# Excl. D* reconstruction

Sample of 100K events

$B^+ \rightarrow K^+ \tau^- \mu^+$

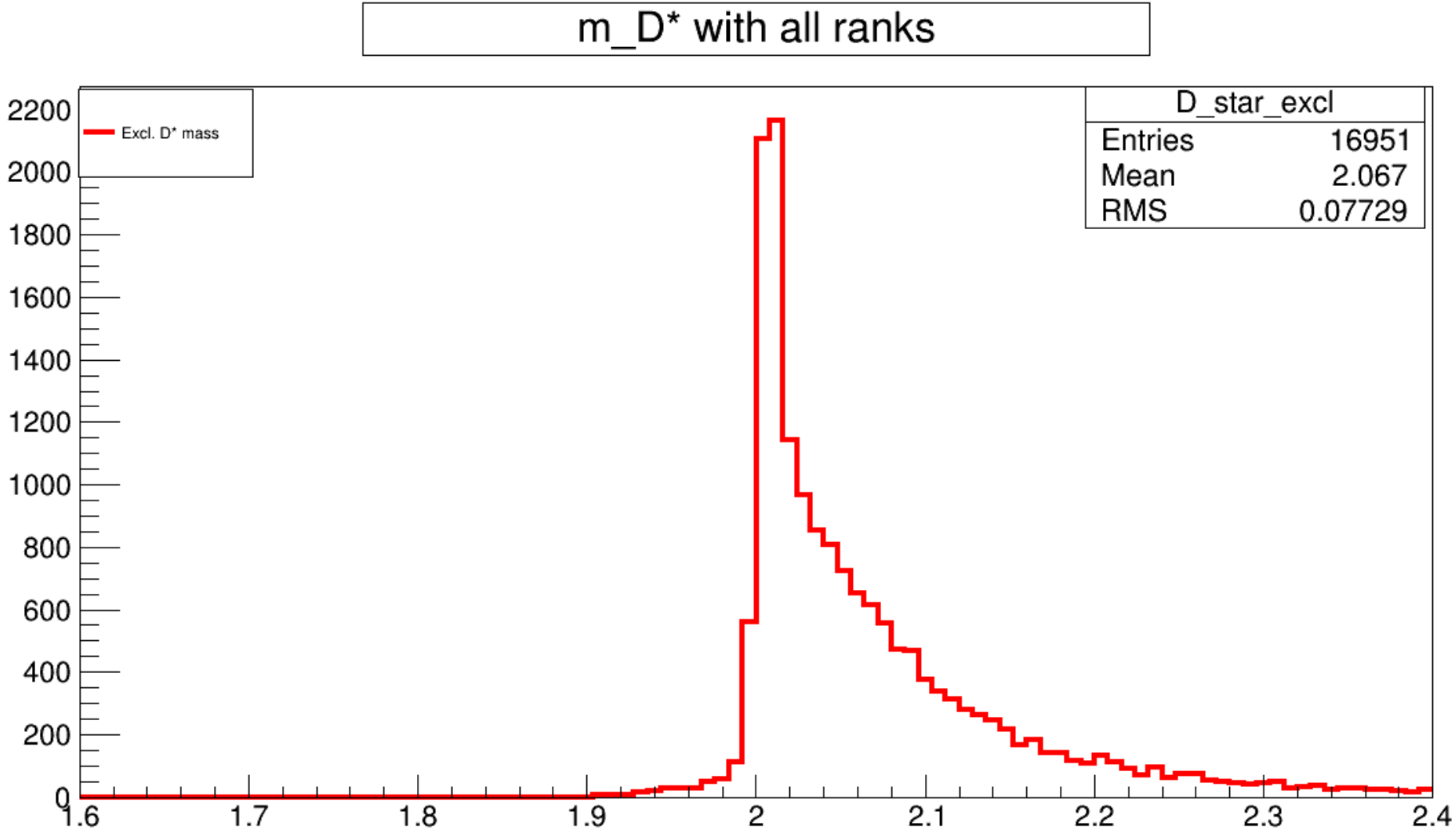
$\tau^- \rightarrow \pi^- \nu_\tau$

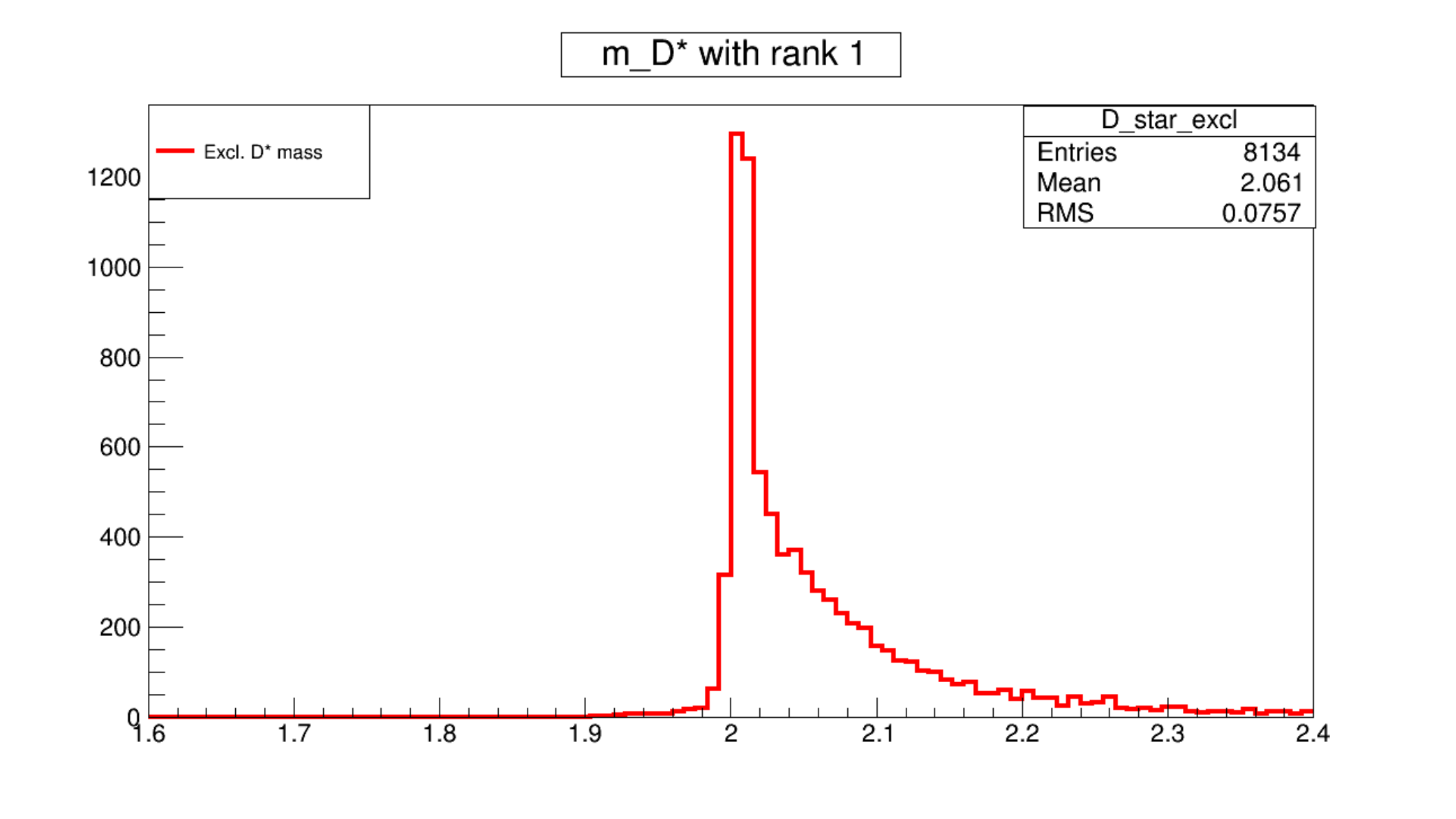
$B^- \rightarrow D^* \mu^- \bar{\nu}_\mu$

