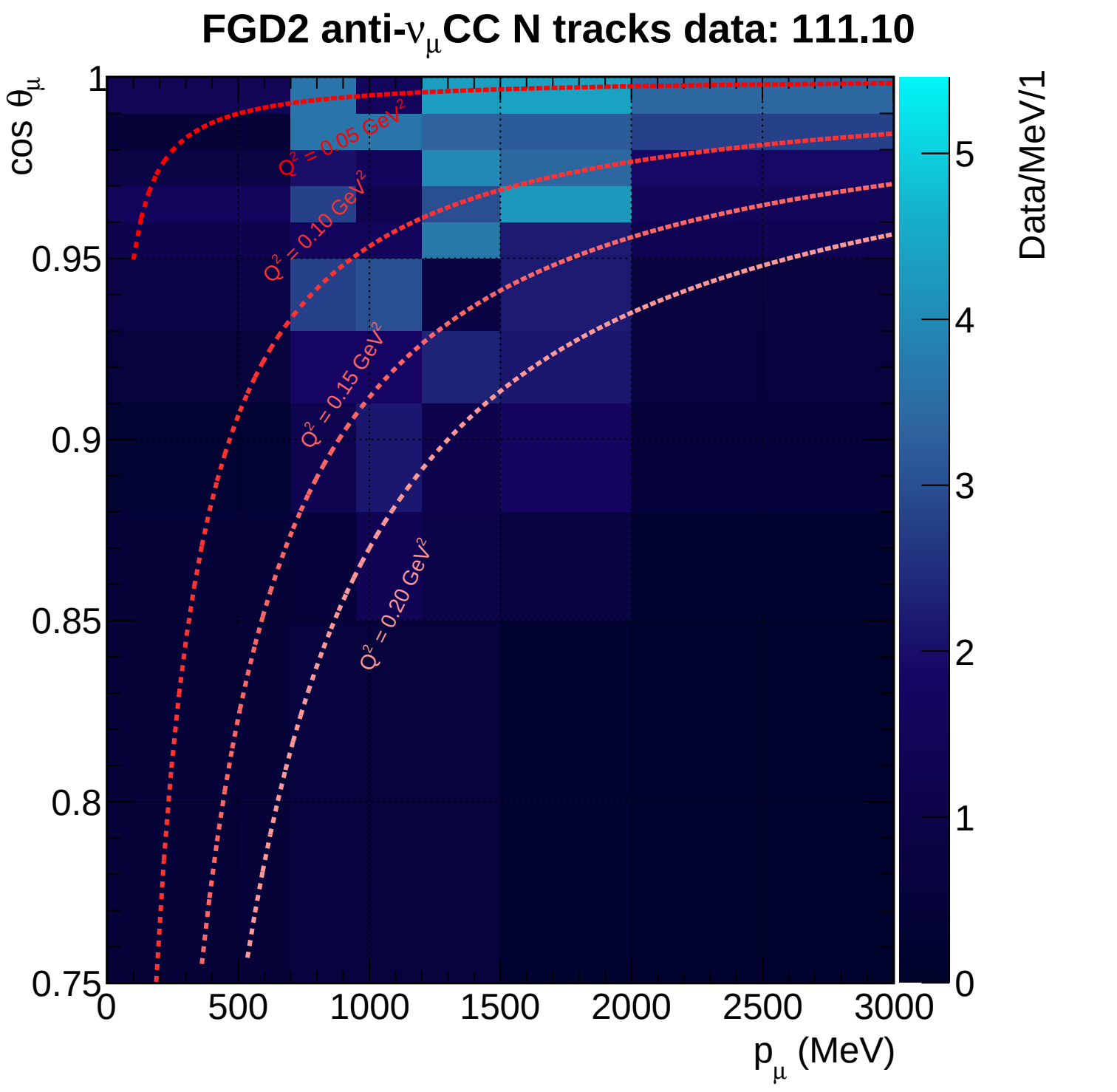

FGD1 anti-ν_μCC N tracks MC: 111.115
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0
500
1000
1500
2000
2500
3000
p_μ (MeV)
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
MC/MeV/1
6
5
4
3
2
1
0

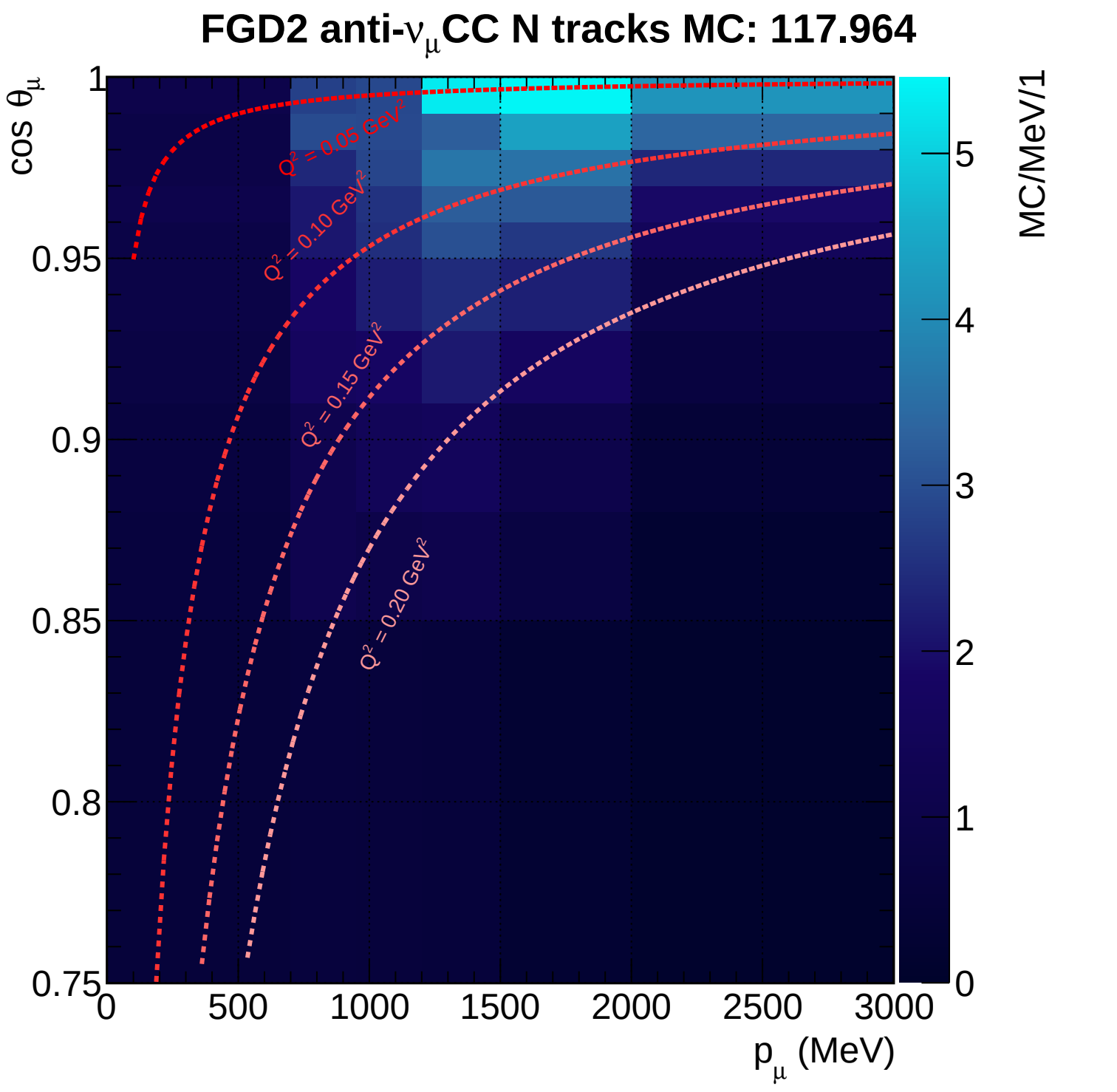

FGD1 anti-ν_μCC N tracks ratio
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0
500
1000
1500
2000
2500
3000
p_μ (MeV)
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
Data/MeV/1
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0

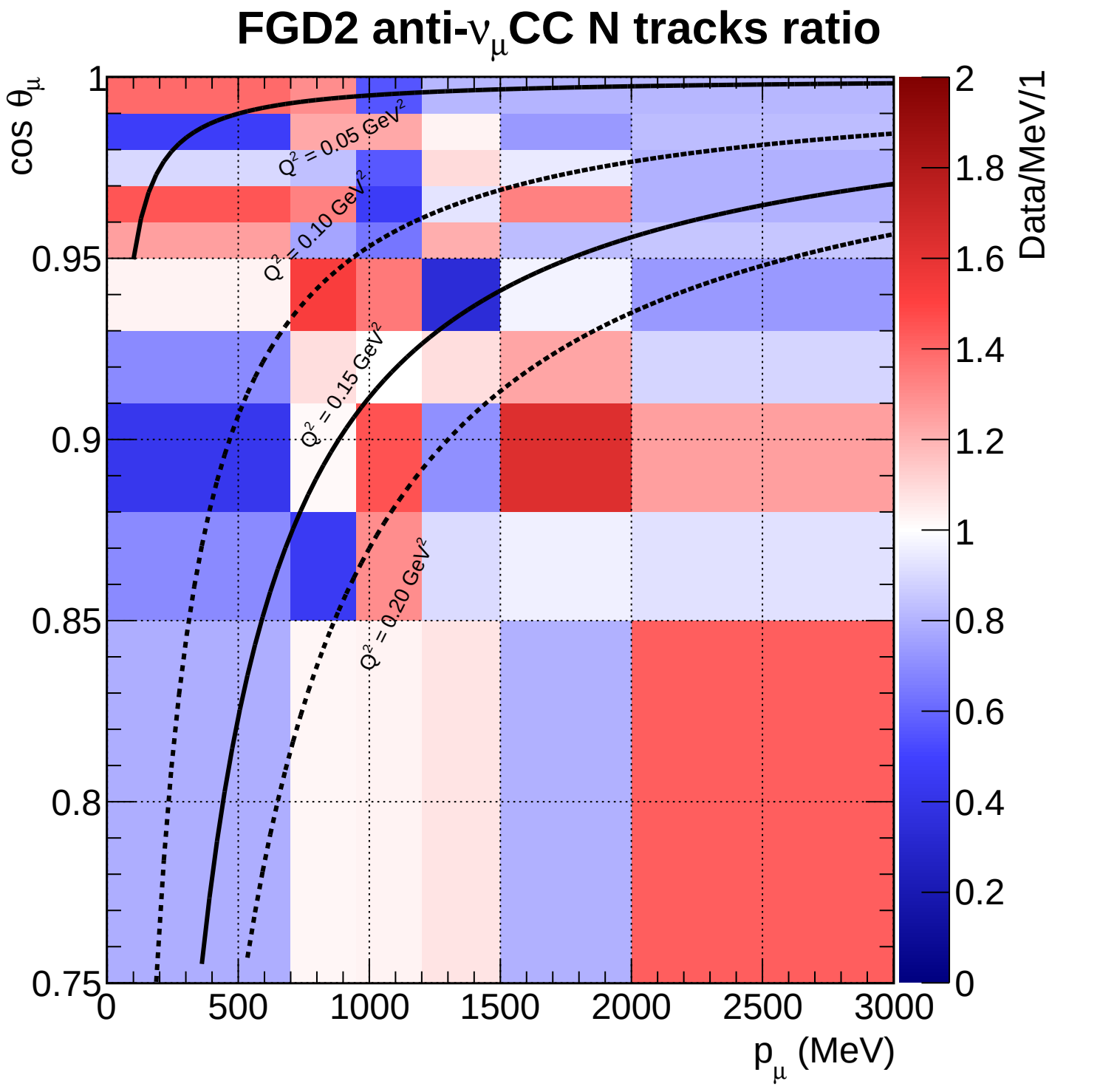

FGD2 anti-ν_μCC 1 track data: 1017.05
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0
200
400
600
800
1000
1200
1400
1600
1800
2000
p_μ (MeV)
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
Data/MeV/1
35
30
25
20
15
10
5
0

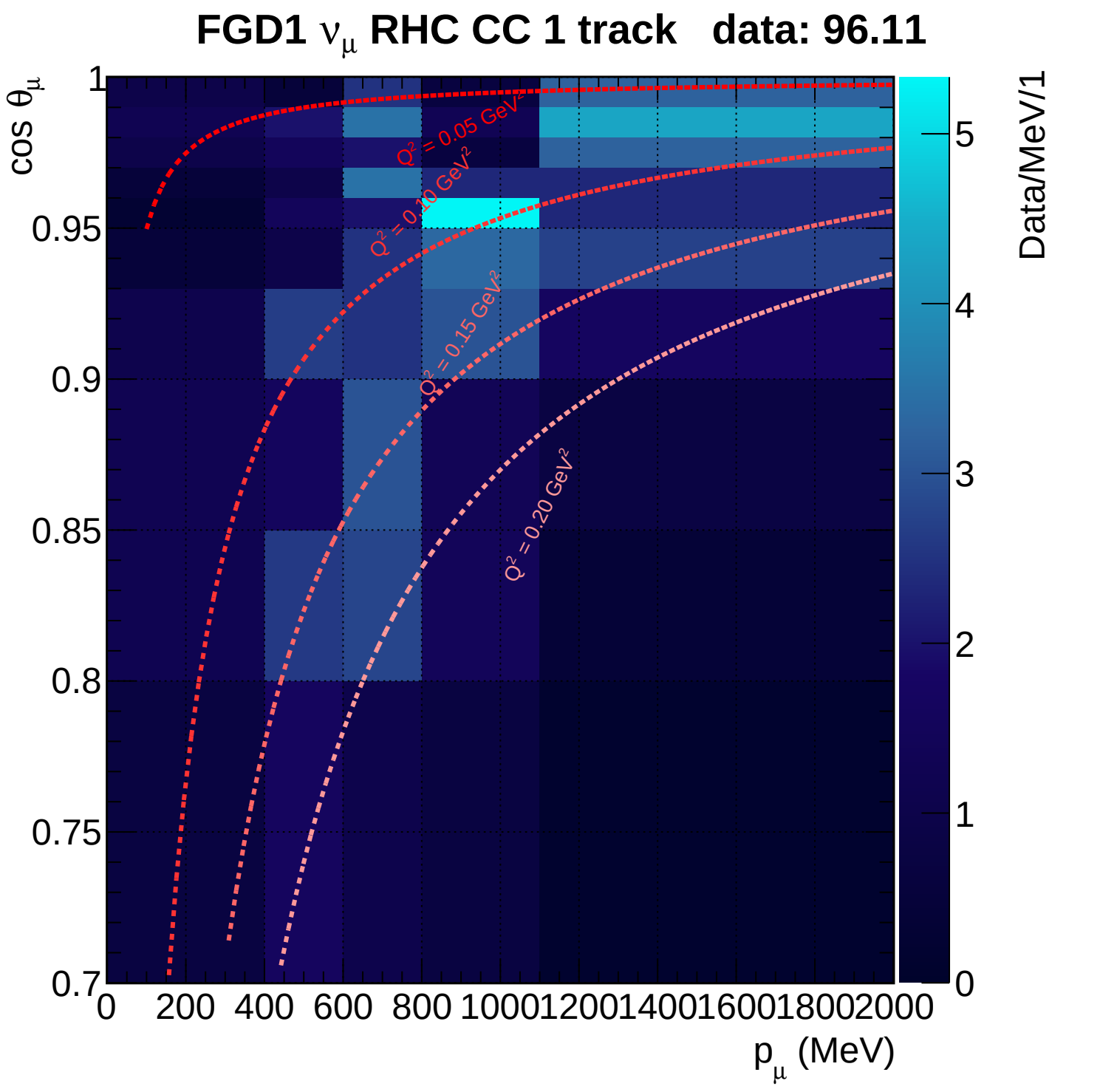

FGD2 anti-ν_μCC 1 track MC: 951.224
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0
200
400
600
800
1000
1200
1400
1600
1800
2000
p_μ (MeV)
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
MC/MeV/1
35
30
25
20
15
10
5
0

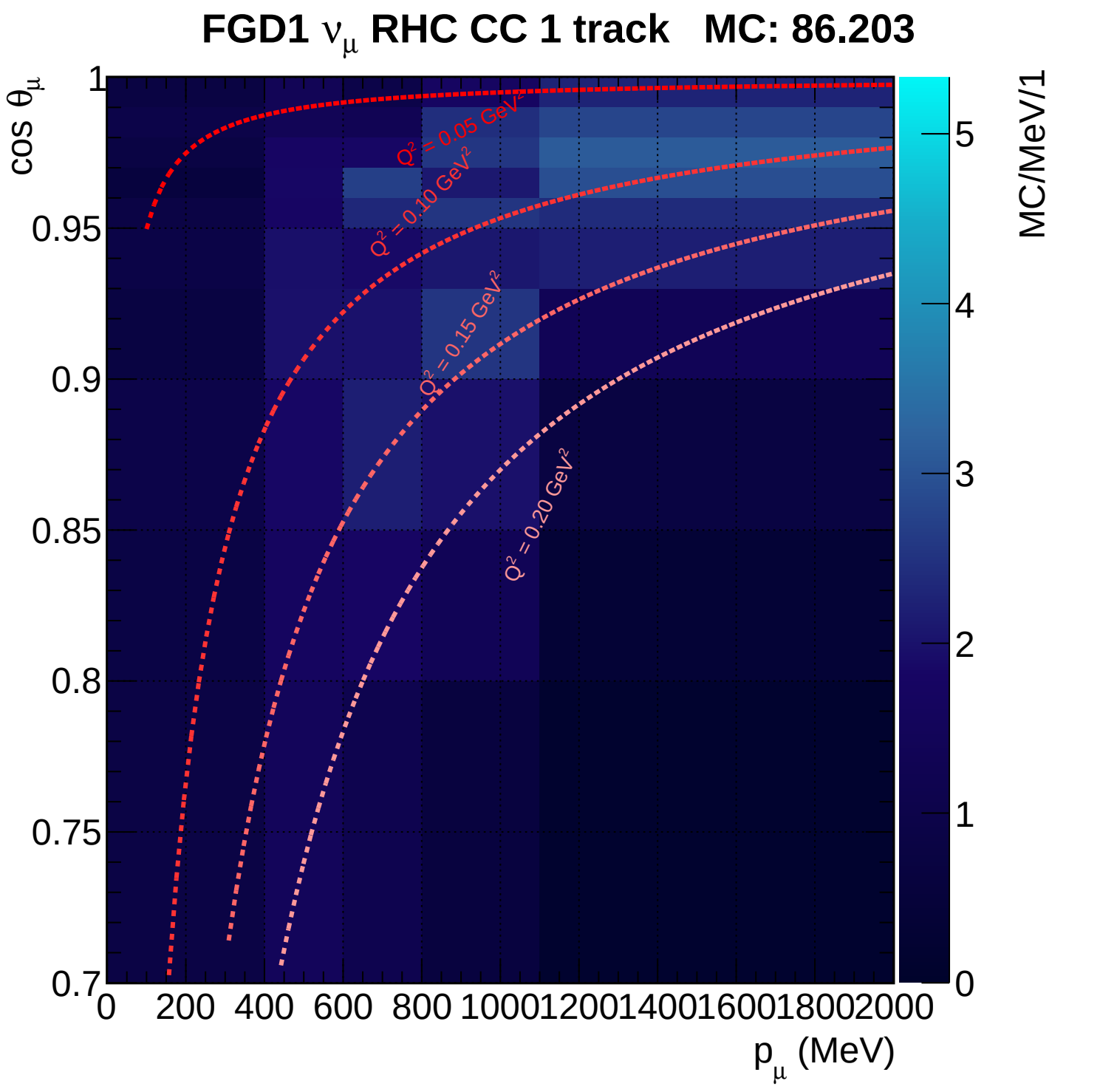

FGD2 anti-ν_μCC 1 track ratio
cos θ_μ
p_μ (MeV)
Data/MeV/1
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0
200
400
600
800
1000
1200
1400
1600
1800
2000
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0

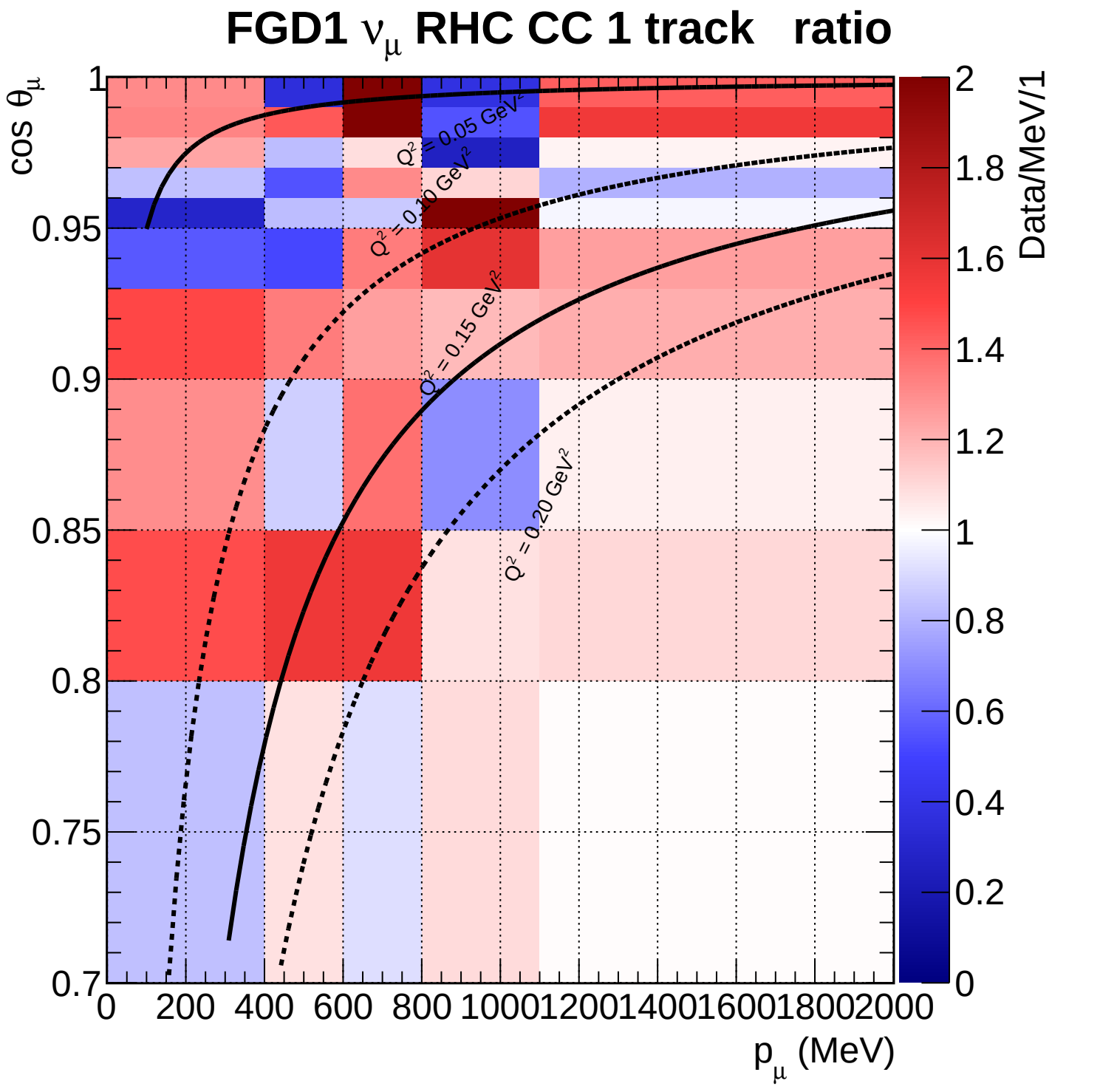

FGD2 anti-ν_μCC N tracks data: 111.10
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0
500
1000
1500
2000
2500
3000
p_μ (MeV)
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
Data/MeV/1
0
1
2
3
4
5