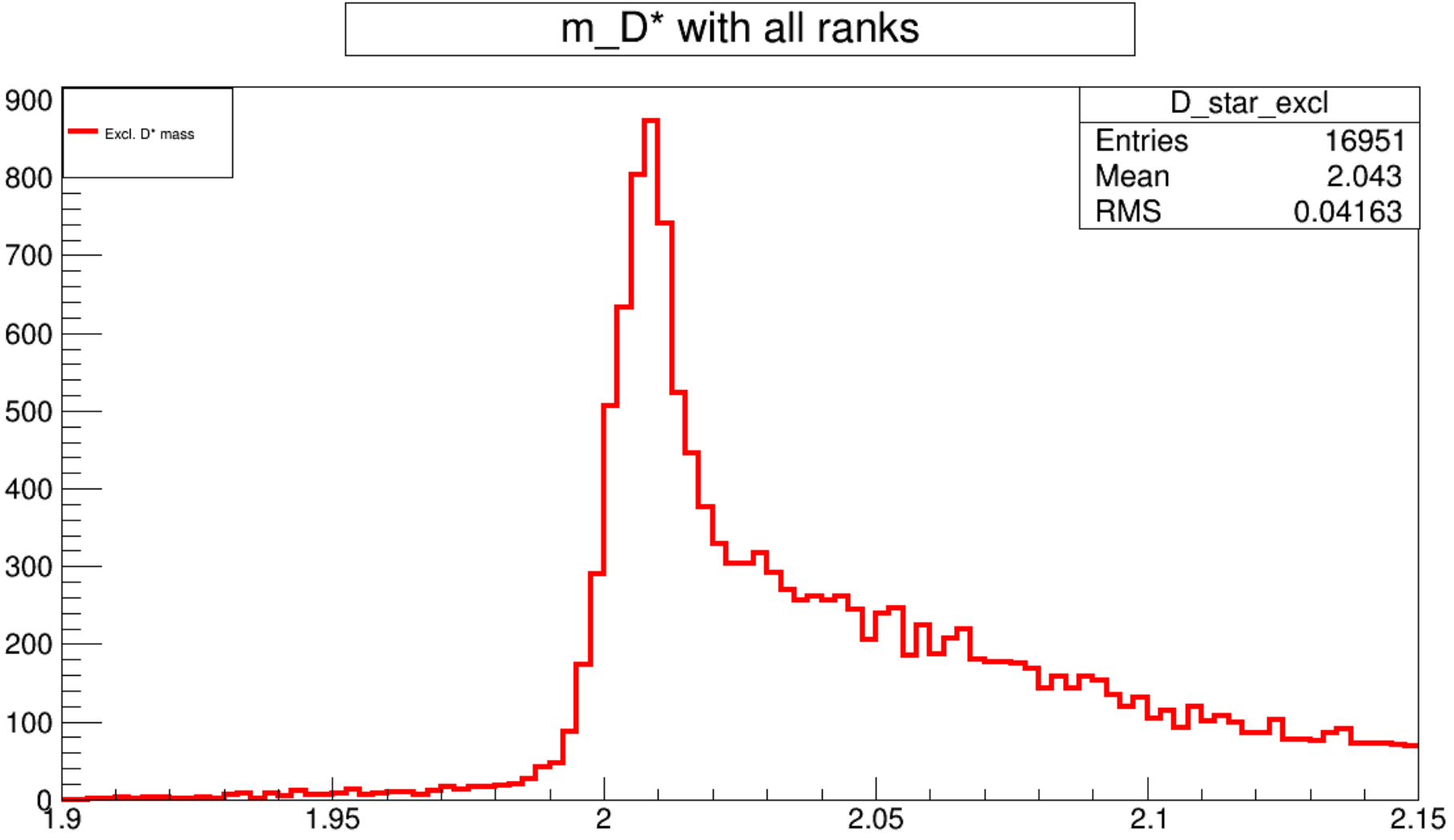
$D^* \rightarrow D^0 \pi^0$

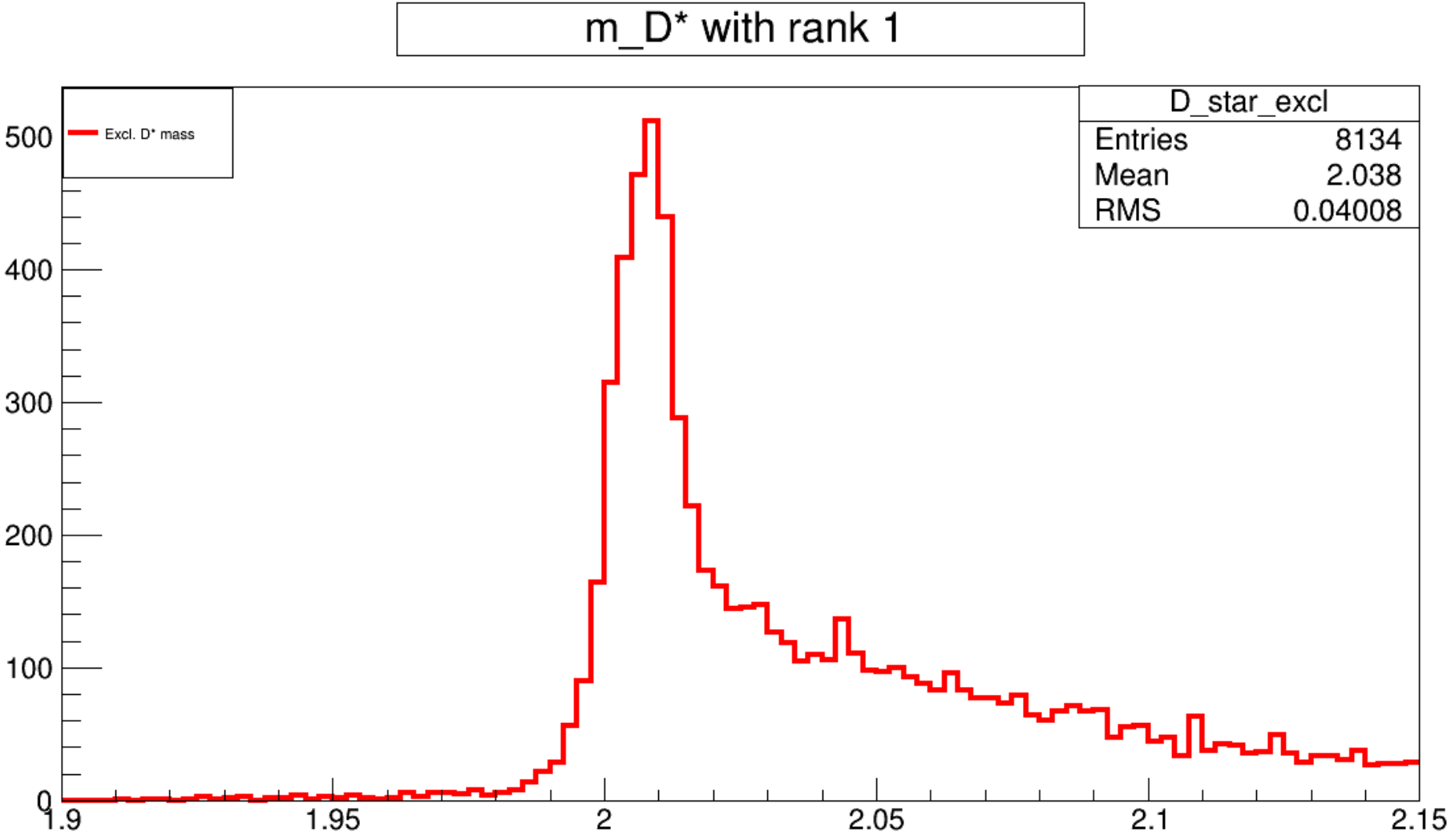
$D^0 \rightarrow K^- \pi^+$