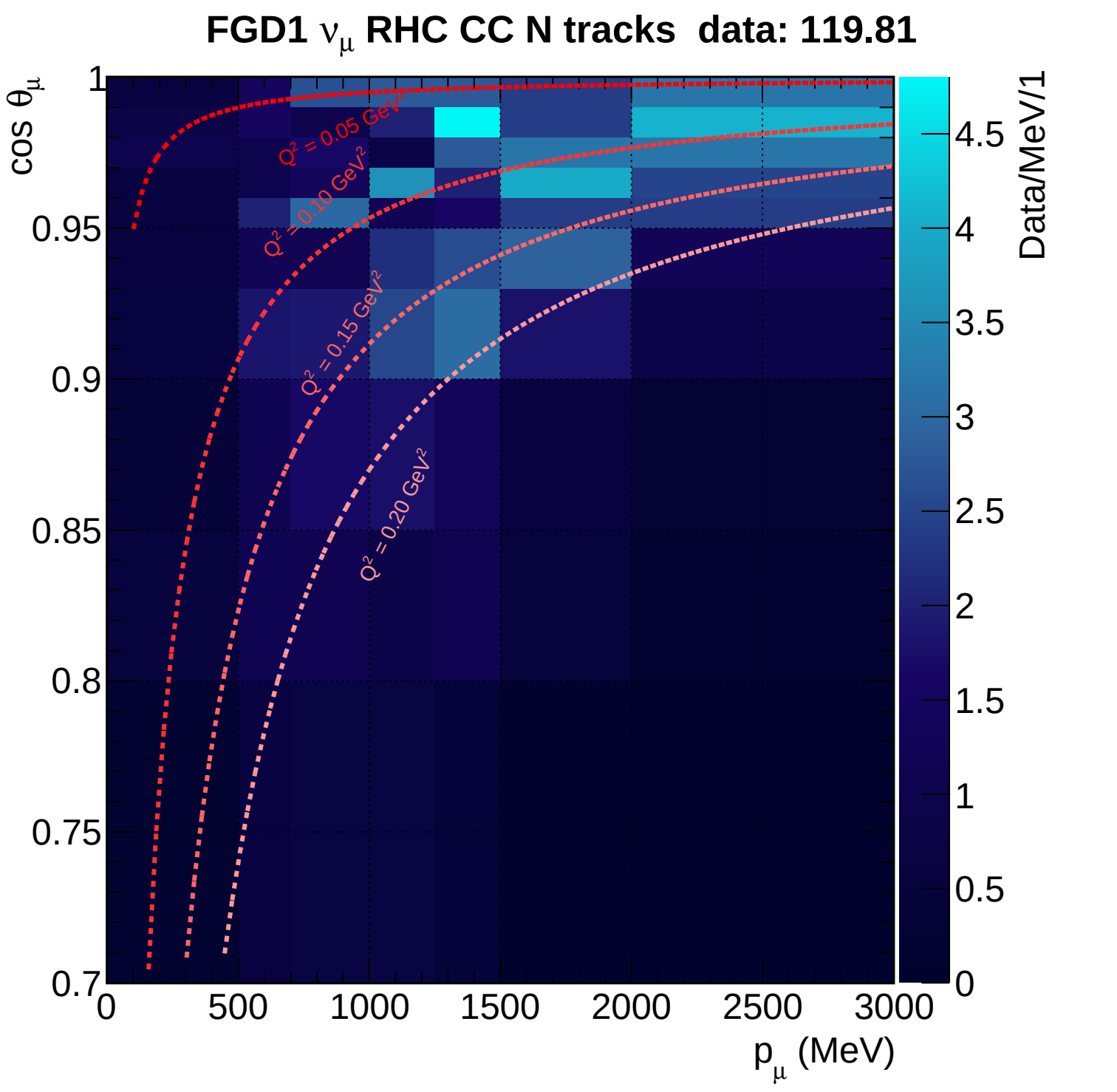

FGD2 anti-ν_μCC N tracks MC: 117.964
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0
500
1000
1500
2000
2500
3000
p_μ (MeV)
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
MC/MeV/1
5
4
3
2
1
0

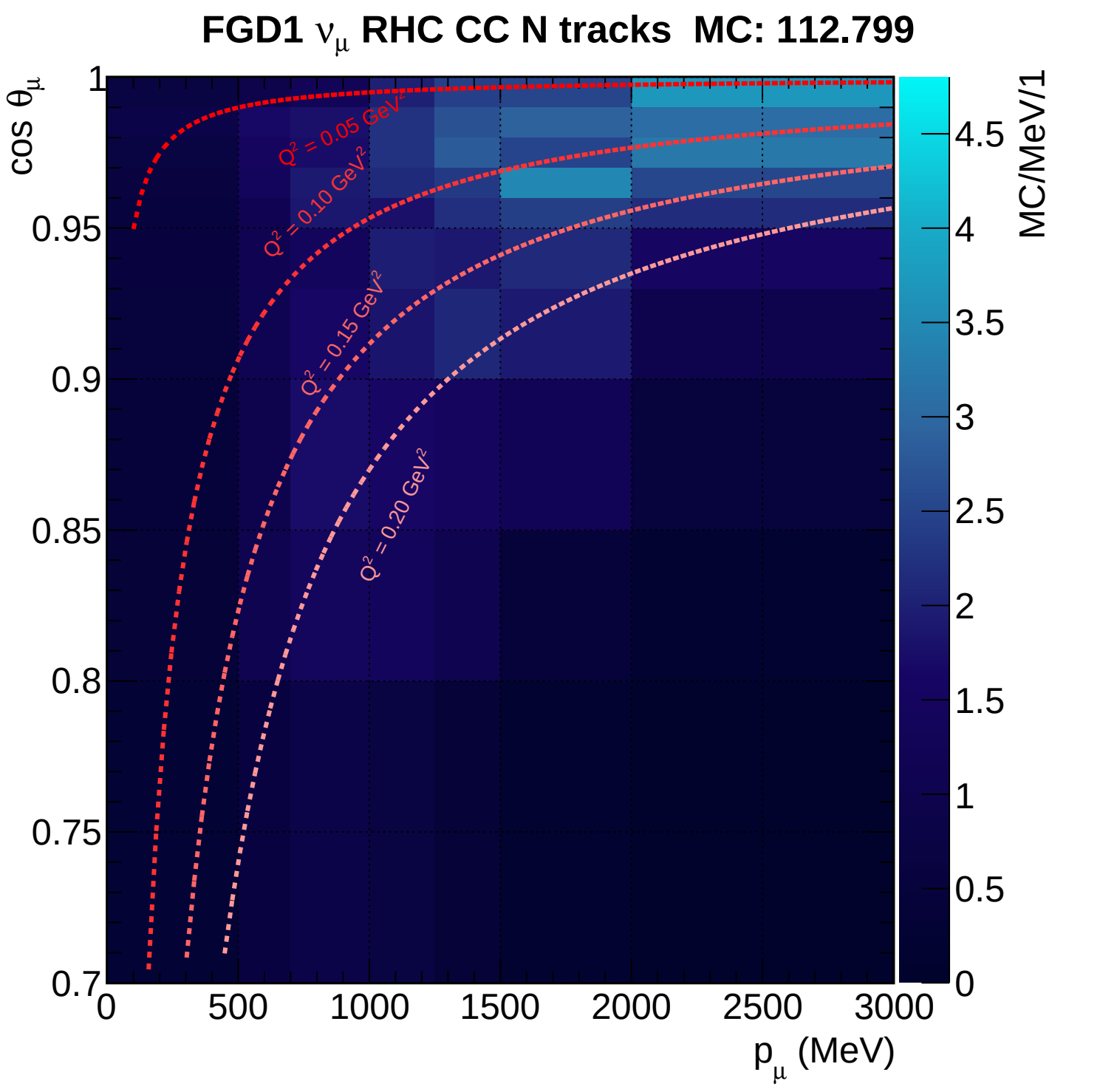

FGD2 anti-ν_μCC N tracks ratio
cos θ_μ
p_μ (MeV)
Data/MeV/1
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
1
0.95
0.9
0.85
0.8
0.75
0
500
1000
1500
2000
2500
3000
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0

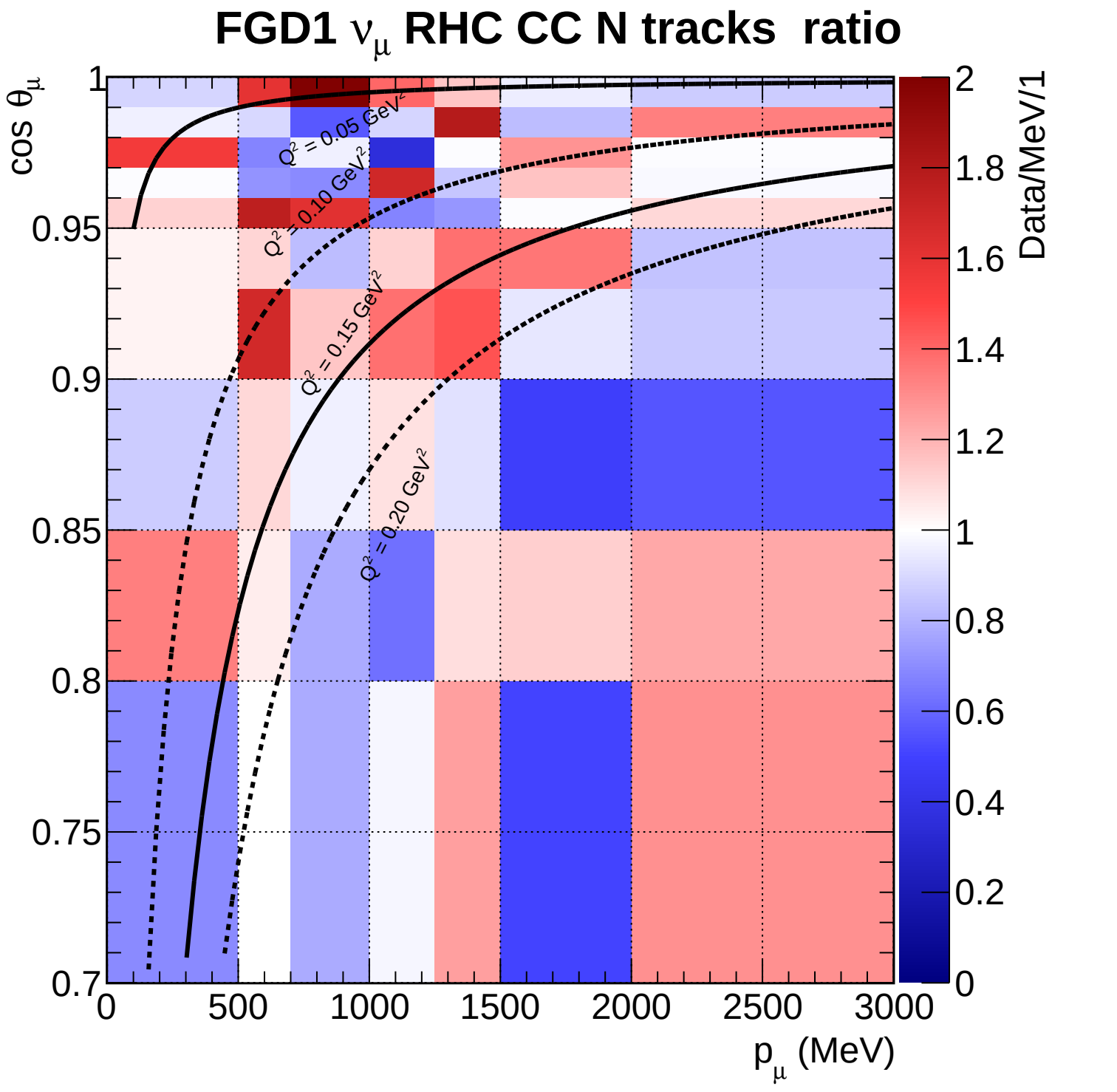

FGD1 ν_μ RHC CC 1 track data: 96.11
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0
200
400
600
800
1000
1200
1400
1600
1800
2000
p_μ (MeV)
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
Data/MeV/1
0
1
2
3
4
5

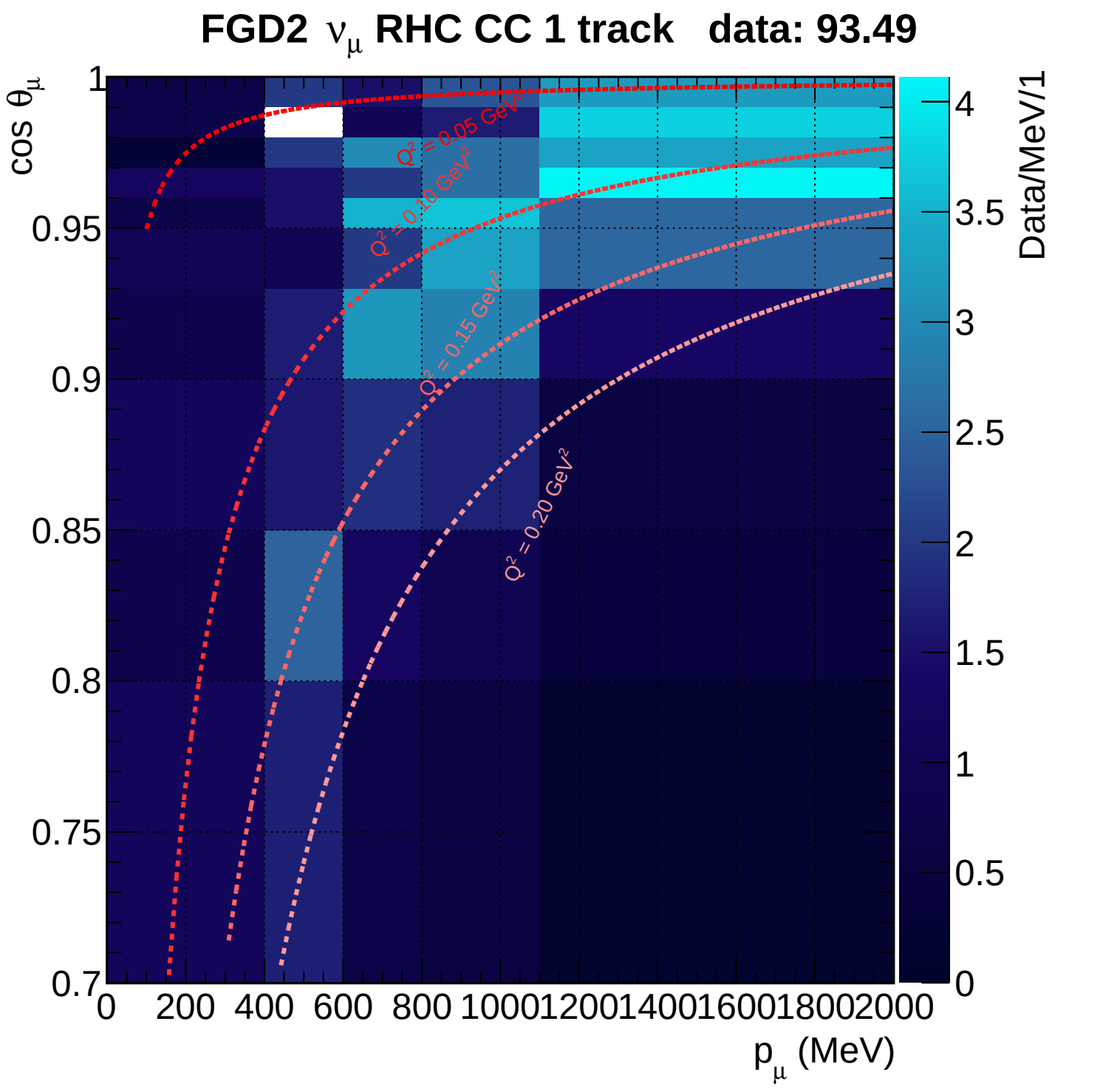

FGD1 ν_μ RHC CC 1 track MC: 86.203
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0
200
400
600
800
1000
1200
1400
1600
1800
2000
p_μ (MeV)
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
MC/MeV/1
5
4
3
2
1
0

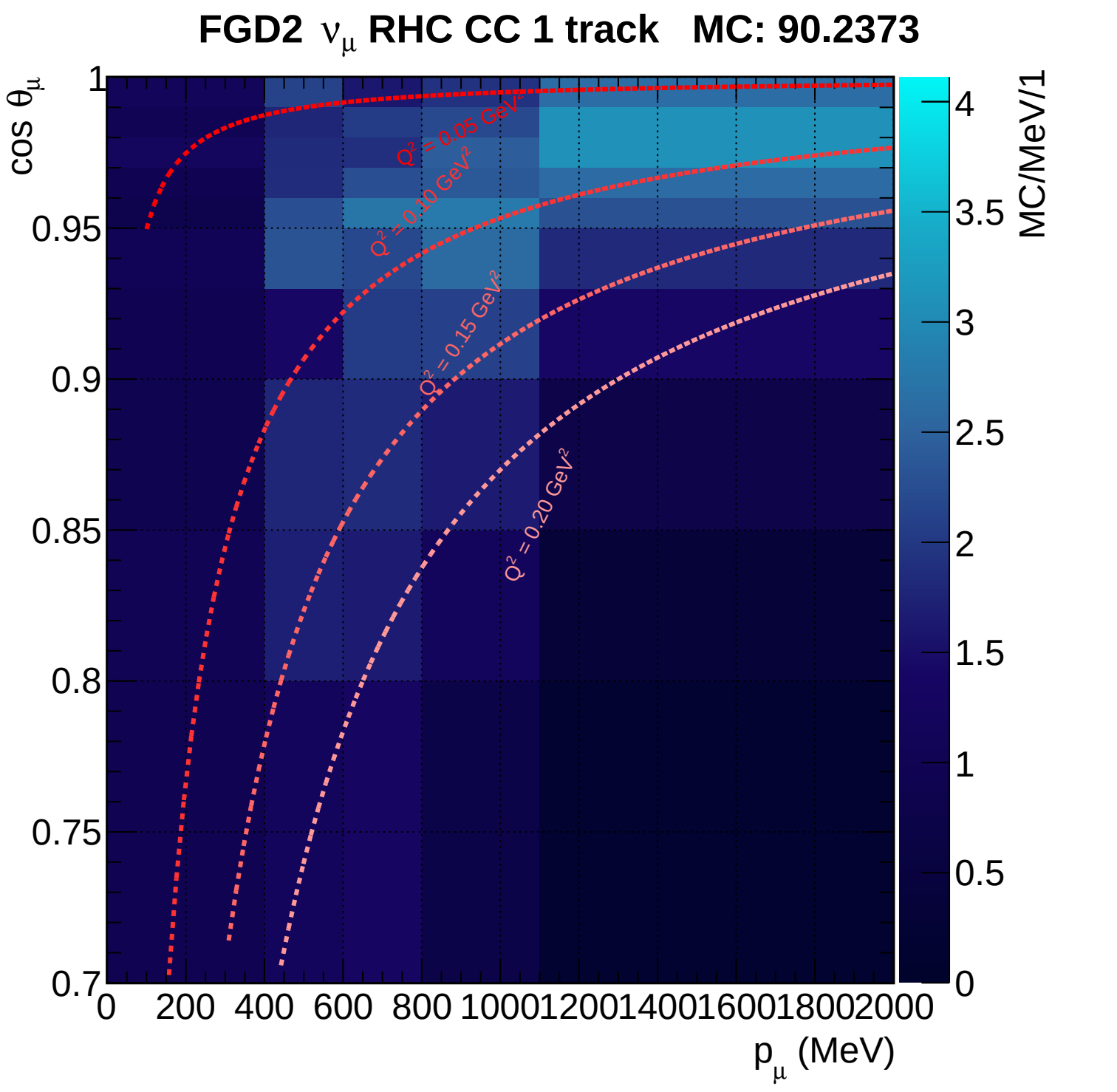

FGD1 ν_μ RHC CC 1 track ratio
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0
200
400
600
800
1000
1200
1400
1600
1800
2000
p_μ (MeV)
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
Data/MeV/1
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0

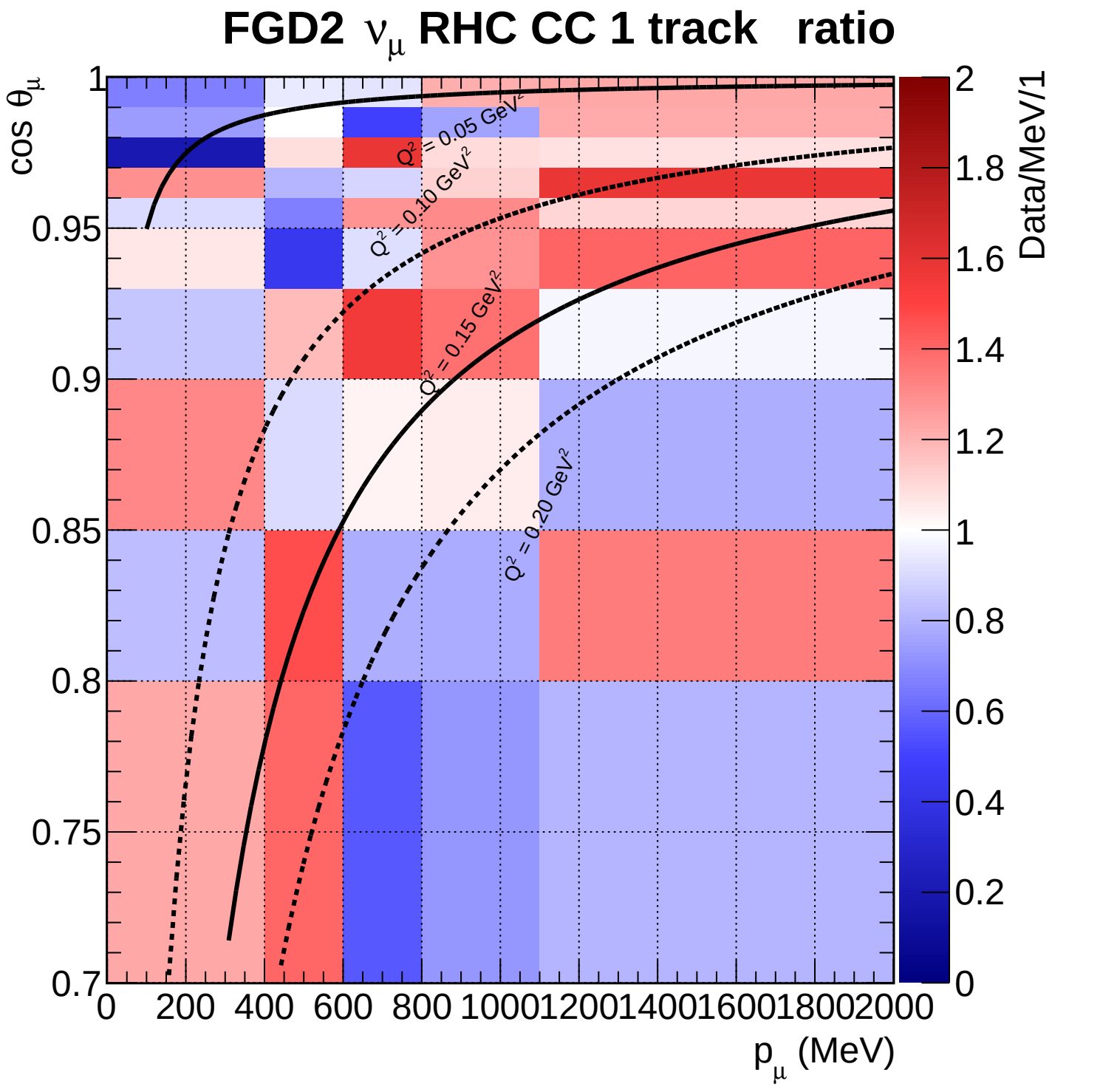

FGD1 ν_μ RHC CC N tracks data: 119.81
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0
500
1000
1500
2000
2500
3000
p_μ (MeV)
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
Data/MeV/1
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0

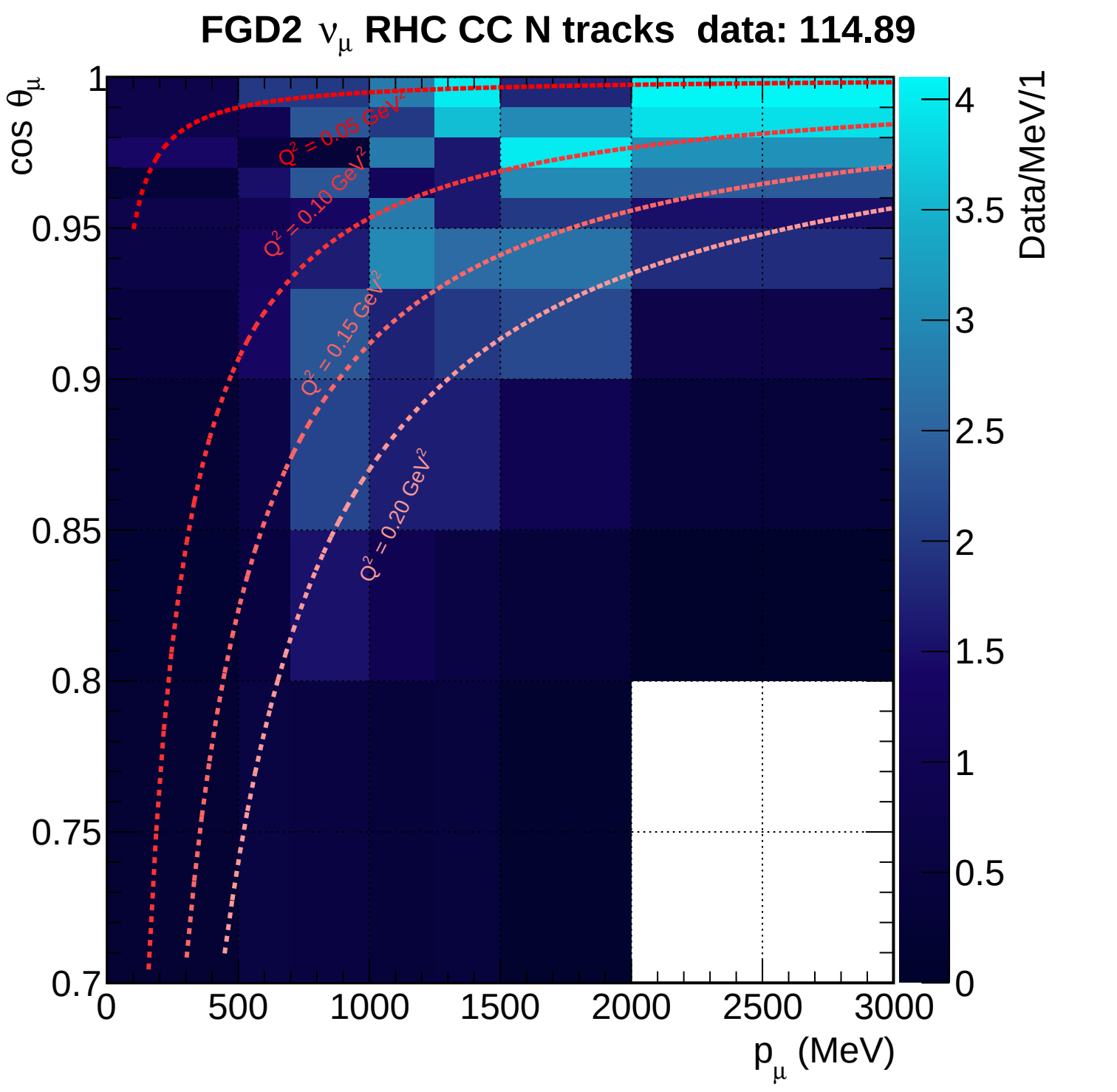

FGD1 ν_μ RHC CC N tracks MC: 112.799
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0
500
1000
1500
2000
2500
3000
p_μ (MeV)
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
MC/MeV/1
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0

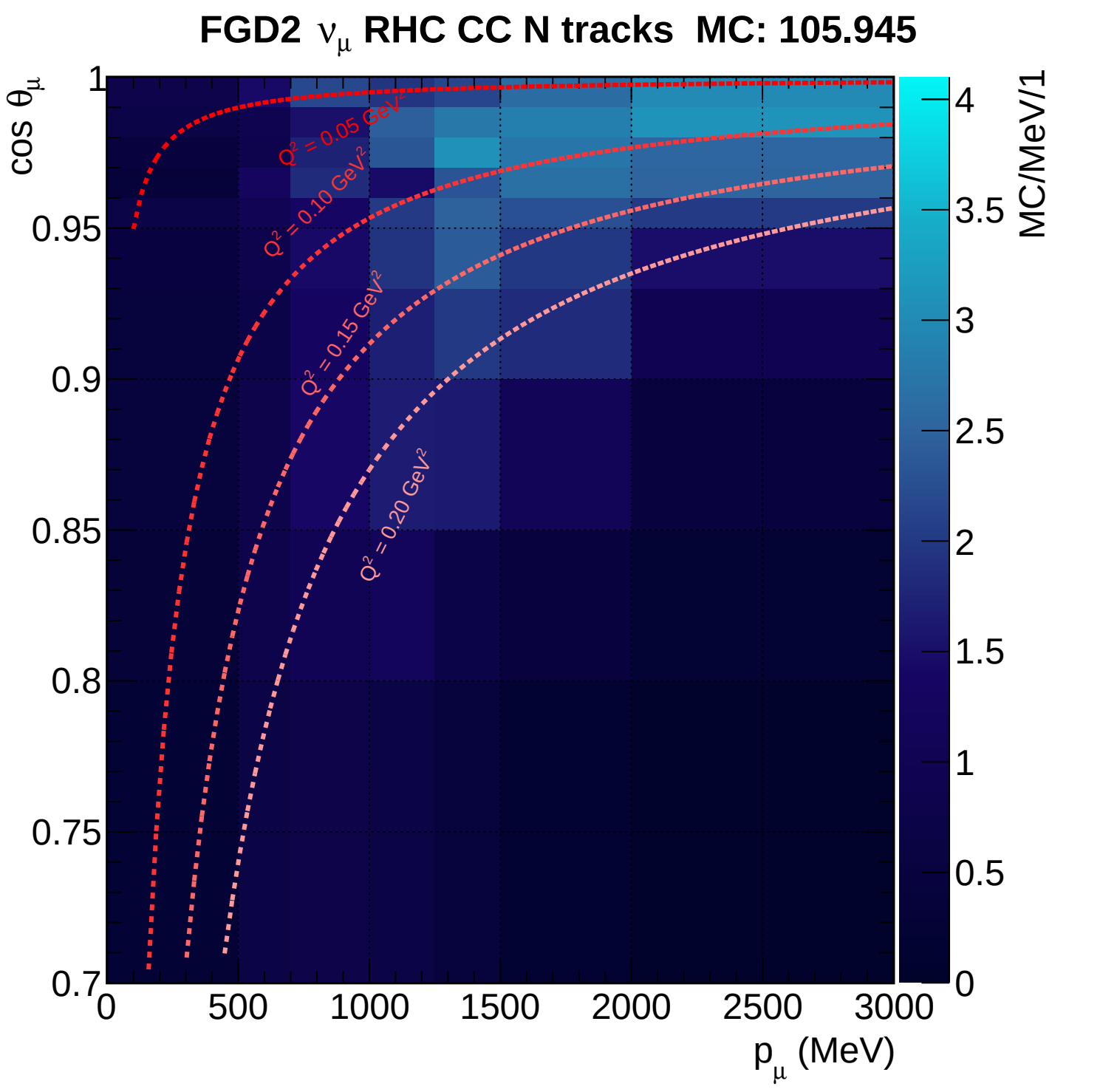

FGD1 ν_μ RHC CC N tracks ratio
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0
500
1000
1500
2000
2500
3000
p_μ (MeV)
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
Data/MeV/1
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0

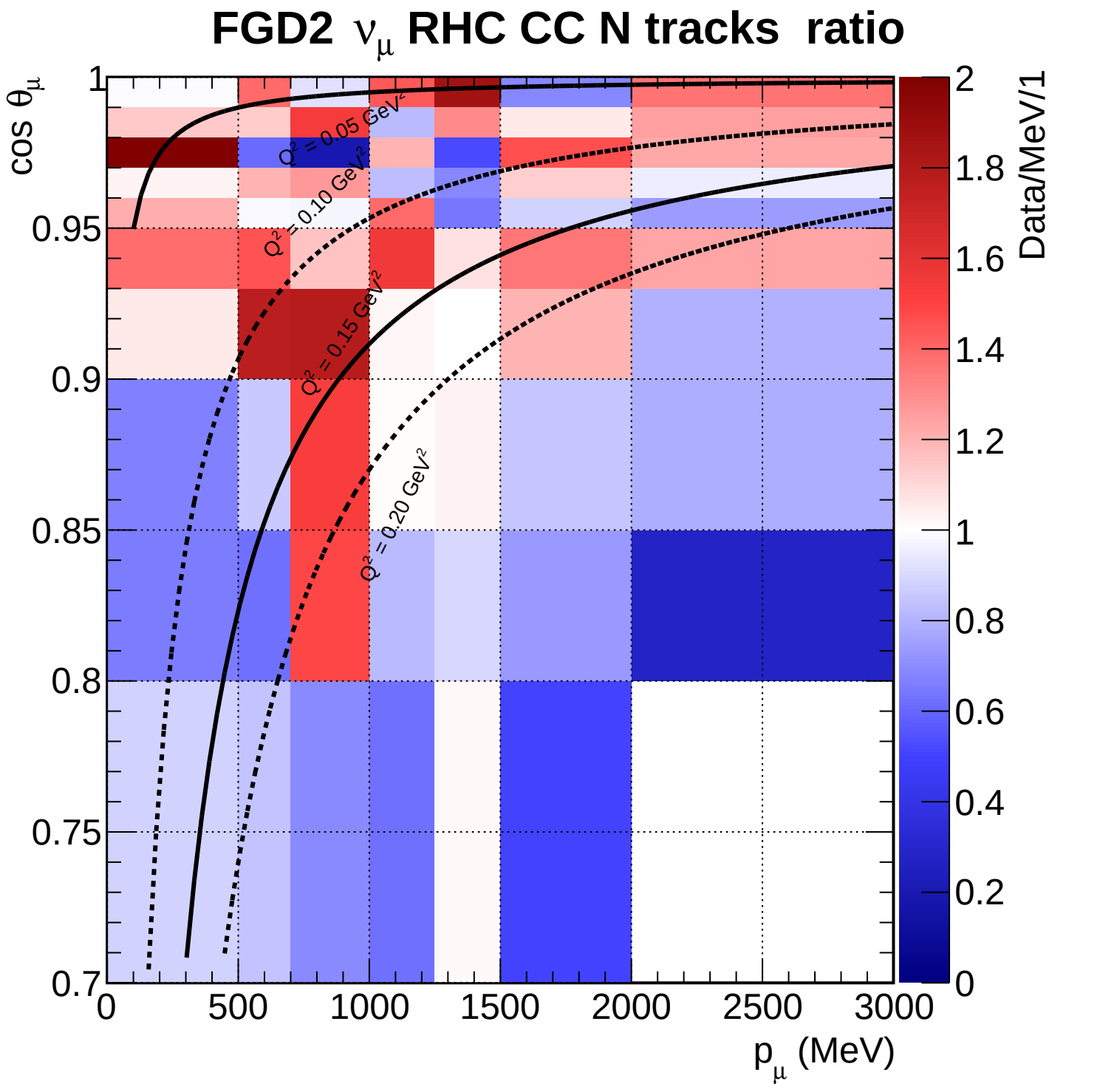

FGD2 ν_μ RHC CC 1 track data: 93.49
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
0
200
400
600
800
1000
1200
1400
1600
1800
2000
p_μ (MeV)
Data/MeV/1
4
3.5
3
2.5
2
1.5
1
0.5
0

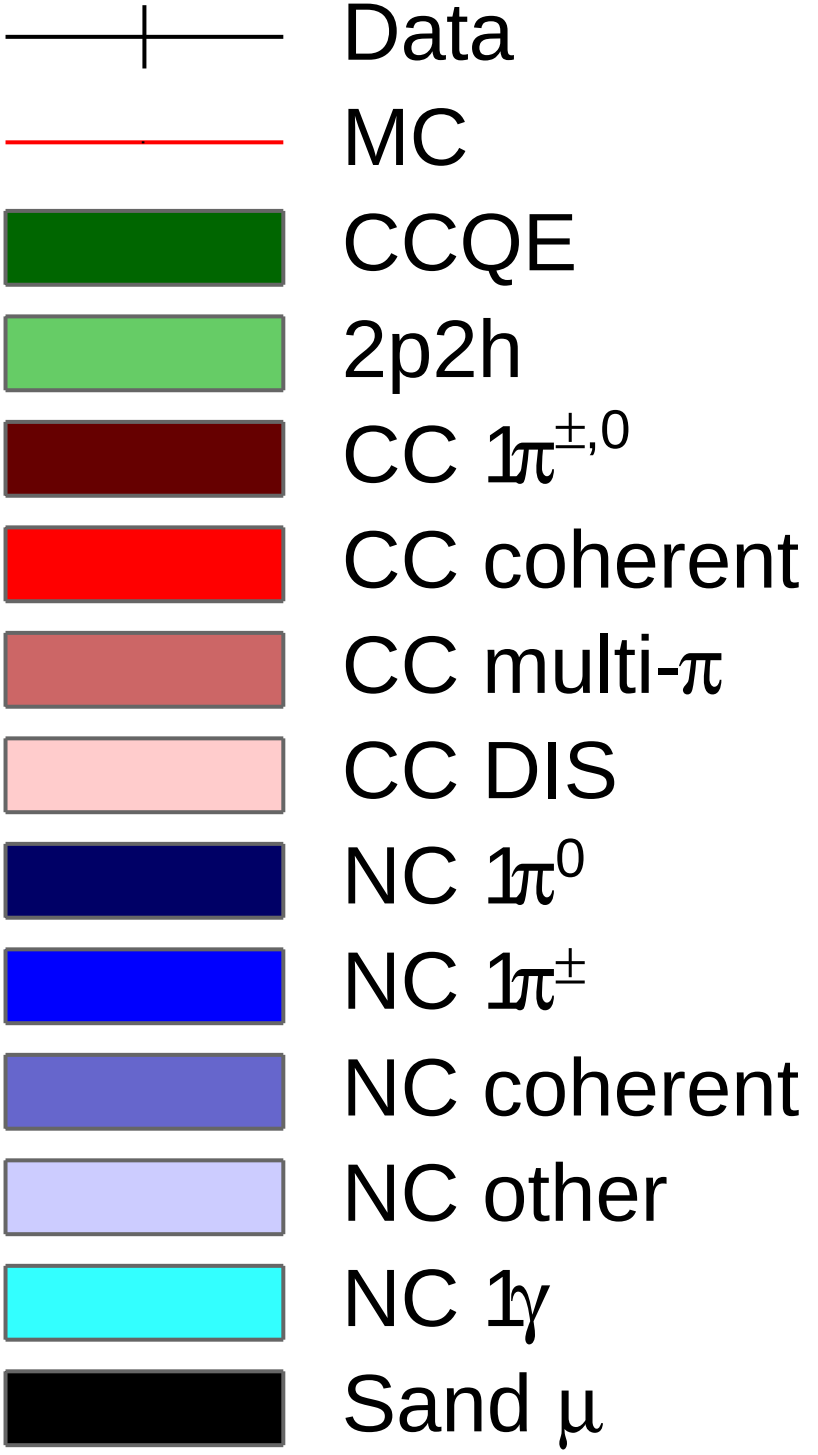

FGD2 ν_μ RHC CC 1 track MC: 90.2373
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
0
200
400
600
800
1000
1200
1400
1600
1800
2000
p_μ (MeV)
MC/MeV/1
4
3.5
3
2.5
2
1.5
1
0.5
0

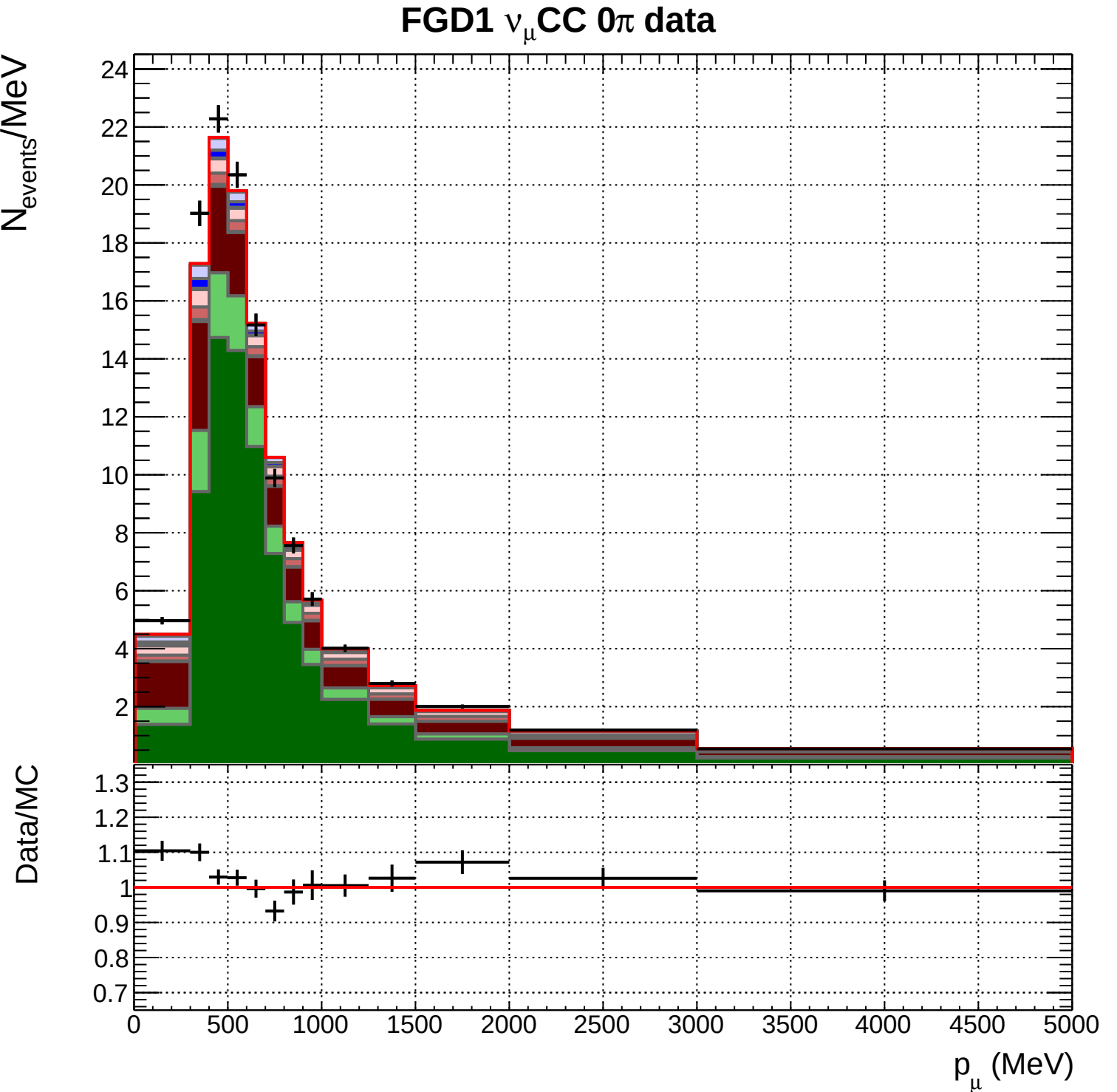

FGD2 ν_μ RHC CC 1 track ratio
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0
200
400
600
800
1000
1200
1400
1600
1800
2000
p_μ (MeV)
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
Data/MeV/1
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0