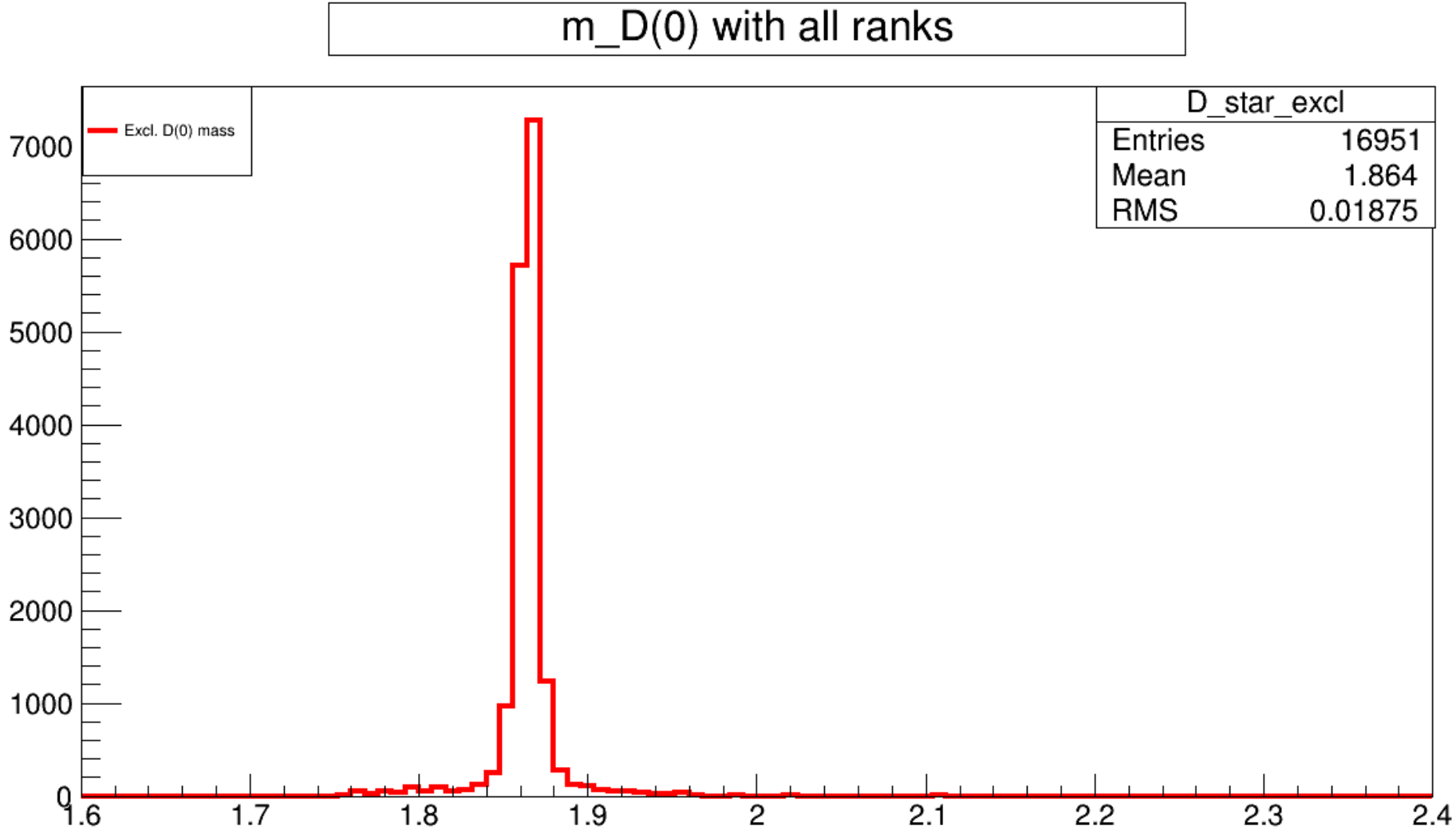
26/10/2023

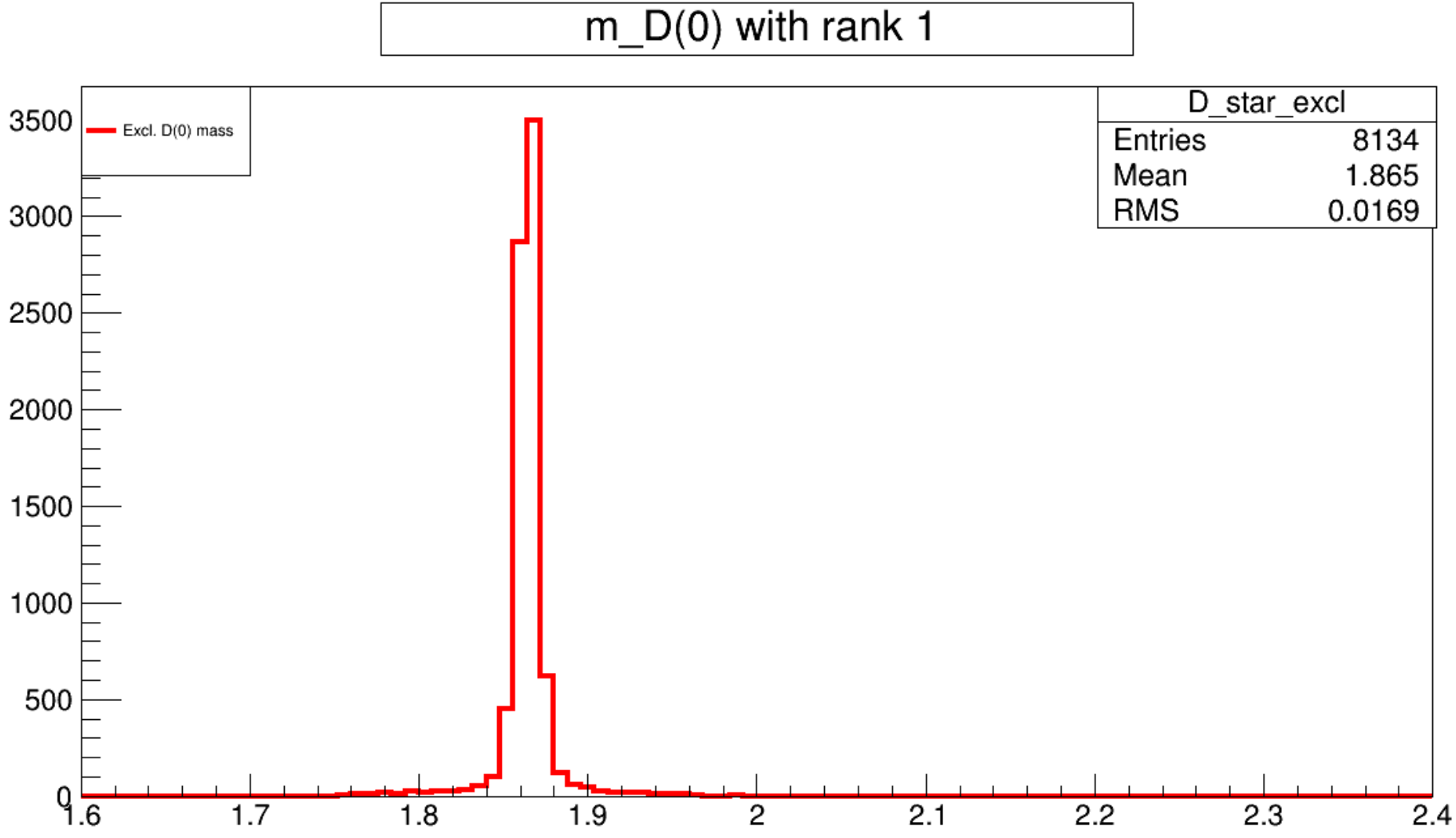

m_D* with all ranks
Excl. D* mass
D_star_excl
Entries 16951
Mean 2.067
RMS 0.07729
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1.6
1.7
1.8
1.9
2
2.1
2.2
2.3
2.4

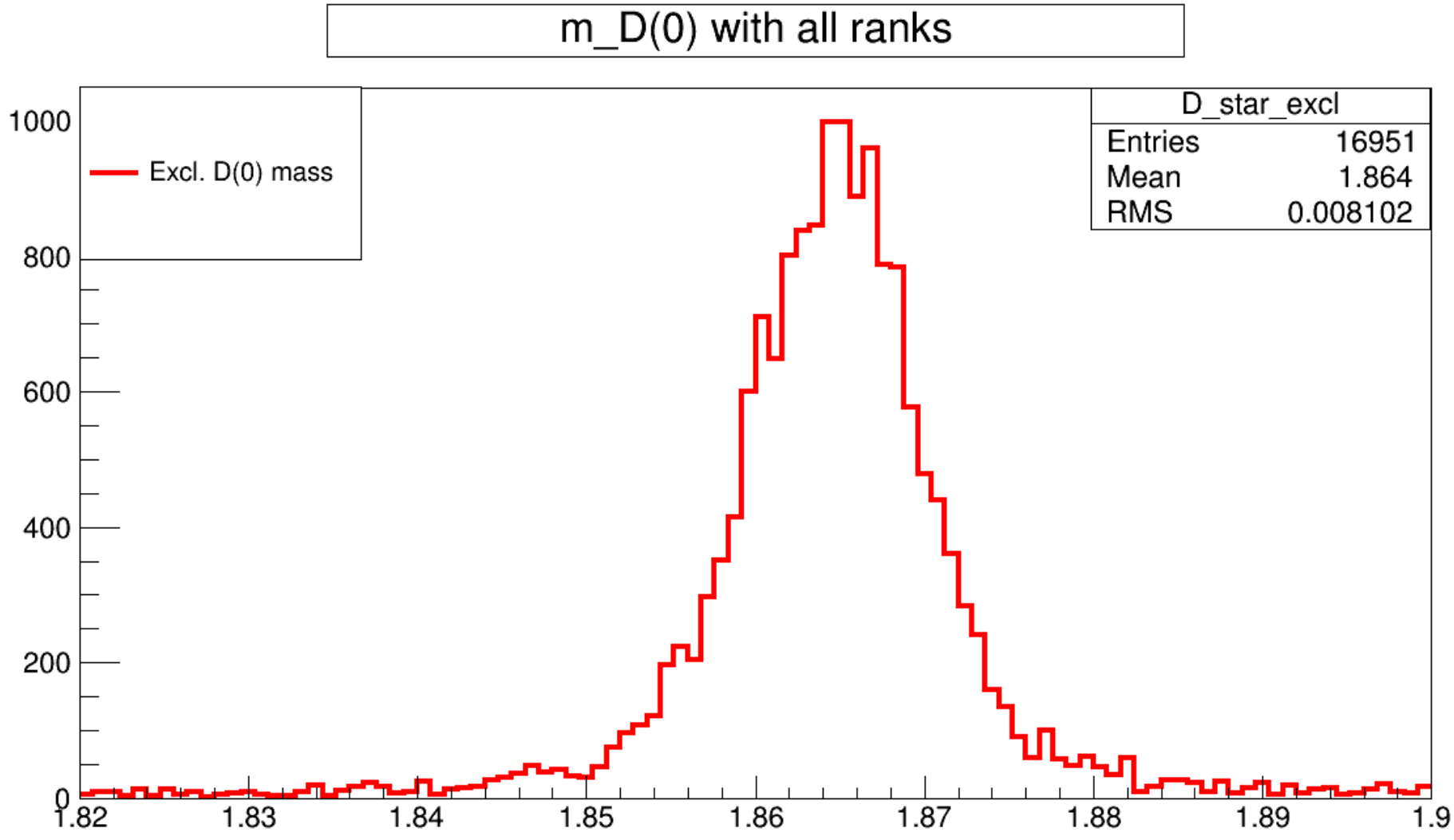

m_D* with rank 1
Excl. D* mass
D_star_excl
Entries 8134
Mean 2.061
RMS 0.0757
1200
1000
800
600
400
200
0
1.6
1.7
1.8
1.9
2
2.1
2.2
2.3
2.4