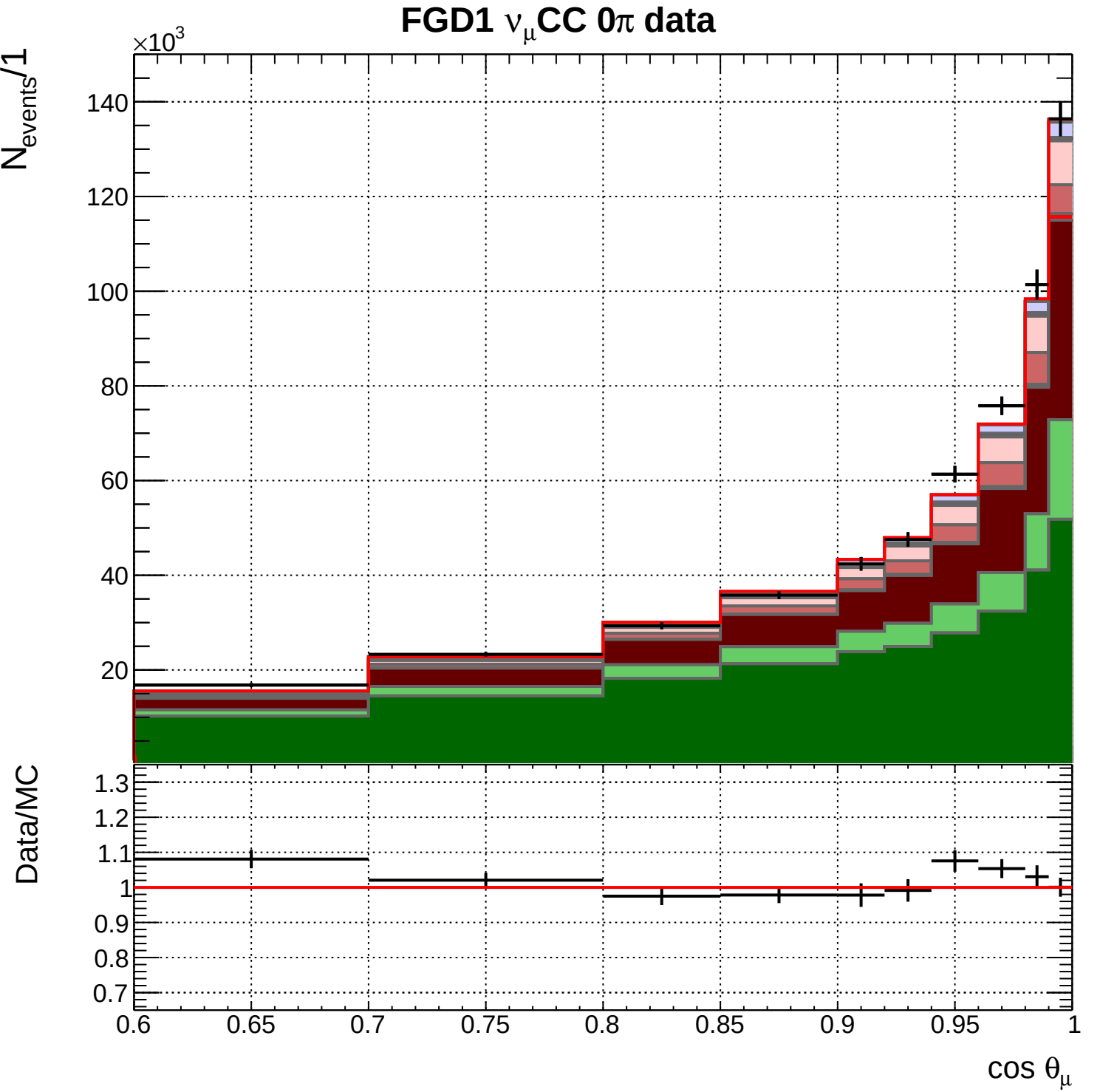

FGD2 ν_μ RHC CC N tracks data: 114.89
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0
500
1000
1500
2000
2500
3000
p_μ (MeV)
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
Data/MeV/1
4
3.5
3
2.5
2
1.5
1
0.5
0

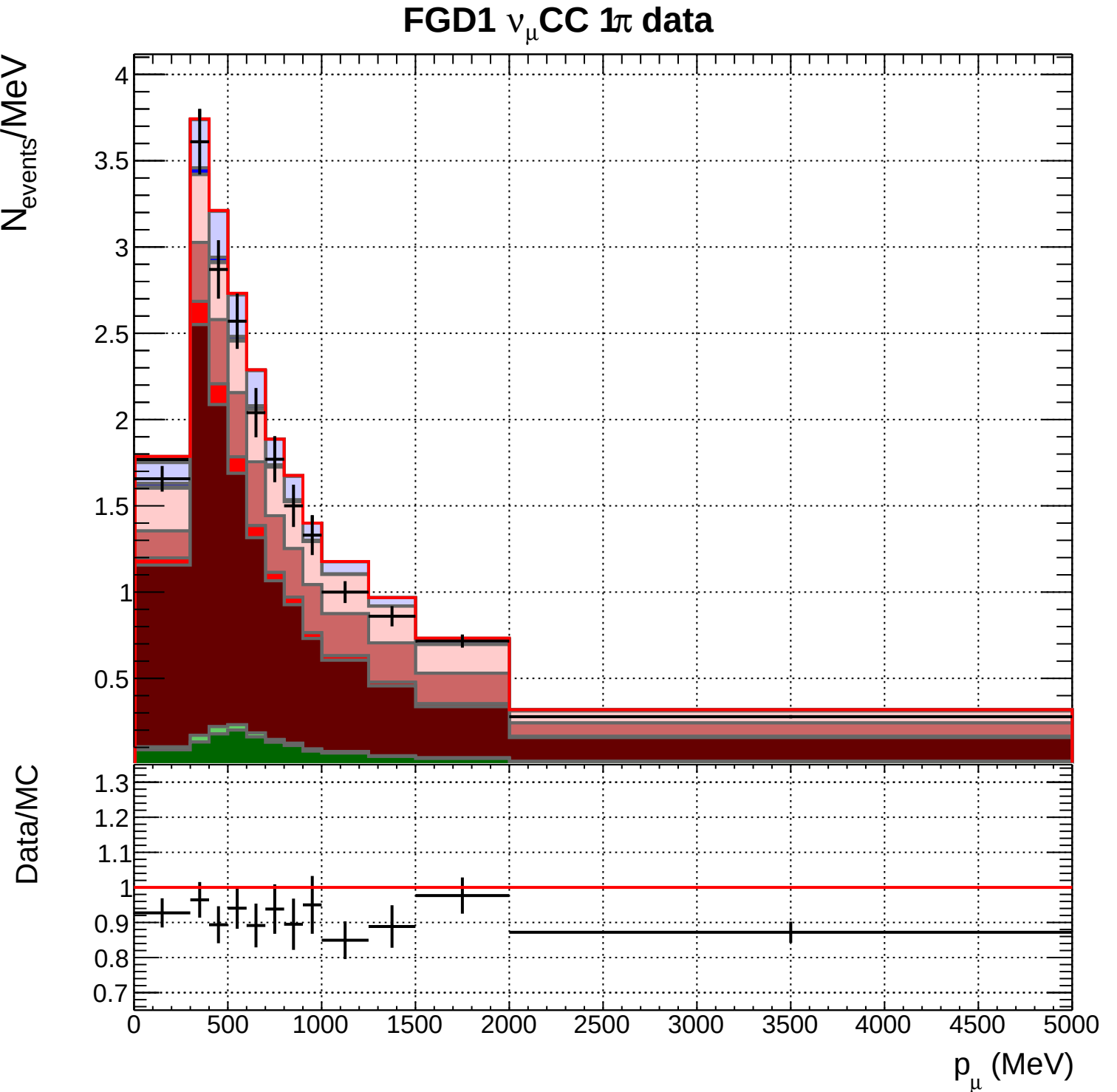

FGD2 ν_μ RHC CC N tracks MC: 105.945
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0
500
1000
1500
2000
2500
3000
p_μ (MeV)
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
MC/MeV/1
4
3.5
3
2.5
2
1.5
1
0.5
0

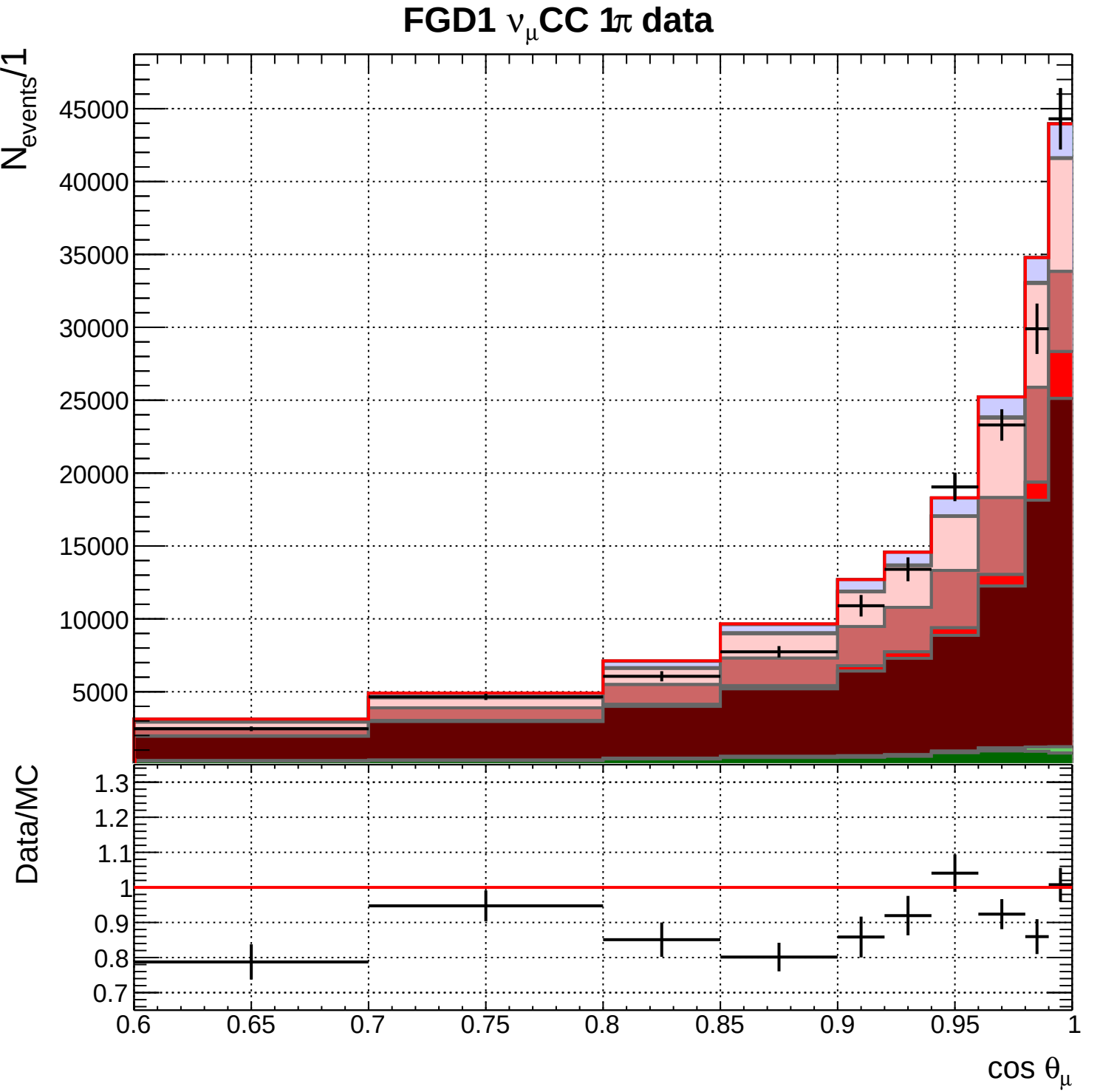

FGD2 ν_μ RHC CC N tracks ratio
cos θ_μ
1
0.95
0.9
0.85
0.8
0.75
0.7
0
500
1000
1500
2000
2500
3000
p_μ (MeV)
Q^2 = 0.05 GeV^2
Q^2 = 0.10 GeV^2
Q^2 = 0.15 GeV^2
Q^2 = 0.20 GeV^2
Data/MeV/1
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0

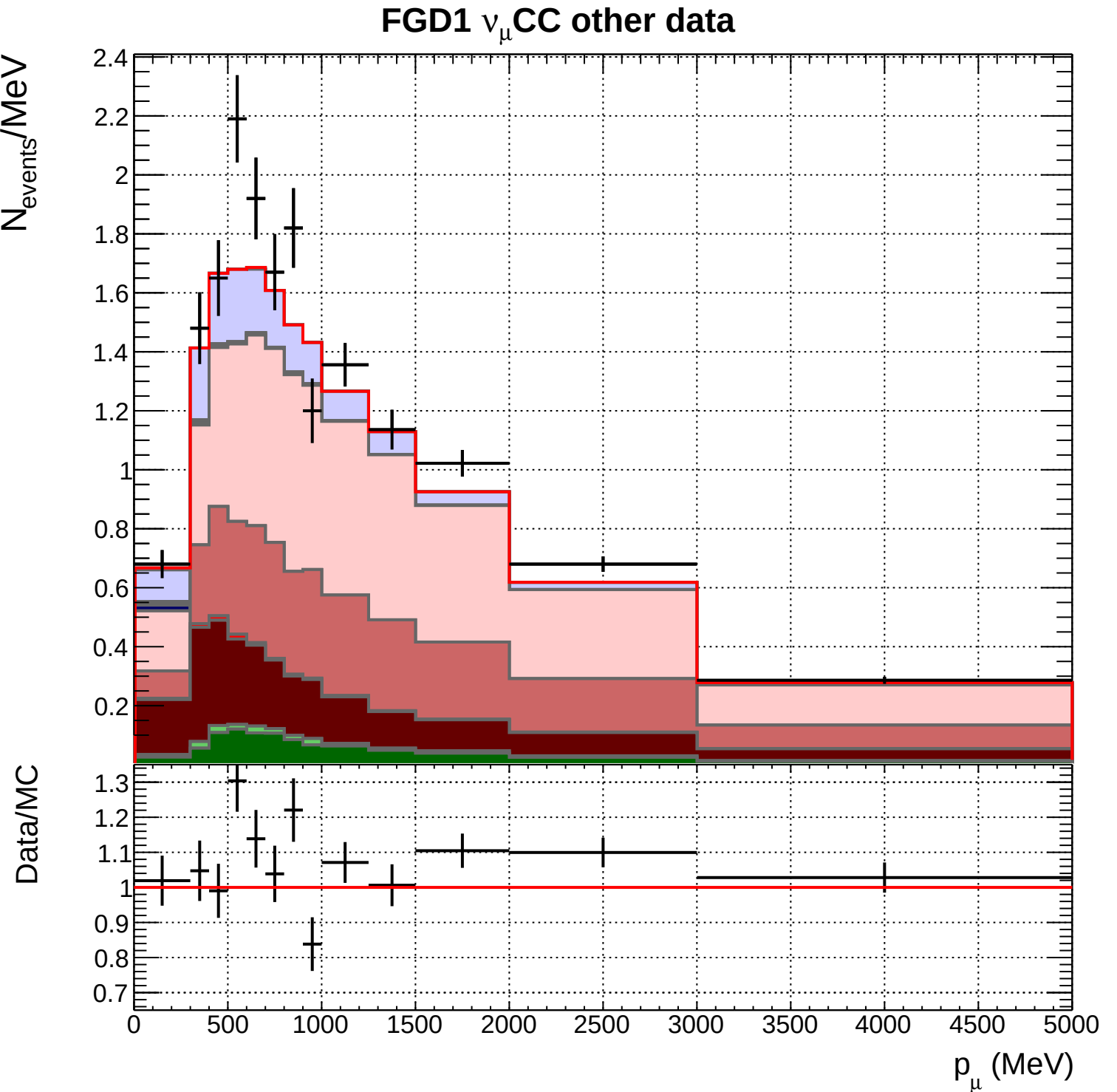

Data
MC
CCQE
2p2h
CC 1$\pi^{\pm,0}$
CC coherent
CC multi-π
CC DIS
NC 1π^{0}
NC 1$\pi^{\pm}$
NC coherent
NC other
NC 1γ
Sand μ

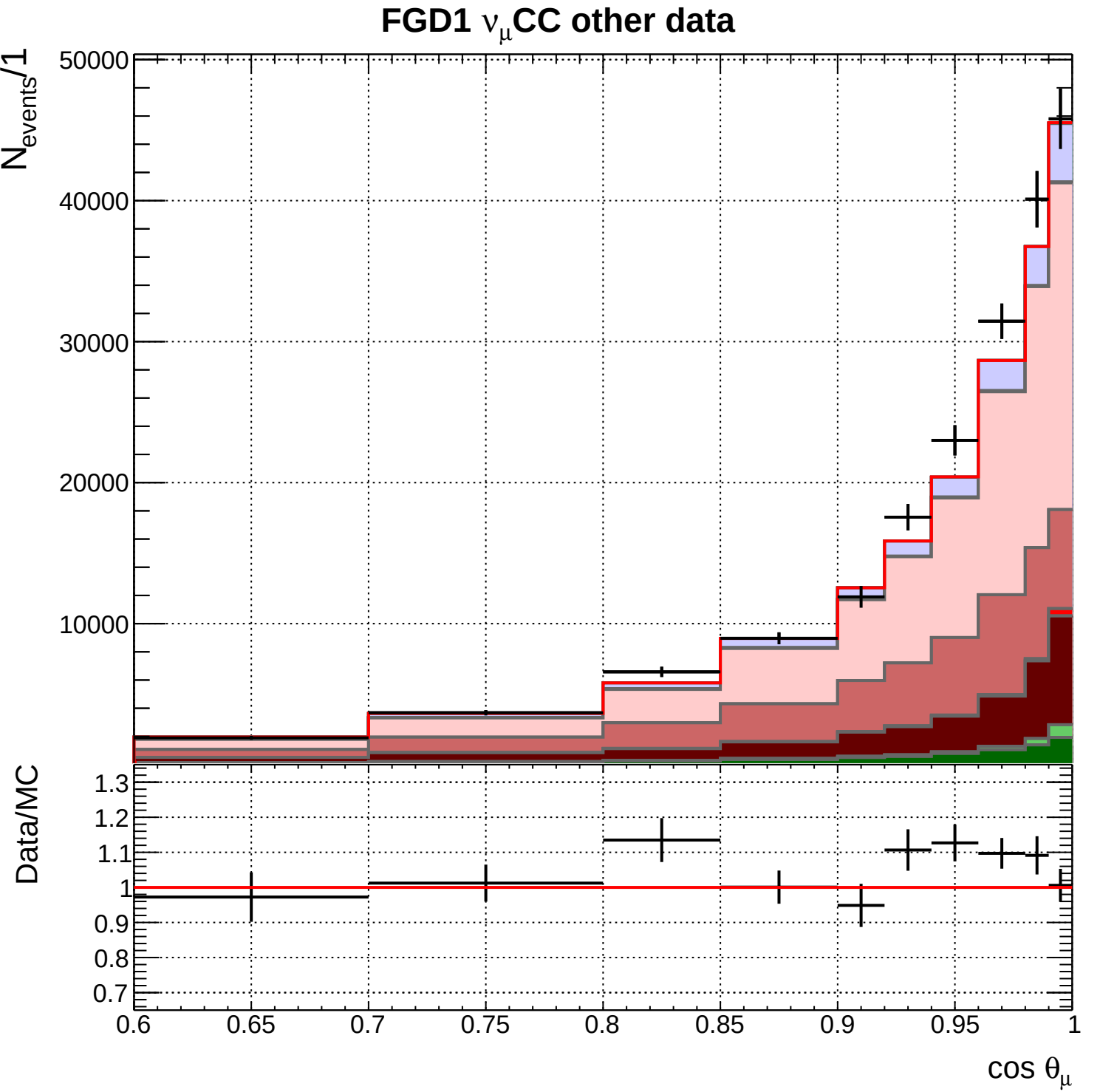

FGD1 ν_μCC 0π data
N_{events}/MeV
Data/MC
p_μ (MeV)
24
22
20
18
16
14
12
10
8
6
4
2
1.3
1.2
1.1
1
0.9
0.8
0.7
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000

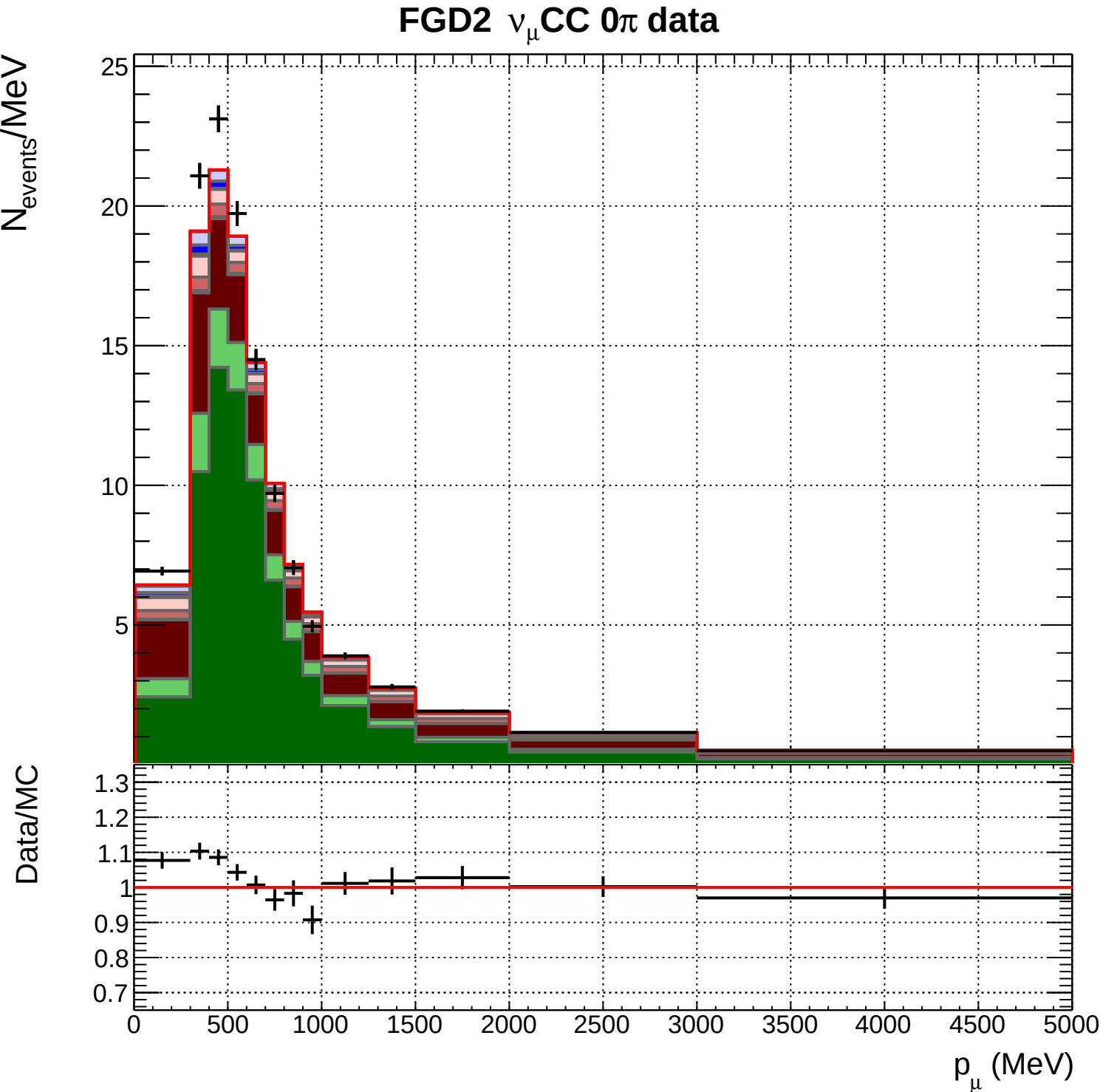

FGD1 ν_μCC 0π data
$\times 10^3$
N_{events}/1
140
120
100
80
60
40
20
Data/MC
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.65
0.7
0.75
0.8
0.85
0.9
0.95
1
cos θ_μ

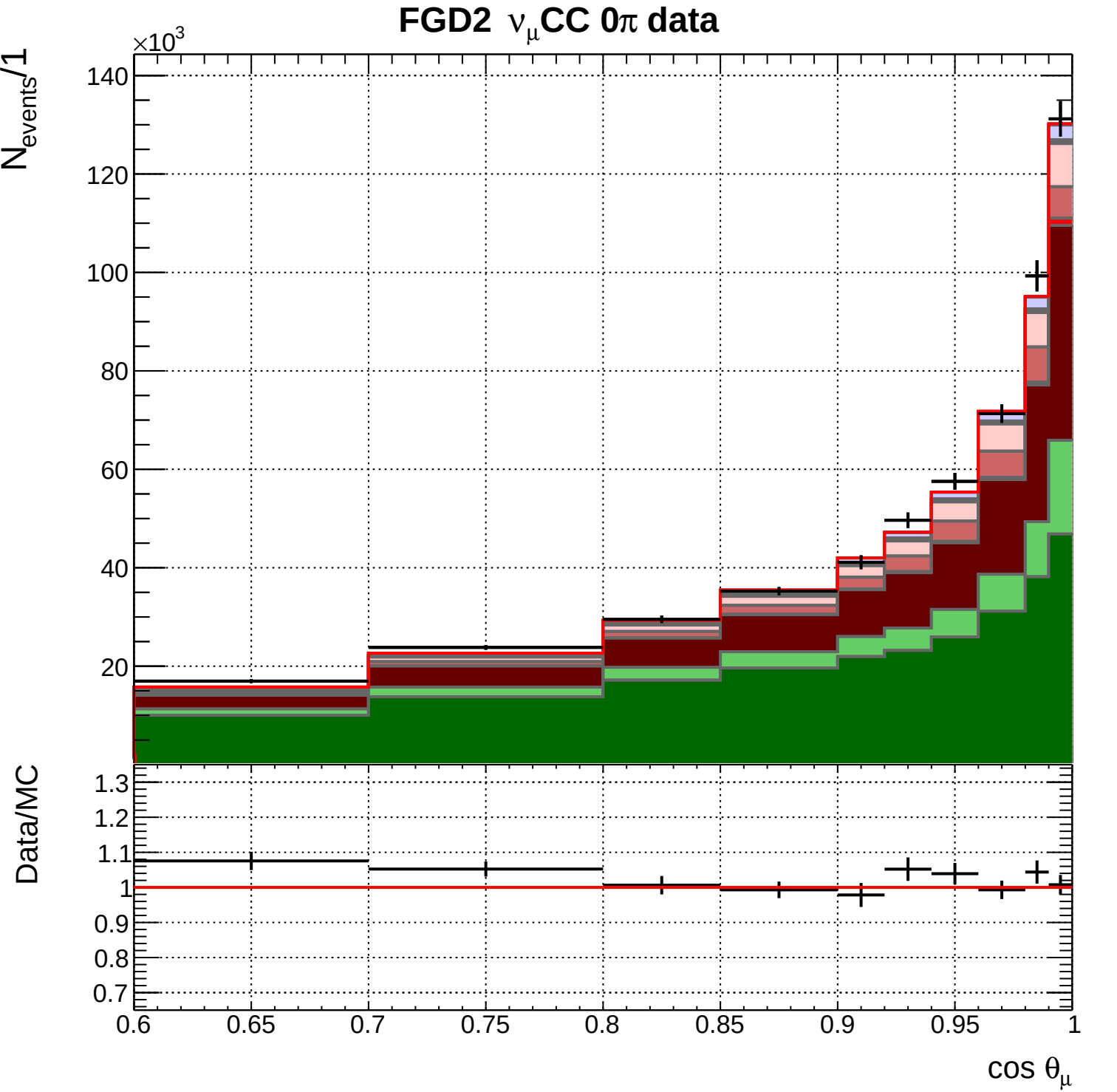

FGD1 ν_μCC 1π data
N_{events}/MeV
4
3.5
3
2.5
2
1.5
1
0.5
Data/MC
1.3
1.2
1.1
1
0.9
0.8
0.7
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
p_μ (MeV)

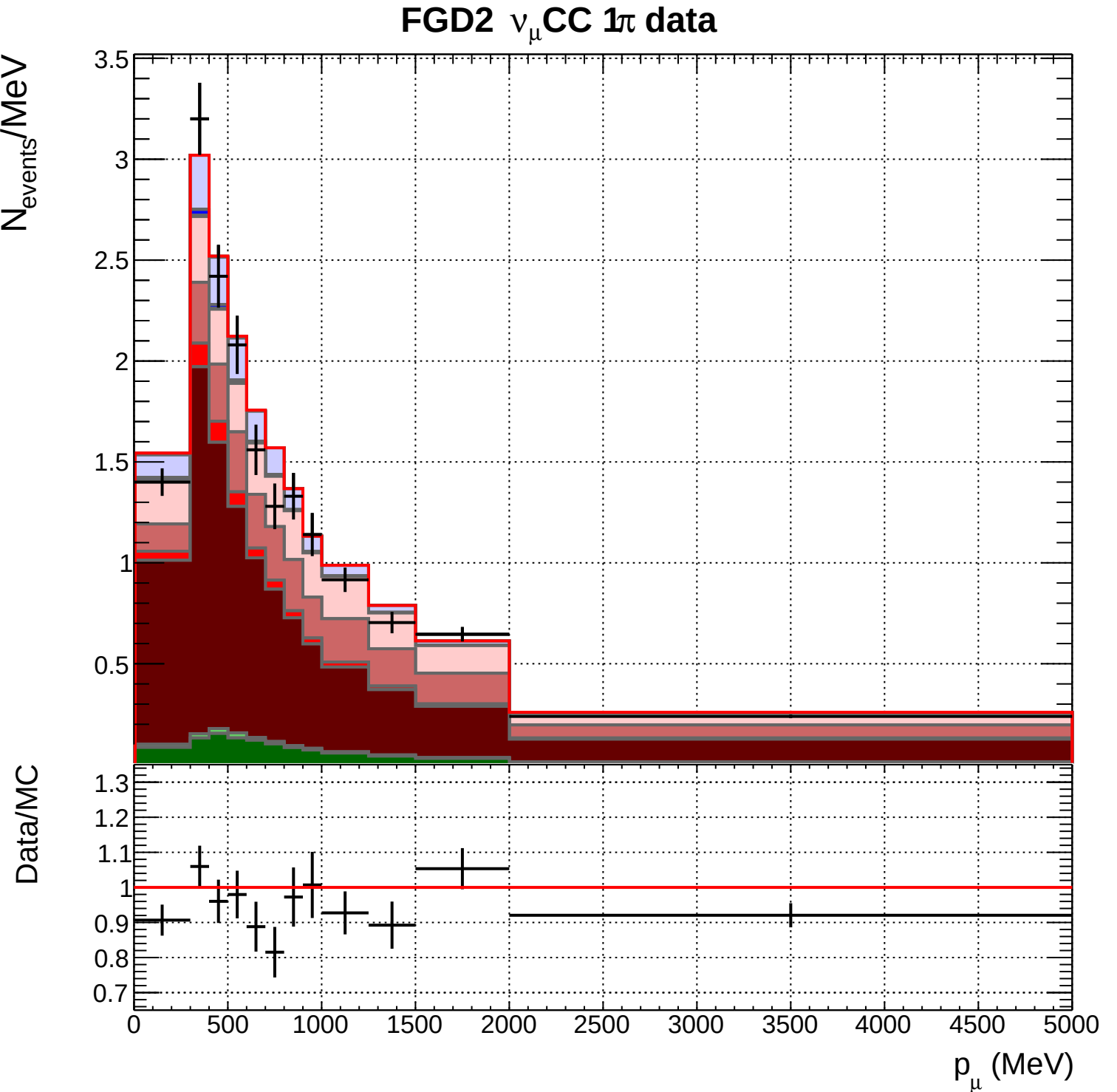

FGD1 ν_μCC 1π data
N_{events}/1
45000
40000
35000
30000
25000
20000
15000
10000
5000
Data/MC
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.65
0.7
0.75
0.8
0.85
0.9
0.95
1
cos θ_μ

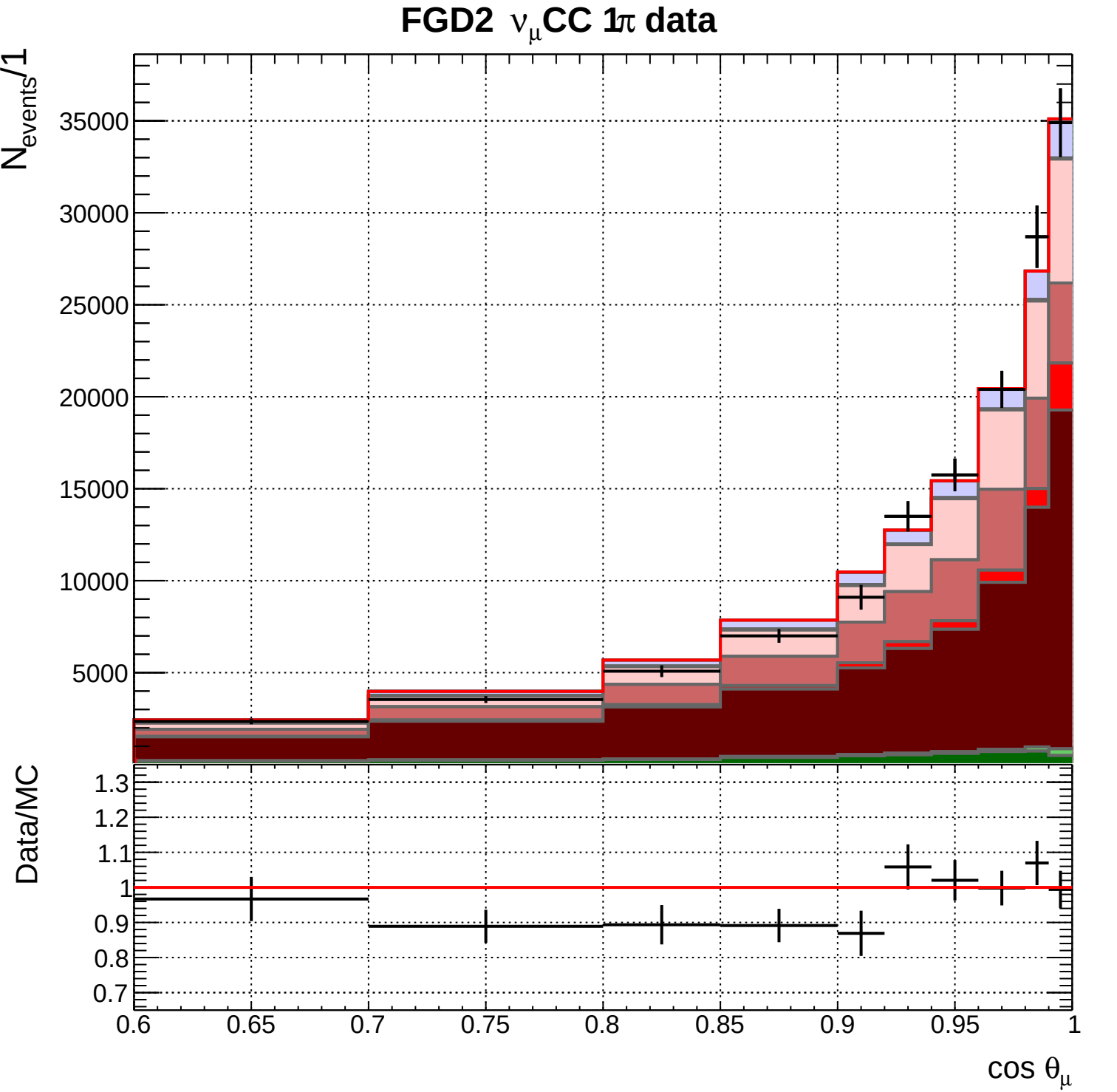

FGD1 ν_μCC other data
N_{events}/MeV
Data/MC
p_μ (MeV)
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
1.3
1.2
1.1
1
0.9
0.8
0.7
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000

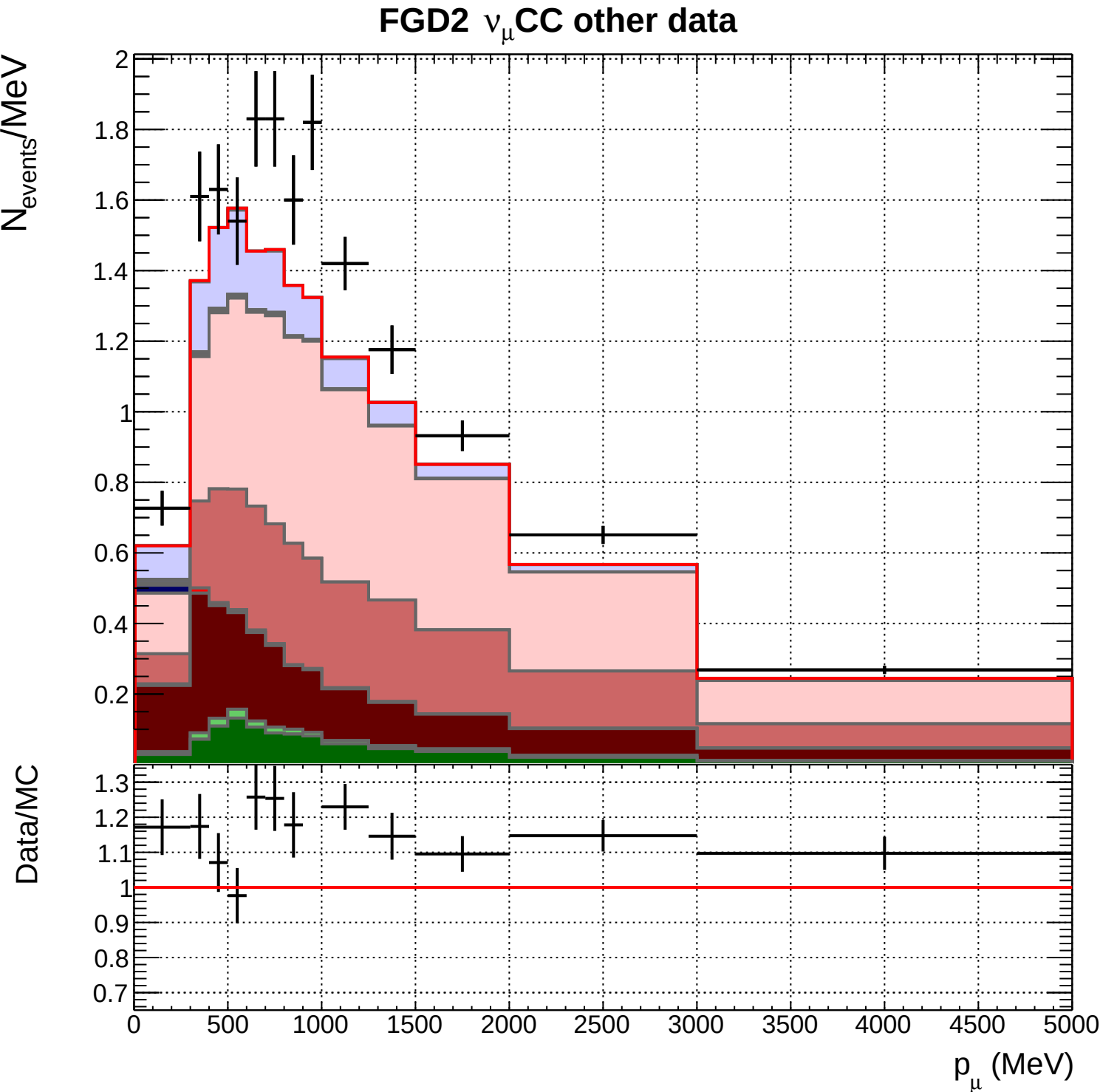

FGD1 ν_μCC other data
N_{events}/1
50000
40000
30000
20000
10000
Data/MC
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.65
0.7
0.75
0.8
0.85
0.9
0.95
1
cos θ_μ

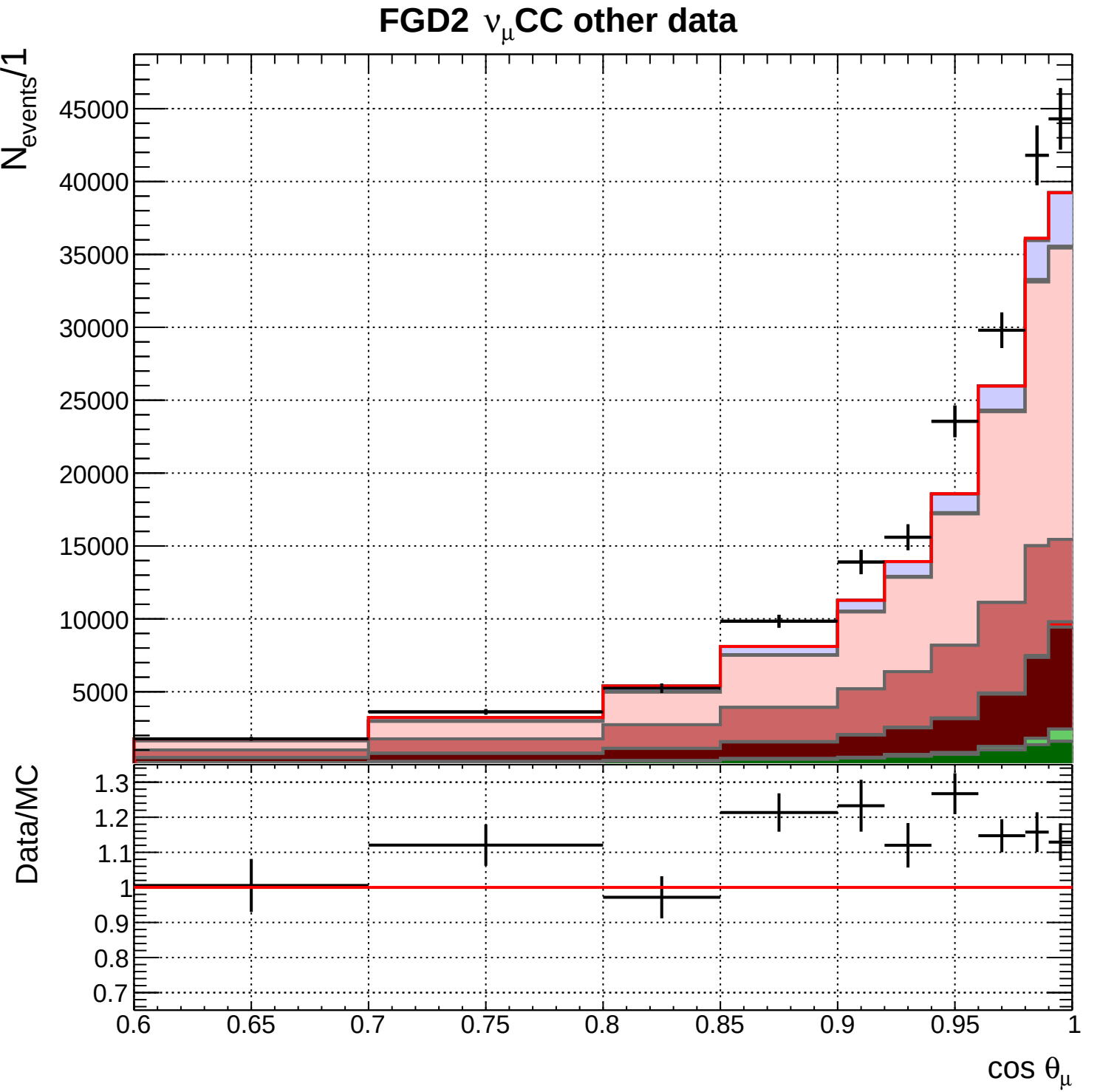

FGD2 ν_μCC 0π data
N_{events}/MeV
25
20
15
10
5
Data/MC
1.3
1.2
1.1
1
0.9
0.8
0.7
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
p_μ (MeV)