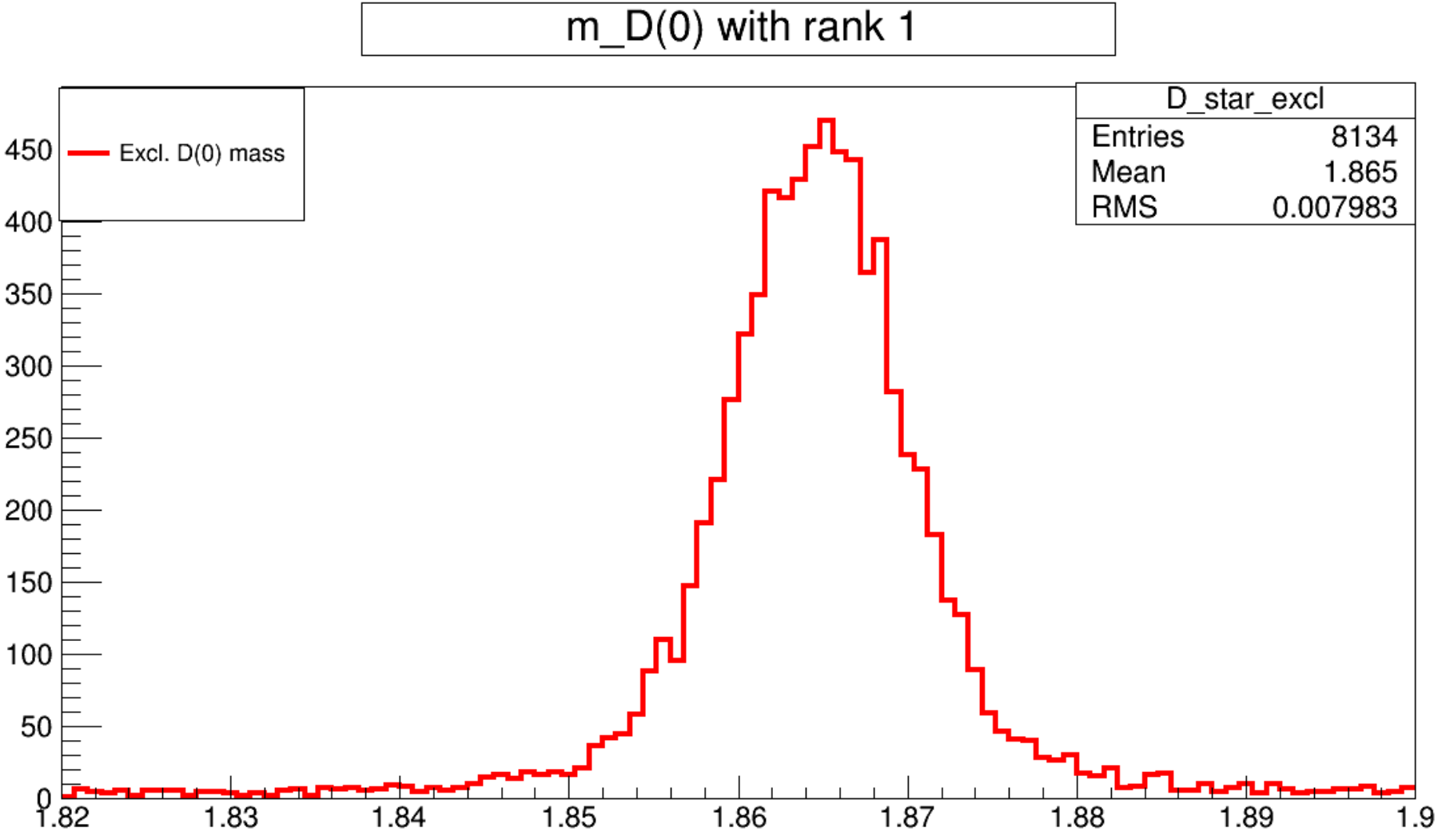

m_D* with all ranks
Excl. D* mass
D_star_excl
Entries 16951
Mean 2.043
RMS 0.04163
900
800
700
600
500
400
300
200
100
0
1.9
1.95
2
2.05
2.1
2.15

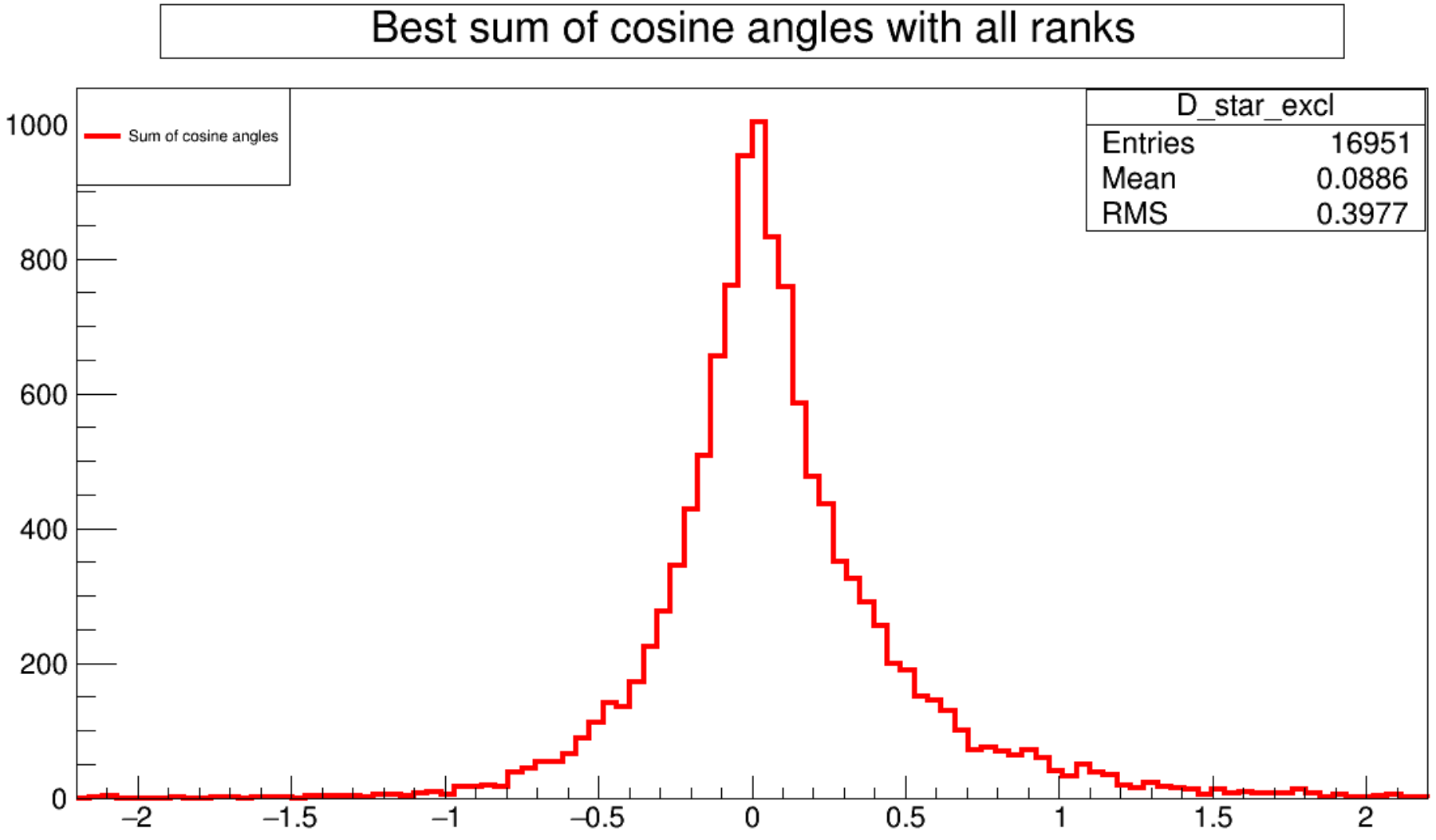

m_D* with rank 1
Excl. D* mass
D_star_excl
Entries 8134
Mean 2.038
RMS 0.04008
500
400
300
200
100
0
1.9
1.95
2
2.05
2.1
2.15