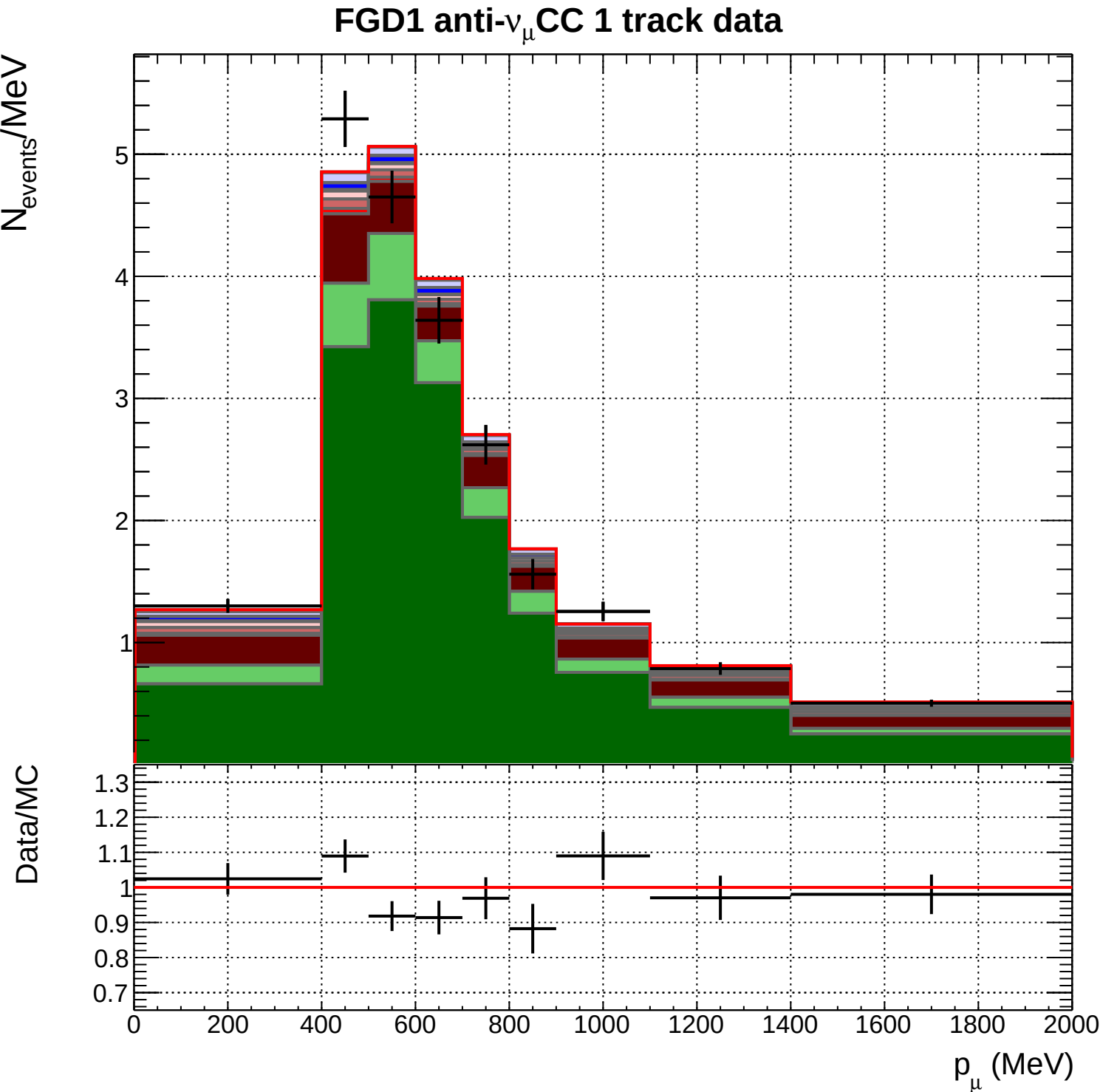

FGD2 ν_μCC 0π data
$\times 10^3$
N_{events}/1
140
120
100
80
60
40
20
Data/MC
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.65
0.7
0.75
0.8
0.85
0.9
0.95
1
cos θ_μ

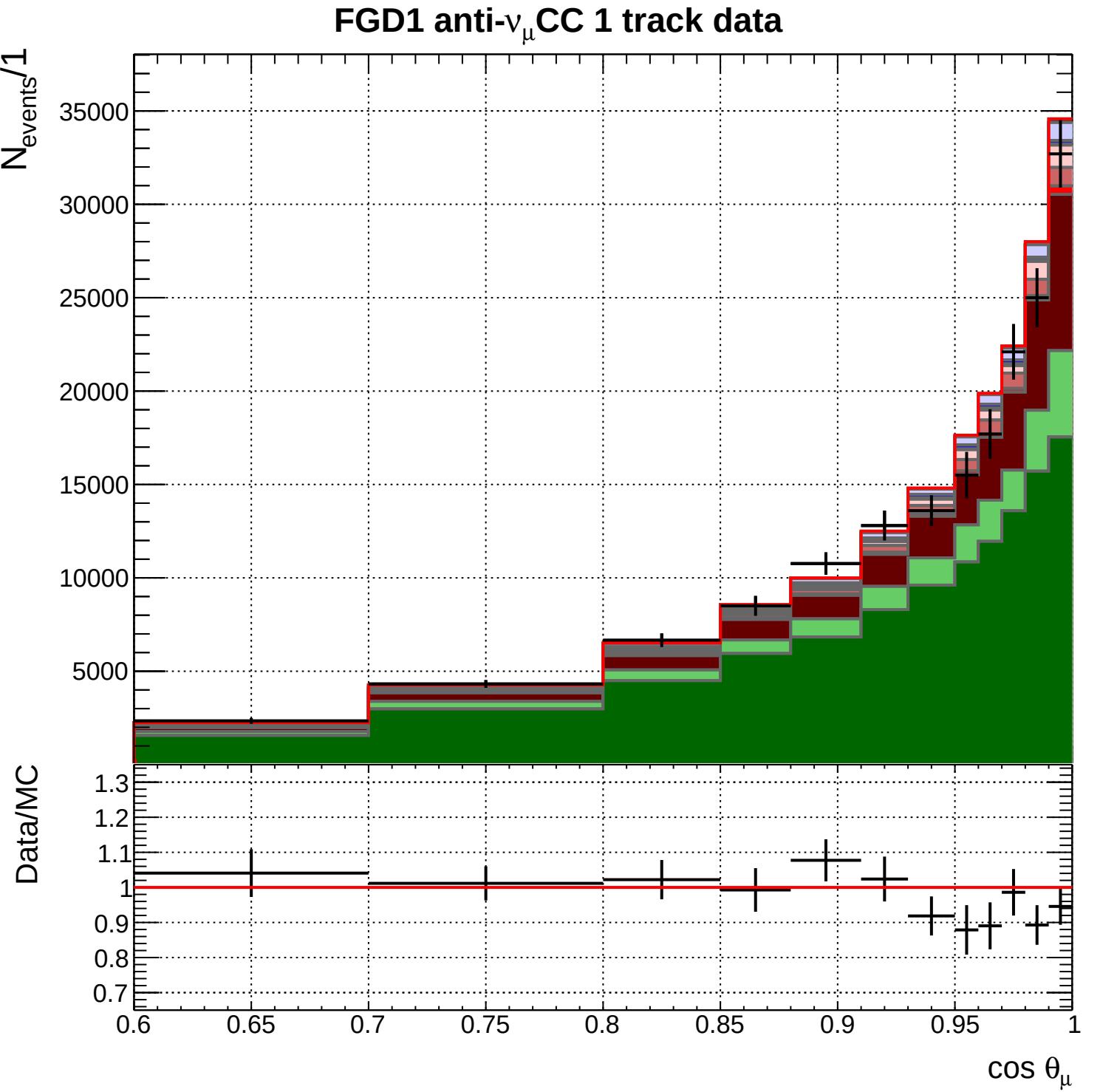

FGD2 ν_μCC 1π data
N_{events}/MeV
3.5
3
2.5
2
1.5
1
0.5
Data/MC
1.3
1.2
1.1
1
0.9
0.8
0.7
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
p_μ (MeV)

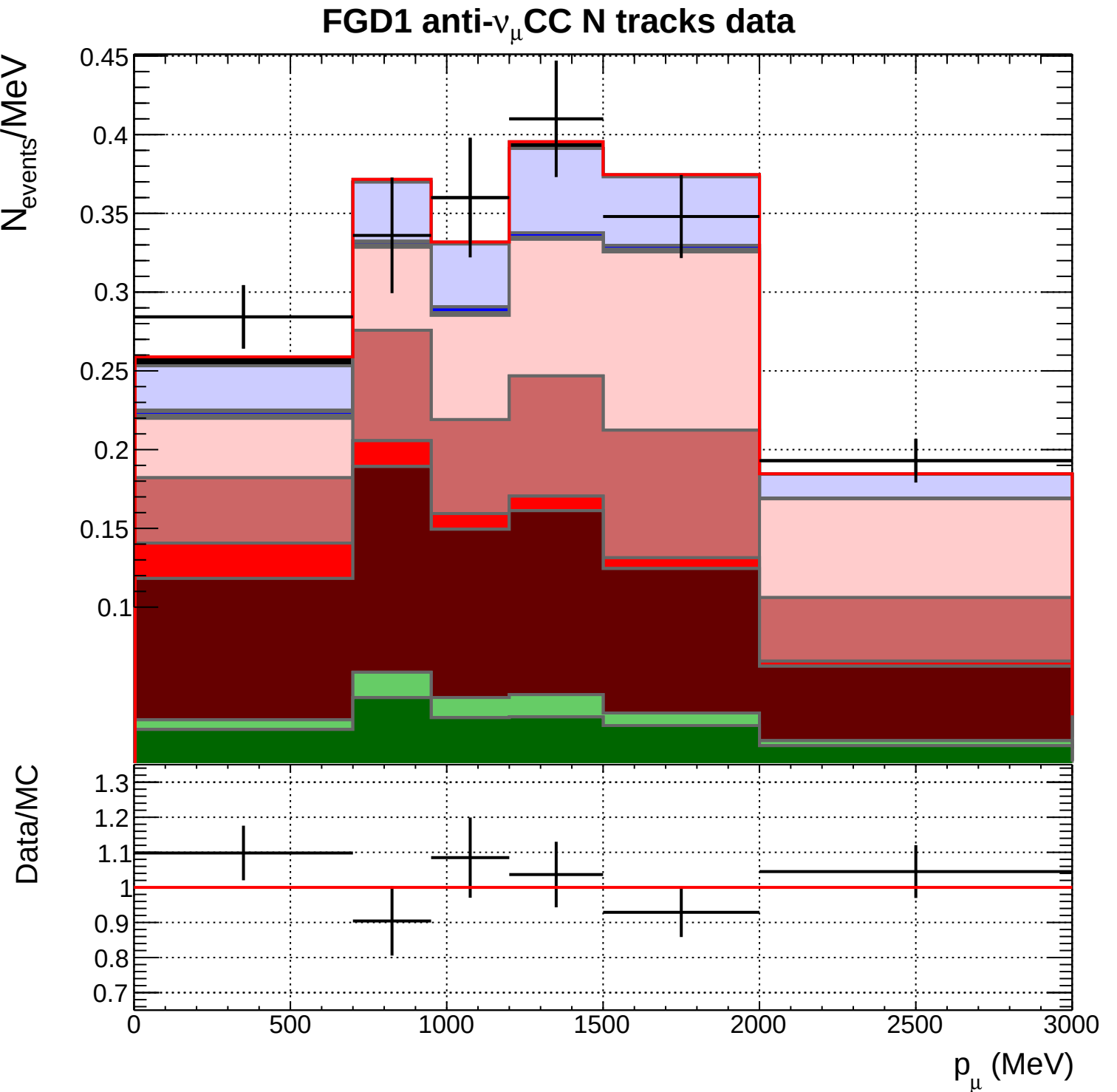

FGD2 ν_μCC 1π data
N_{events}/1
35000
30000
25000
20000
15000
10000
5000
Data/MC
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.65
0.7
0.75
0.8
0.85
0.9
0.95
1
cos θ_μ

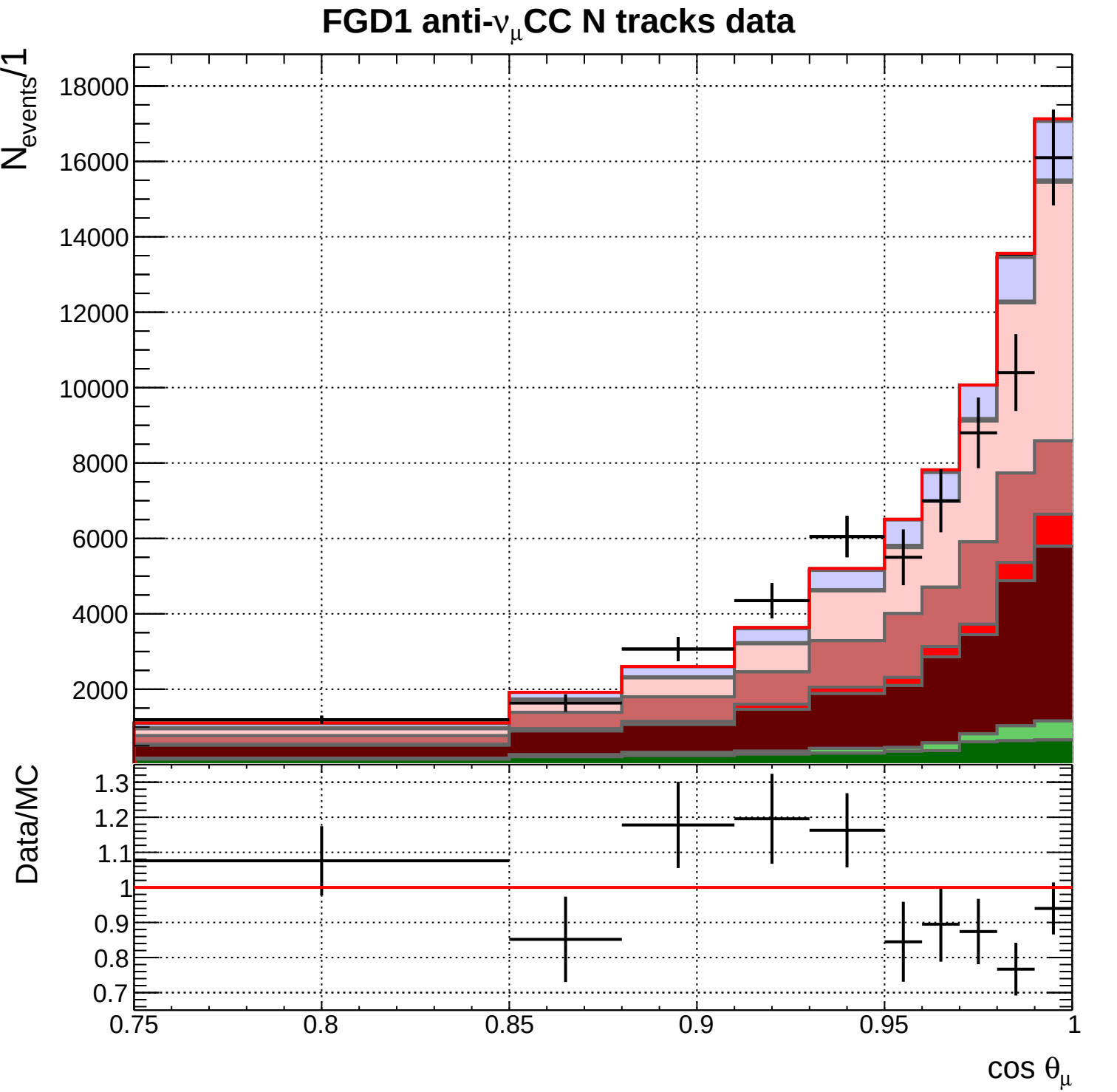

FGD2 ν_μCC other data
N_{events}/MeV
Data/MC
p_μ (MeV)
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
0.7
0.8
0.9
1
1.1
1.2
1.3

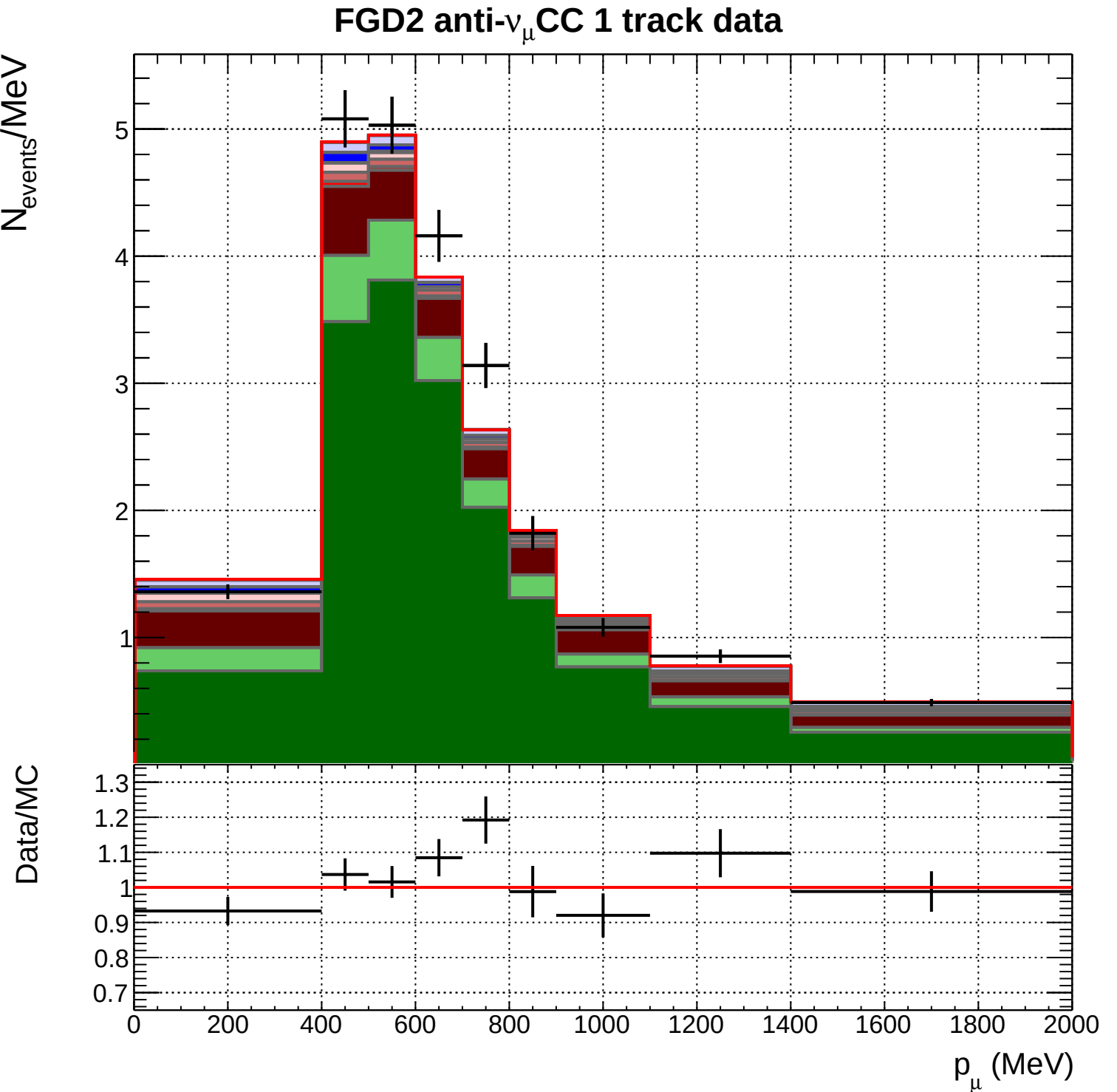

FGD2 ν_μCC other data
N_{events}/1
45000
40000
35000
30000
25000
20000
15000
10000
5000
Data/MC
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.65
0.7
0.75
0.8
0.85
0.9
0.95
1
cos θ_μ