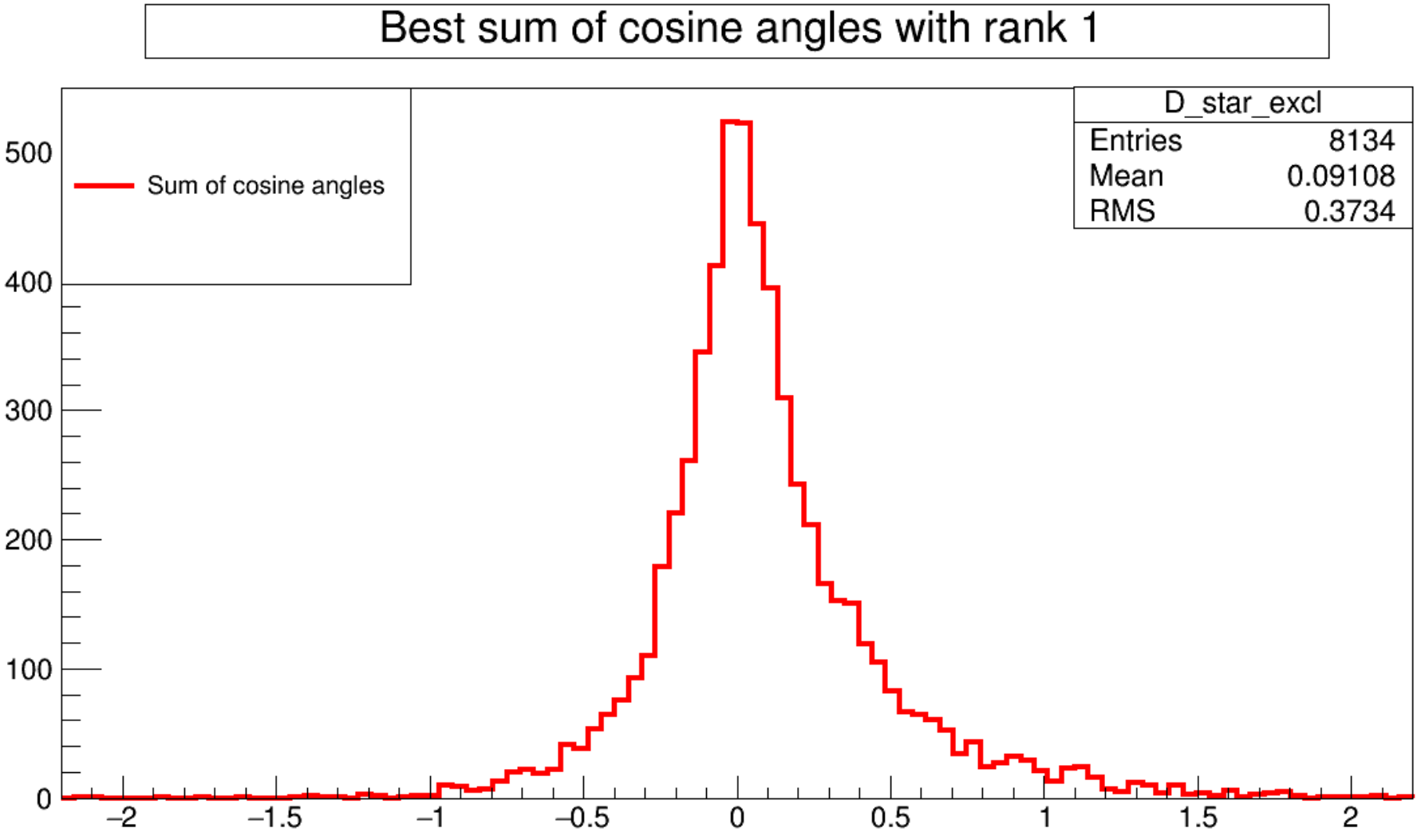

m_D(0) with all ranks
Excl. D(0) mass
D_star_excl
Entries 16951
Mean 1.864
RMS 0.01875
7000
6000
5000
4000
3000
2000
1000
0
1.6
1.7
1.8
1.9
2
2.1
2.2
2.3
2.4

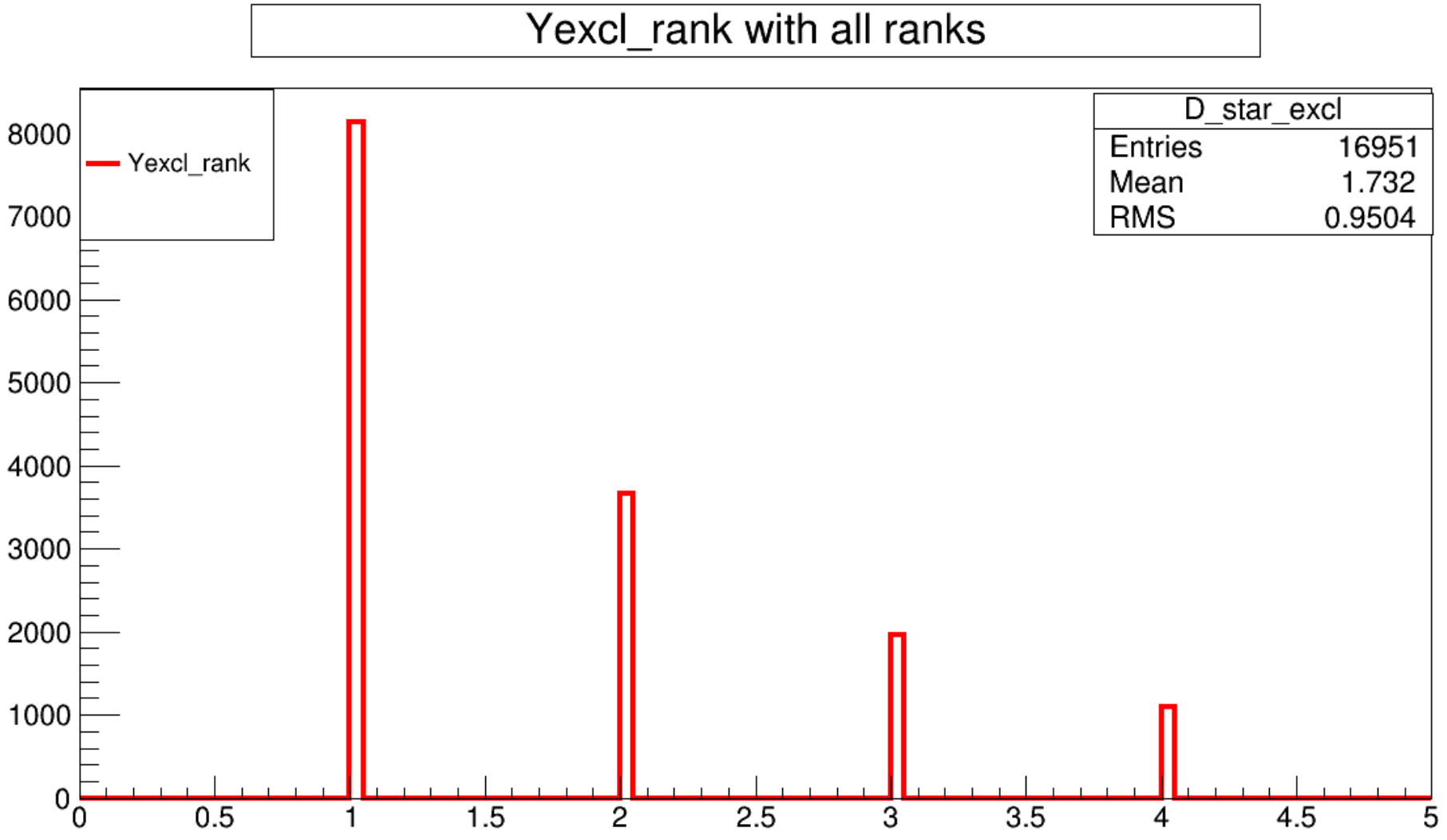

m_D(0) with rank 1
Excl. D(0) mass
D_star_excl
Entries 8134
Mean 1.865
RMS 0.0169
3500
3000
2500
2000
1500
1000
500
0
1.6
1.7
1.8
1.9
2
2.1
2.2
2.3
2.4

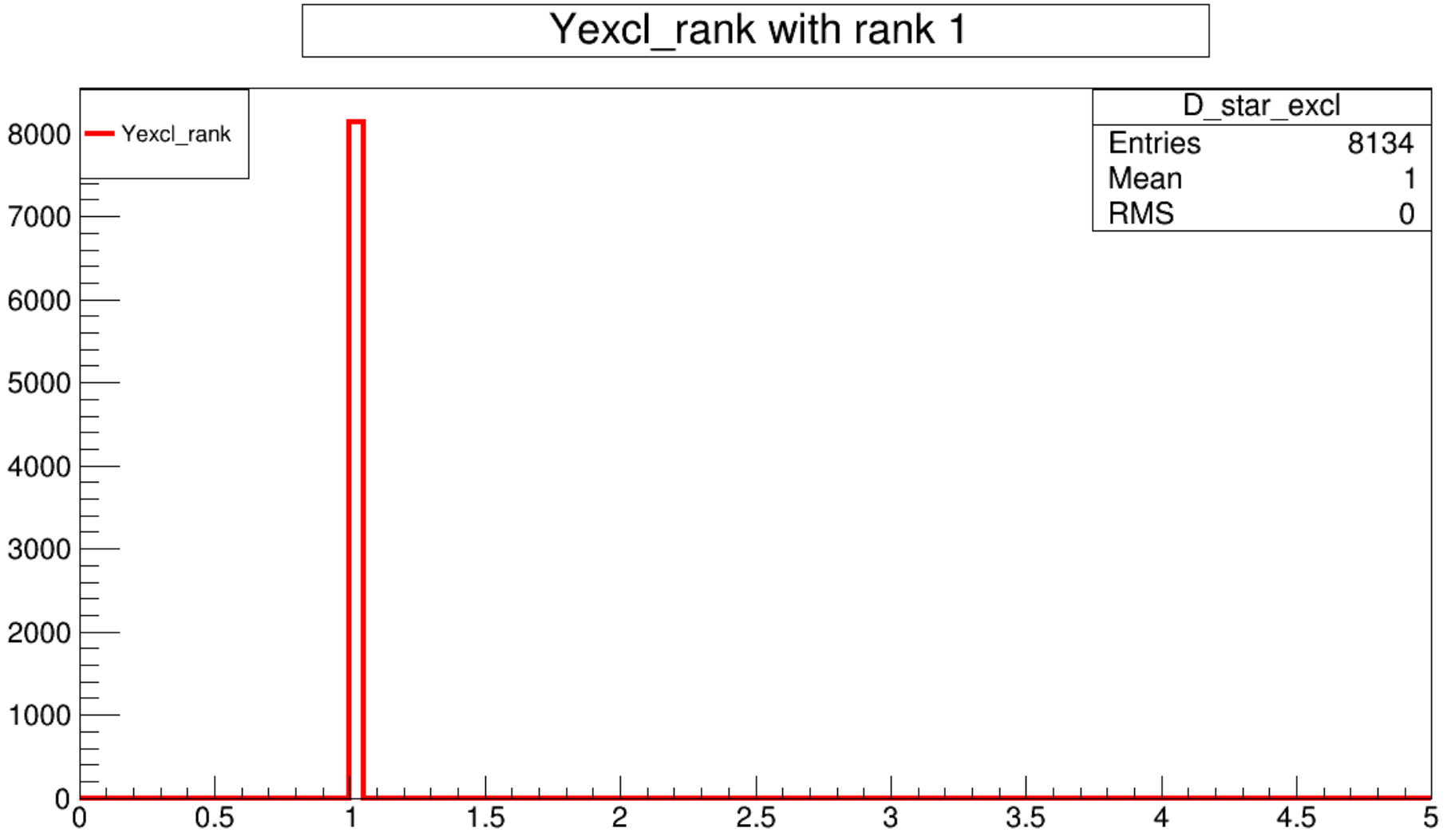

m_D(0) with all ranks
Excl. D(0) mass
D_star_excl
Entries 16951
Mean 1.864
RMS 0.008102
1000
800
600
400
200
0
1.82
1.83
1.84
1.85
1.86
1.87
1.88
1.89
1.9


m_D(0) with rank 1
Excl. D(0) mass
D_star_excl
Entries 8134
Mean 1.865
RMS 0.007983
450
400
350
300
250
200
150
100
50
0
1.82
1.83
1.84
1.85
1.86
1.87
1.88
1.89
1.9


Best sum of cosine angles with all ranks
Sum of cosine angles
D_star_excl
Entries 16951
Mean 0.0886
RMS 0.3977
1000
800
600
400
200
0
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2


Best sum of cosine angles with rank 1
Sum of cosine angles
D_star_excl
Entries 8134
Mean 0.09108
RMS 0.3734
500
400
300
200
100
0
−2
−1.5
−1
−0.5
0
0.5
1
1.5
2


Yexcl_rank with all ranks
Yexcl_rank
D_star_excl
Entries 16951
Mean 1.732
RMS 0.9504
8000
7000
6000
5000
4000
3000
2000
1000
0
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5


Yexcl_rank with rank 1
Yexcl_rank
D_star_excl
Entries 8134
Mean 1
RMS 0
8000
7000
6000
5000
4000
3000
2000
1000
0
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5

Thanks