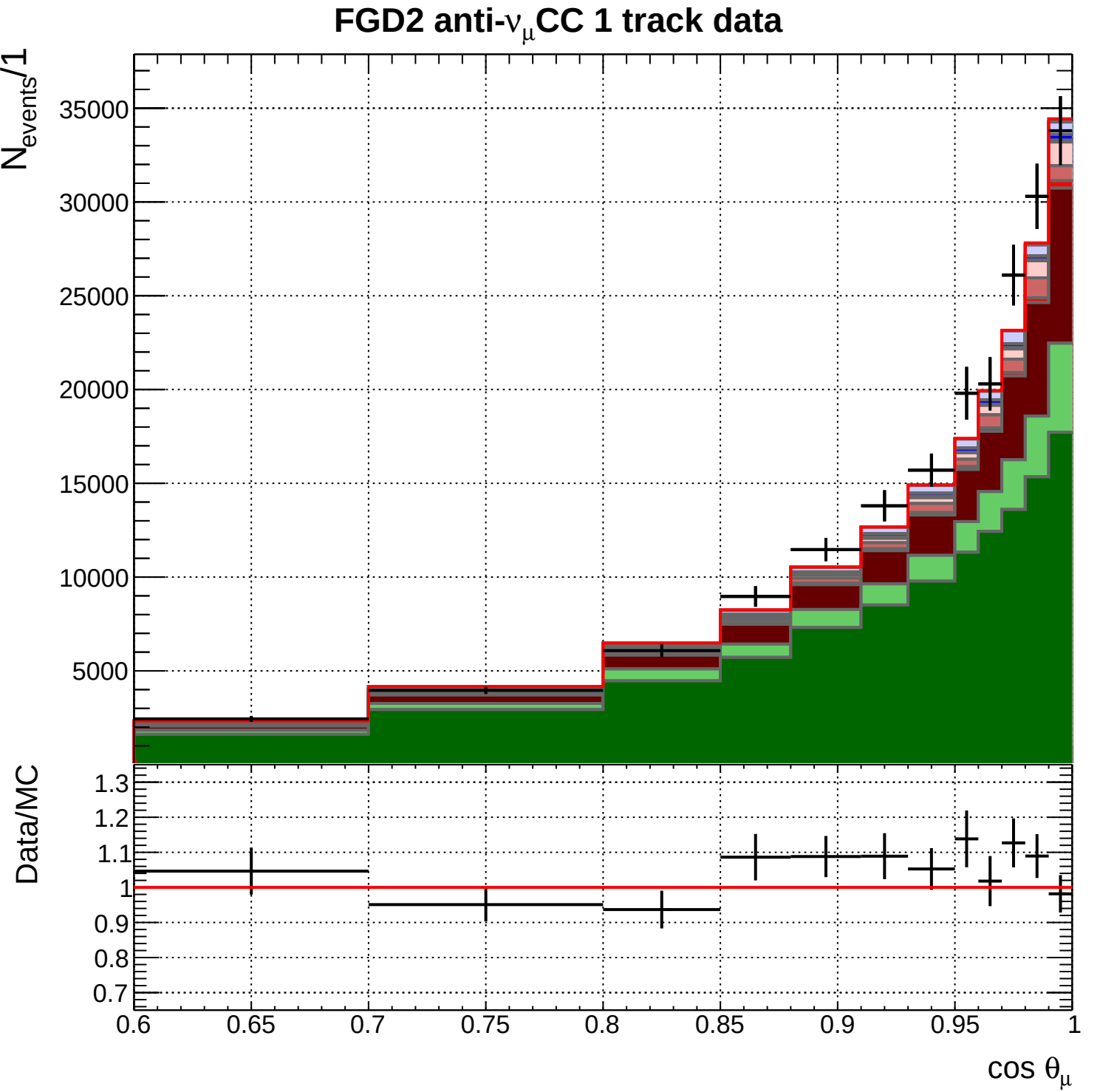

FGD1 anti-ν_μCC 1 track data
N_{events}/MeV
5
4
3
2
1
Data/MC
1.3
1.2
1.1
1
0.9
0.8
0.7
0
200
400
600
800
1000
1200
1400
1600
1800
2000
p_μ (MeV)

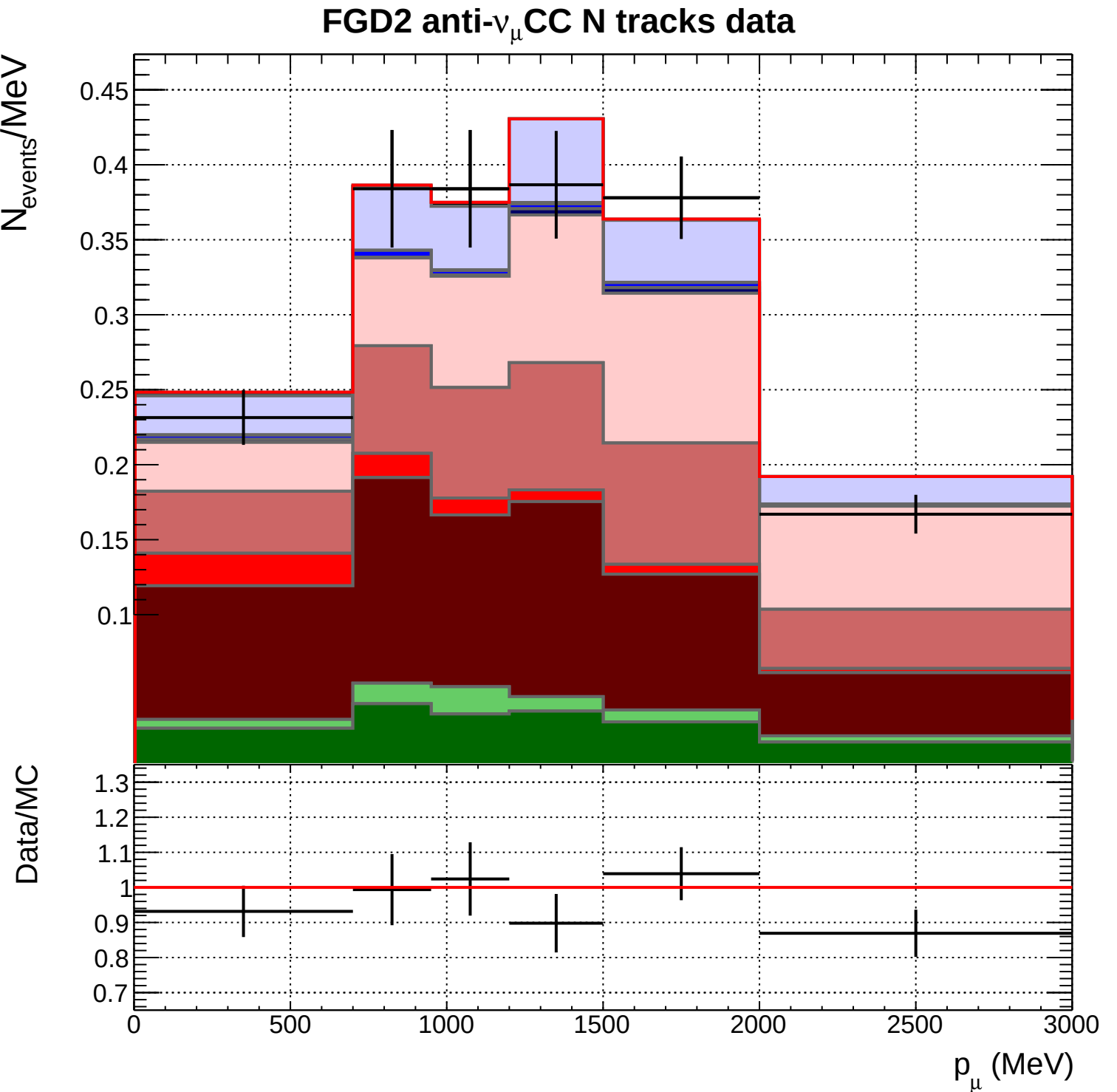

FGD1 anti-ν_μCC 1 track data
N_{events}/1
35000
30000
25000
20000
15000
10000
5000
Data/MC
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.65
0.7
0.75
0.8
0.85
0.9
0.95
1
cos θ_μ

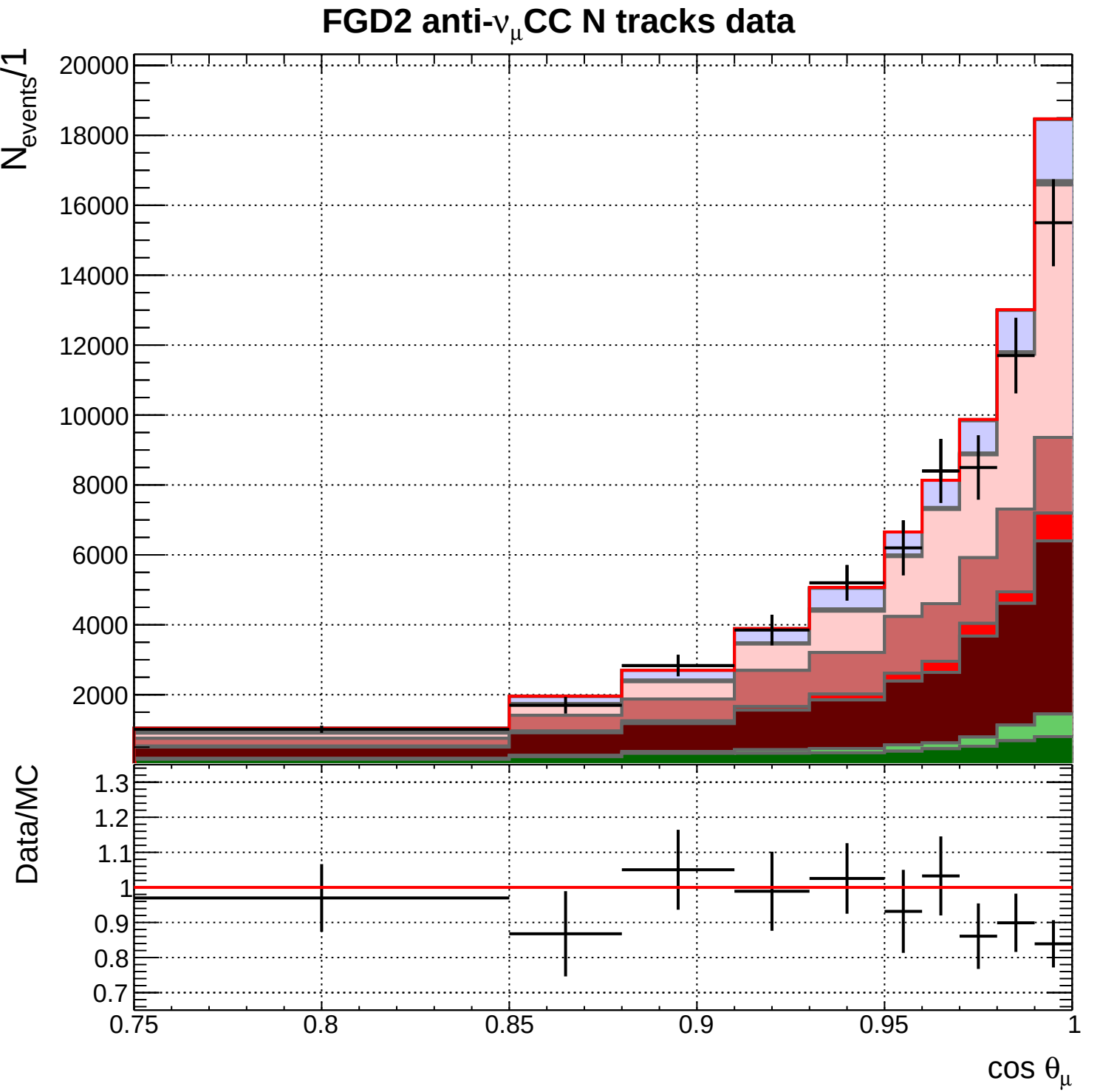

FGD1 anti-ν_μCC N tracks data
N_{events}/MeV
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
Data/MC
1.3
1.2
1.1
1
0.9
0.8
0.7
0
500
1000
1500
2000
2500
3000
p_μ (MeV)

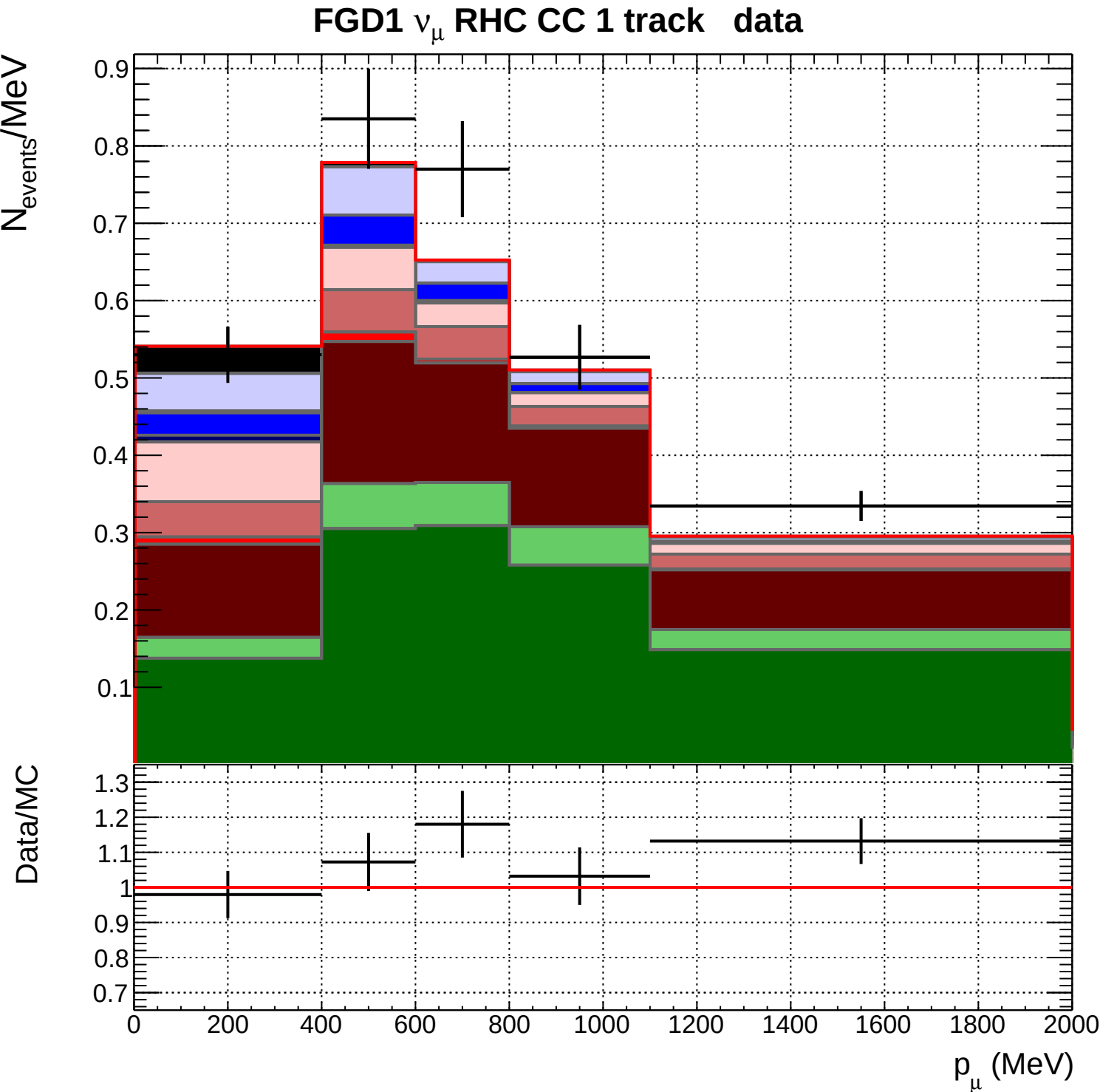

FGD1 anti-ν_μCC N tracks data
N_{events}/1
18000
16000
14000
12000
10000
8000
6000
4000
2000
Data/MC
1.3
1.2
1.1
1
0.9
0.8
0.7
0.75
0.8
0.85
0.9
0.95
1
cos θ_μ

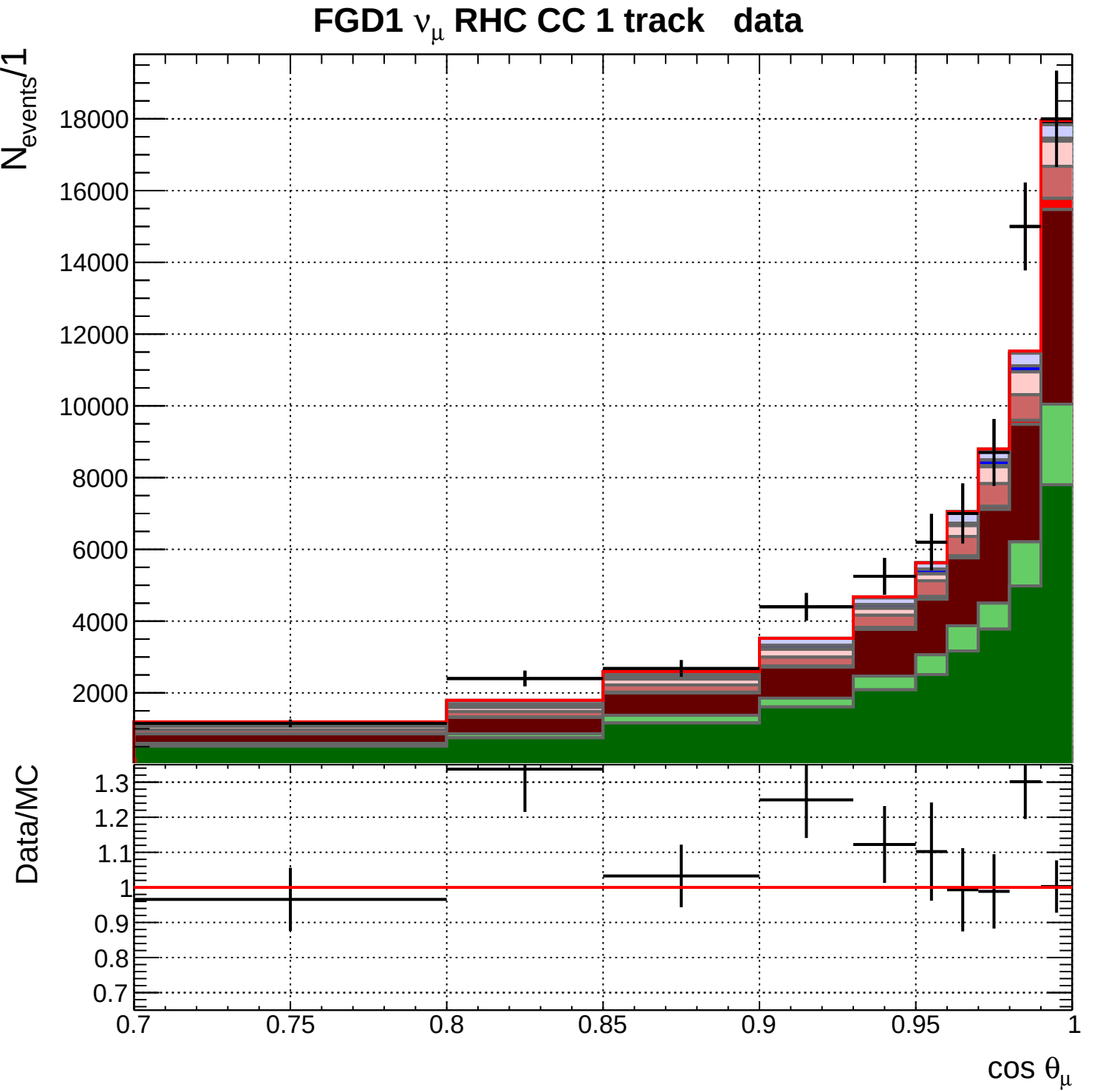

FGD2 anti-ν_μCC 1 track data
N_{events}/MeV
Data/MC
p_μ (MeV)
0
200
400
600
800
1000
1200
1400
1600
1800
2000
1
2
3
4
5
0.7
0.8
0.9
1
1.1
1.2
1.3

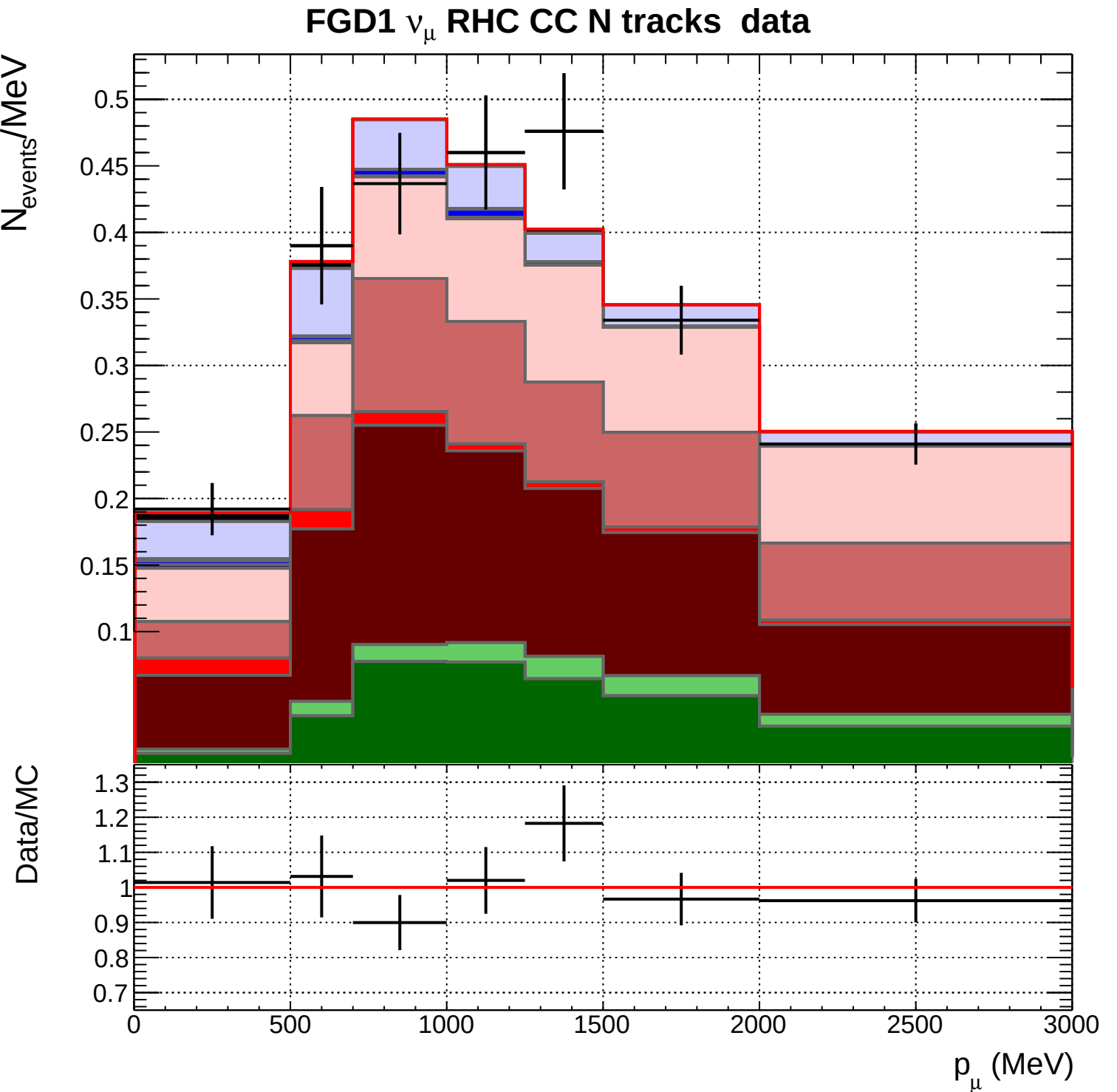

FGD2 anti-ν_μCC 1 track data
N_{events}/1
35000
30000
25000
20000
15000
10000
5000
Data/MC
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.65
0.7
0.75
0.8
0.85
0.9
0.95
1
cos θ_μ

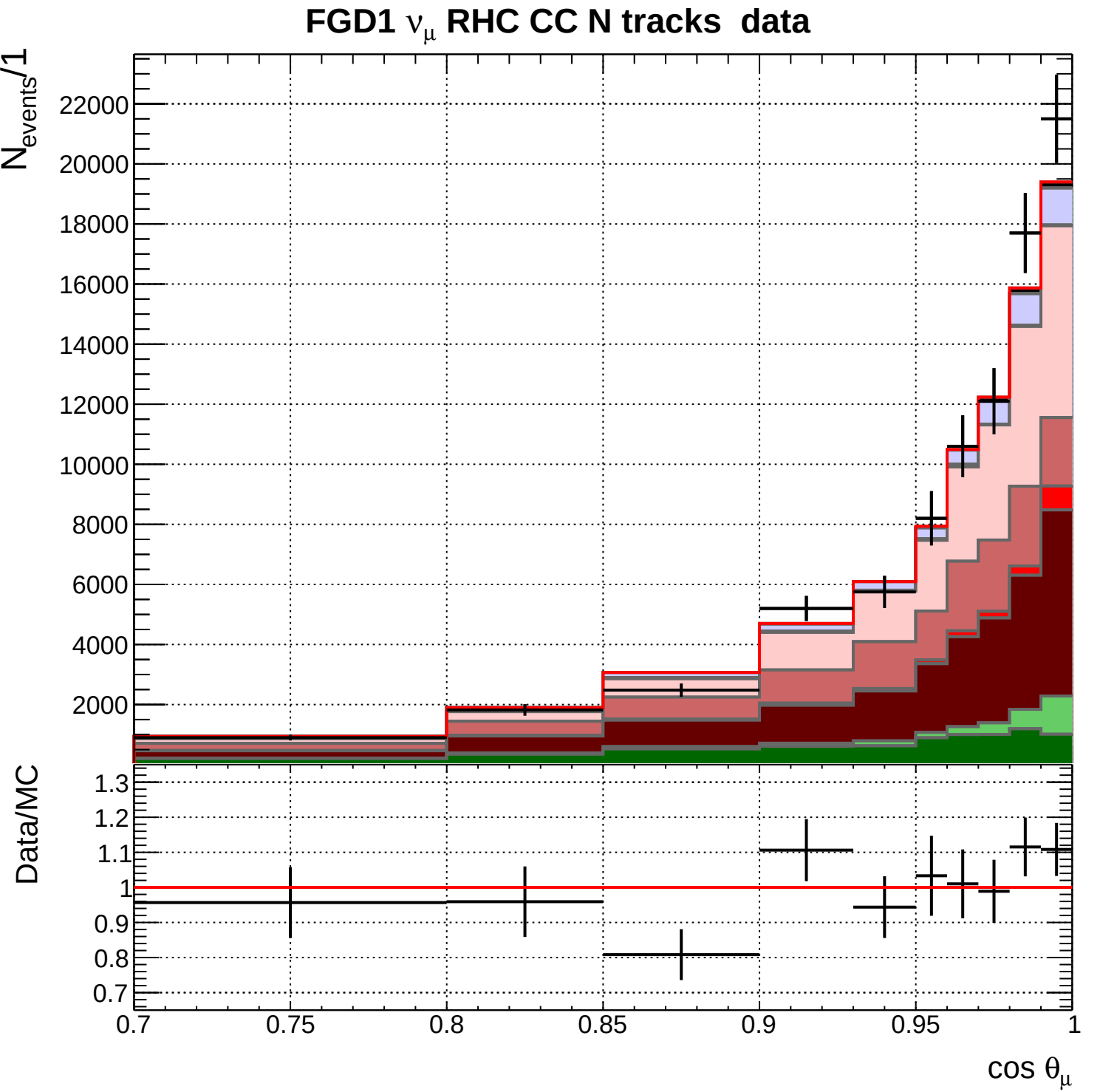

FGD2 anti-ν_μCC N tracks data
N_{events}/MeV
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
Data/MC
1.3
1.2
1.1
1
0.9
0.8
0.7
0
500
1000
1500
2000
2500
3000
p_μ (MeV)

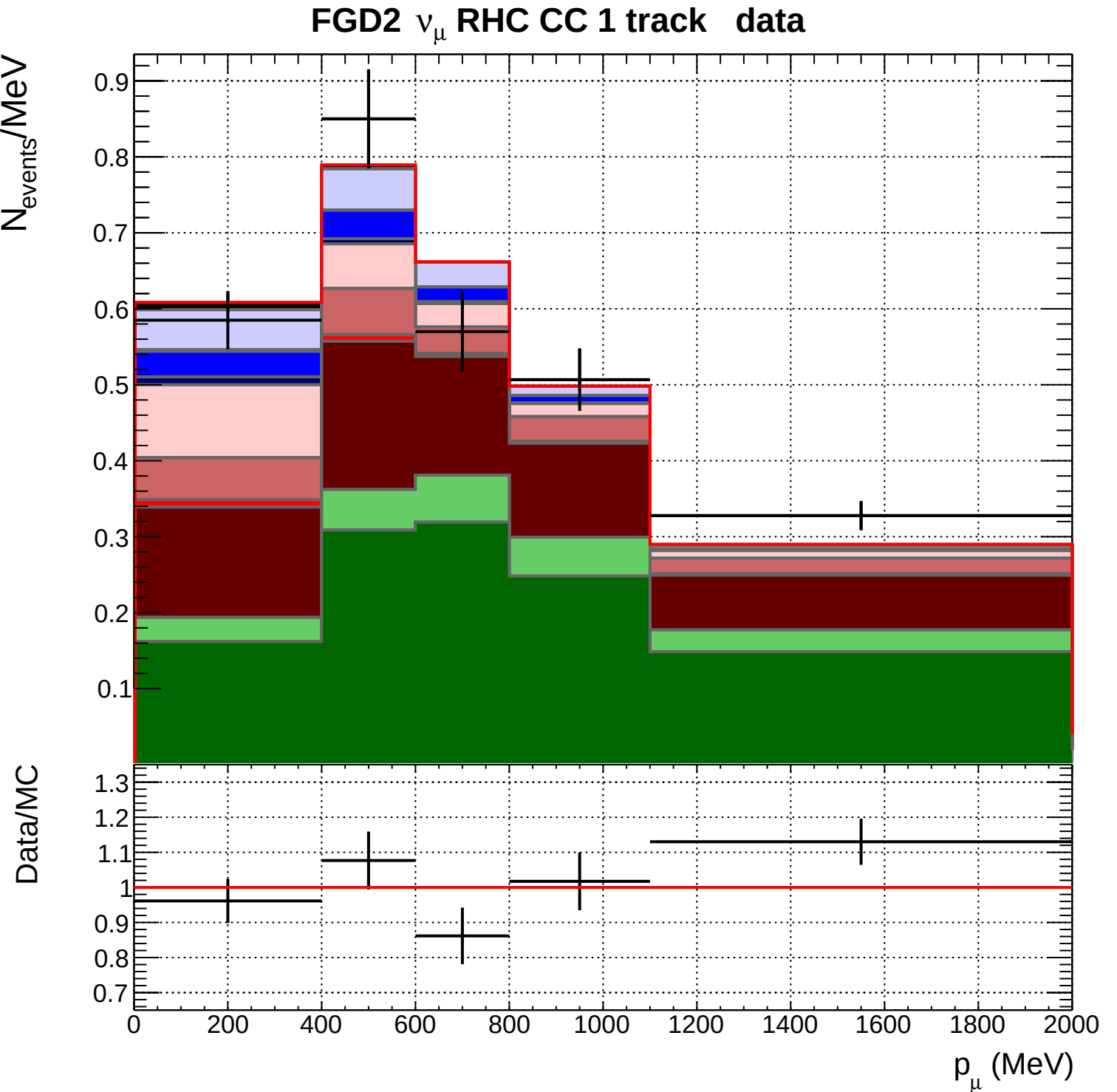

FGD2 anti-ν_μCC N tracks data
N_{events}/1
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
Data/MC
1.3
1.2
1.1
1
0.9
0.8
0.7
0.75
0.8
0.85
0.9
0.95
1
cos θ_μ

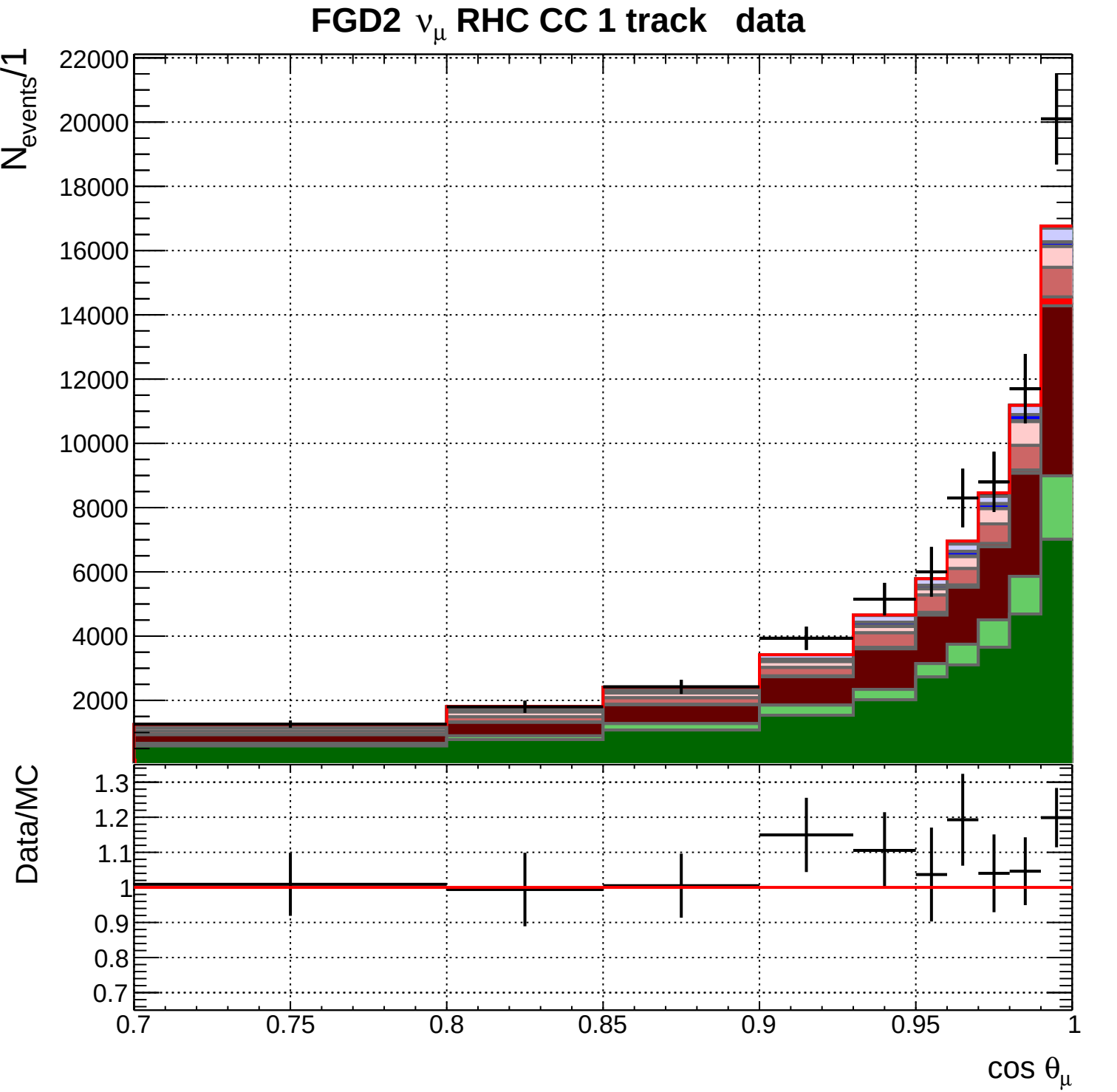

FGD1 ν_μ RHC CC 1 track data
N_{events}/MeV
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
Data/MC
1.3
1.2
1.1
1
0.9
0.8
0.7
0
200
400
600
800
1000
1200
1400
1600
1800
2000
p_μ (MeV)

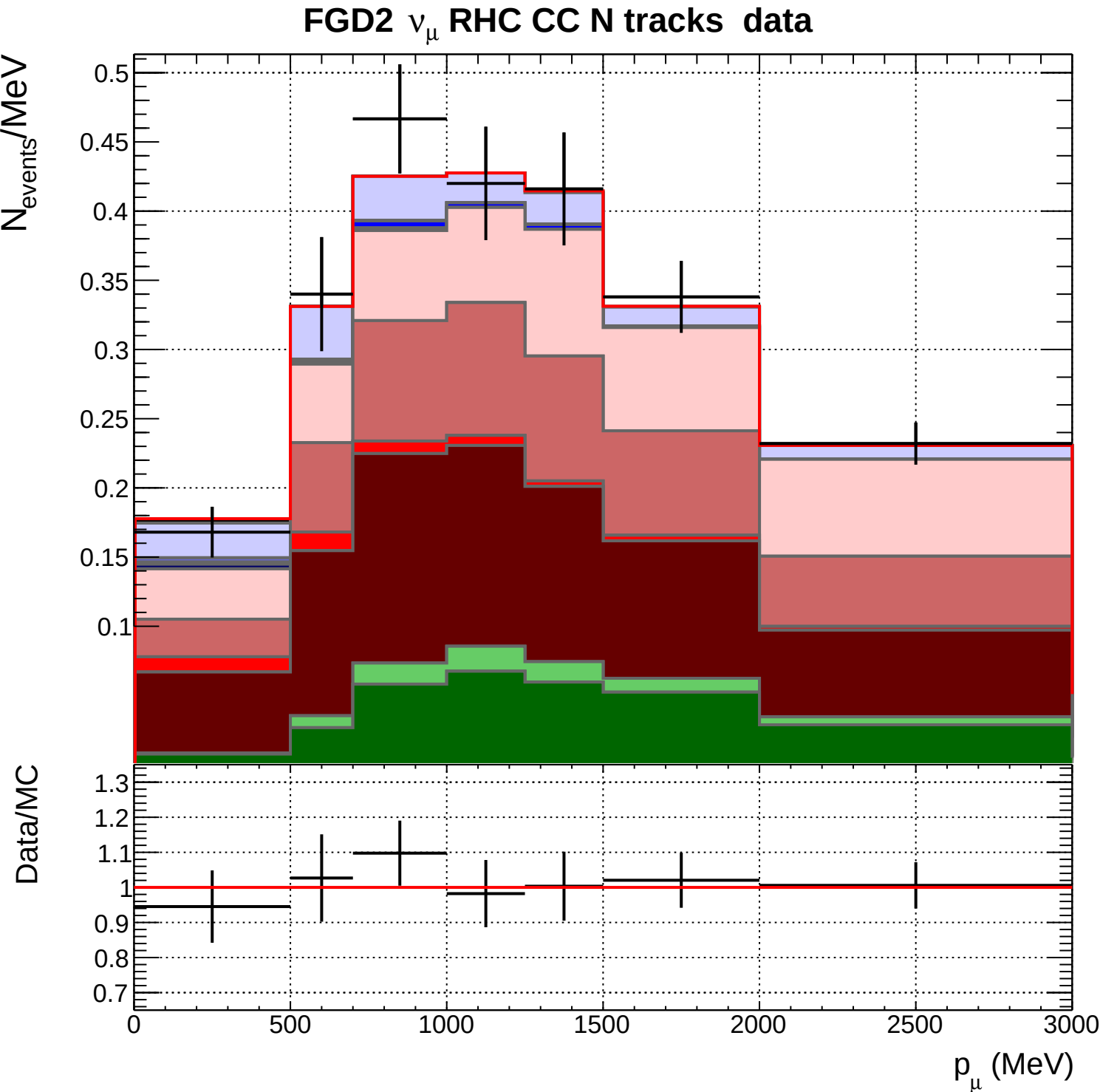

FGD1 ν_μ RHC CC 1 track data
N_{events}/1
18000
16000
14000
12000
10000
8000
6000
4000
2000
Data/MC
1.3
1.2
1.1
1
0.9
0.8
0.7
0.7
0.75
0.8
0.85
0.9
0.95
1
cos θ_μ

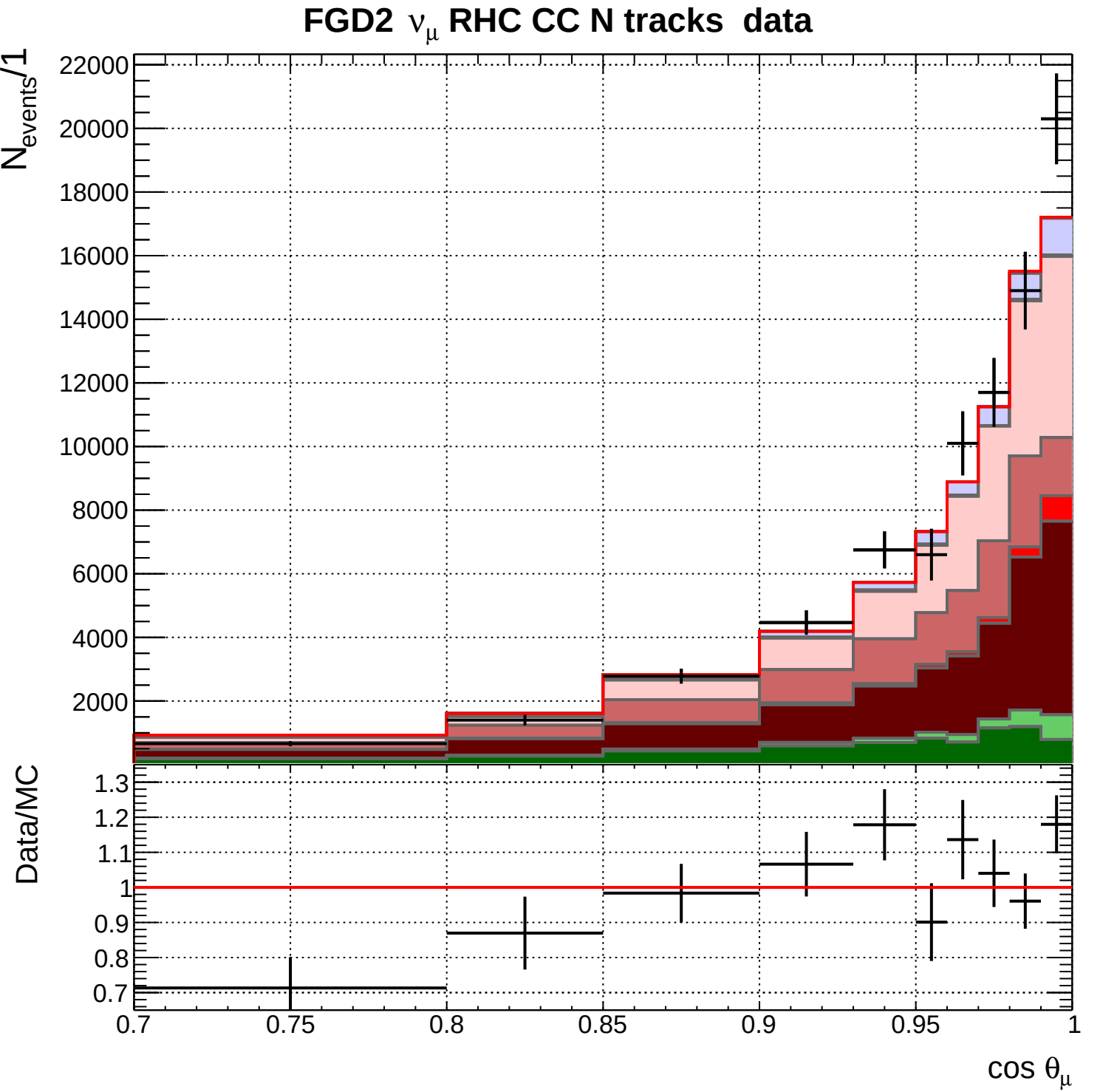

FGD1 ν_μ RHC CC N tracks data
N_{events}/MeV
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
Data/MC
1.3
1.2
1.1
1
0.9
0.8
0.7
0
500
1000
1500
2000
2500
3000
p_μ (MeV)


FGD1 ν_μ RHC CC N tracks data
N_{events}/1
22000
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
Data/MC
1.3
1.2
1.1
1
0.9
0.8
0.7
0.7
0.75
0.8
0.85
0.9
0.95
1
cos θ_μ


FGD2 ν_μ RHC CC 1 track data
N_{events}/MeV
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
Data/MC
1.3
1.2
1.1
1
0.9
0.8
0.7
0
200
400
600
800
1000
1200
1400
1600
1800
2000
p_μ (MeV)


FGD2 ν_μ RHC CC 1 track data
N_{events}/1
22000
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
Data/MC
1.3
1.2
1.1
1
0.9
0.8
0.7
0.7
0.75
0.8
0.85
0.9
0.95
1
cos θ_μ


FGD2 ν_μ RHC CC N tracks data
N_{events}/MeV
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
Data/MC
1.3
1.2
1.1
1
0.9
0.8
0.7
0
500
1000
1500
2000
2500
3000
p_μ (MeV)


FGD2 ν_μ RHC CC N tracks data
N_{events}/1
22000
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
Data/MC
1.3
1.2
1.1
1
0.9
0.8
0.7
0.7
0.75
0.8
0.85
0.9
0.95
1
cos θ_μ