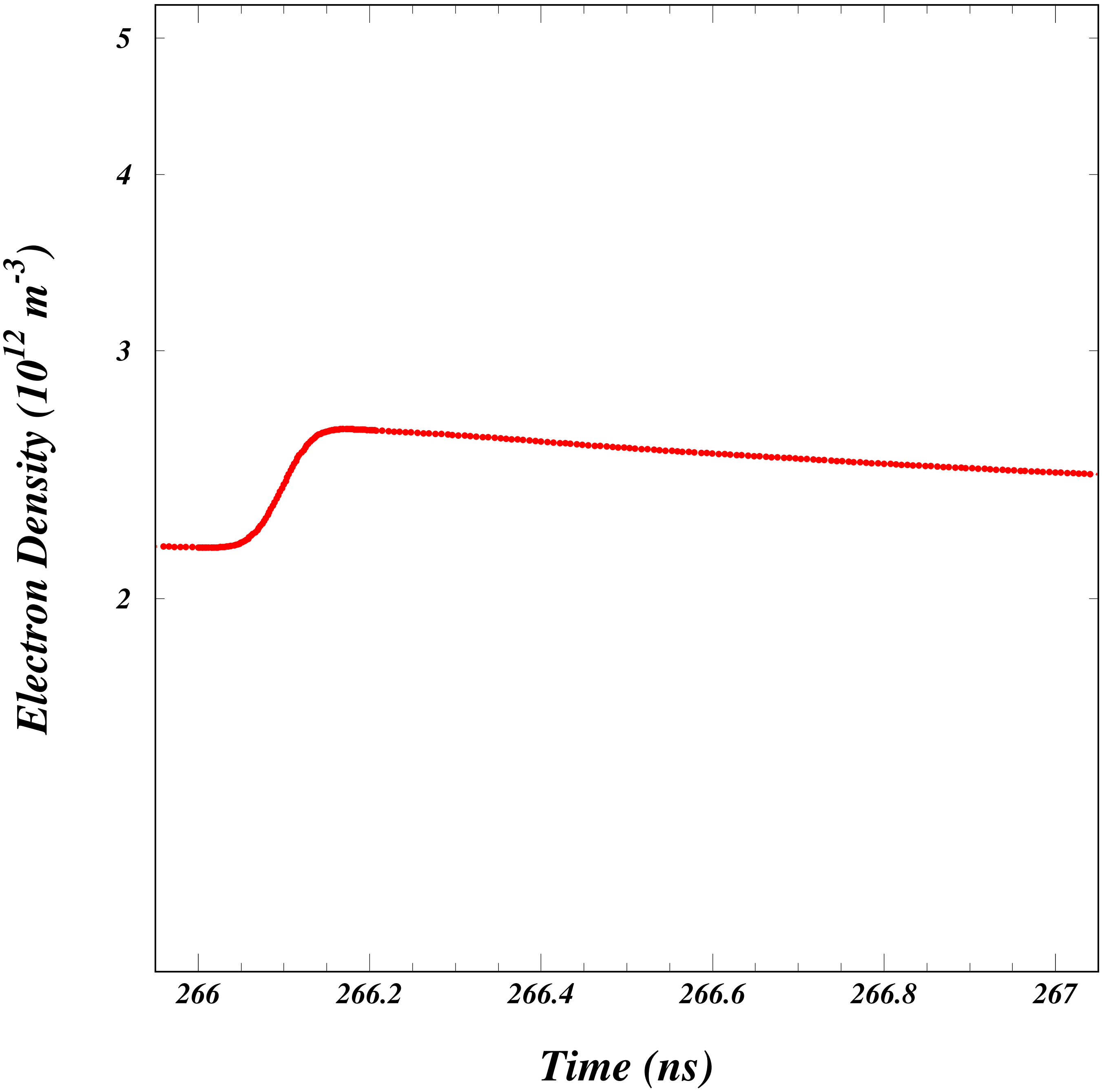
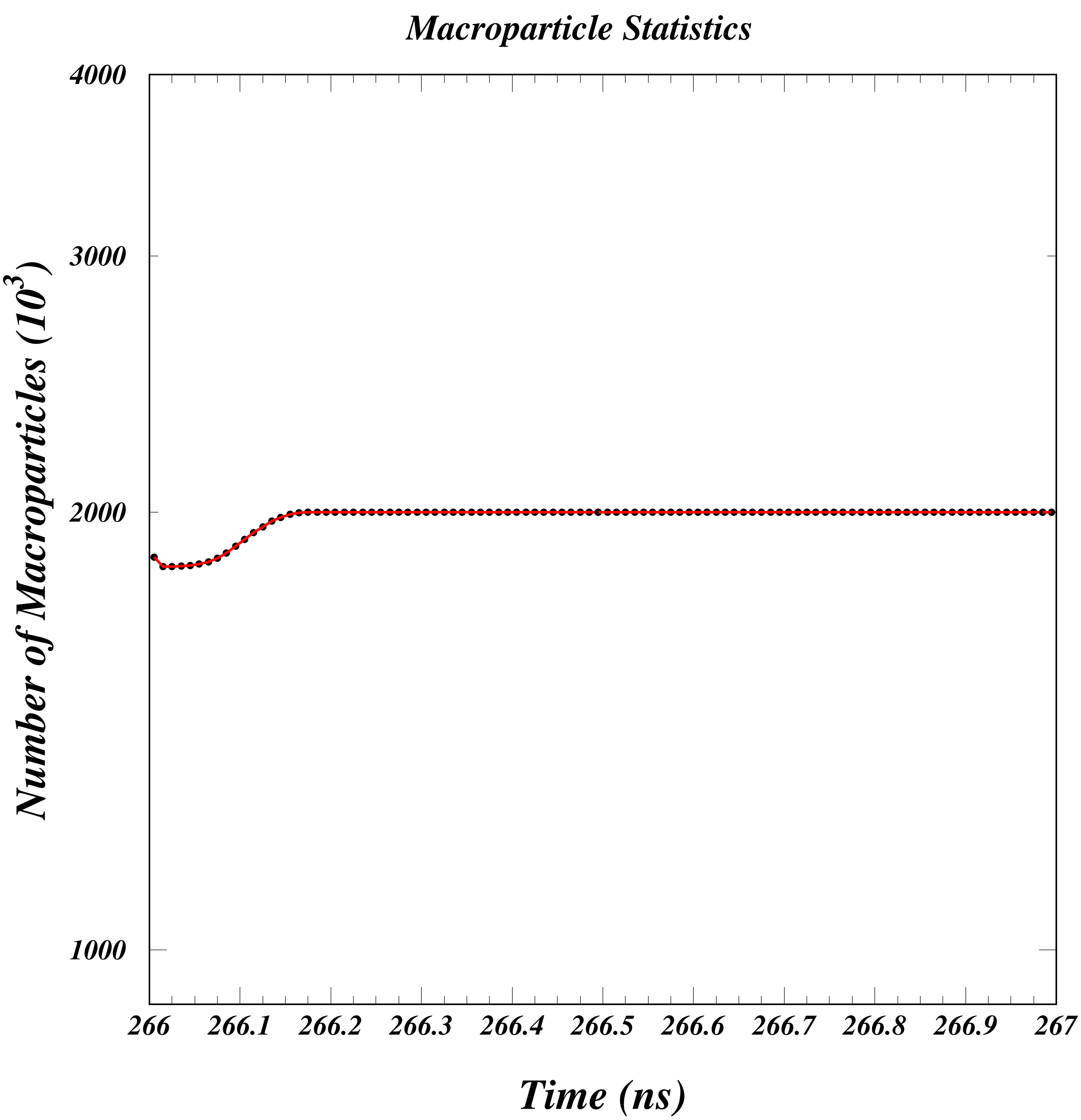
2.1 GeV 800 G Dipole: Beampipe-averaged Cloud Density (10^{12} m^{-3})





Macroparticle Statistics
Number of Macroparticles (10^3)
4000
3000
2000
1000
266
266.1
266.2
266.3
266.4
266.5
266.6
266.7
266.8
266.9
267
Time (ns)

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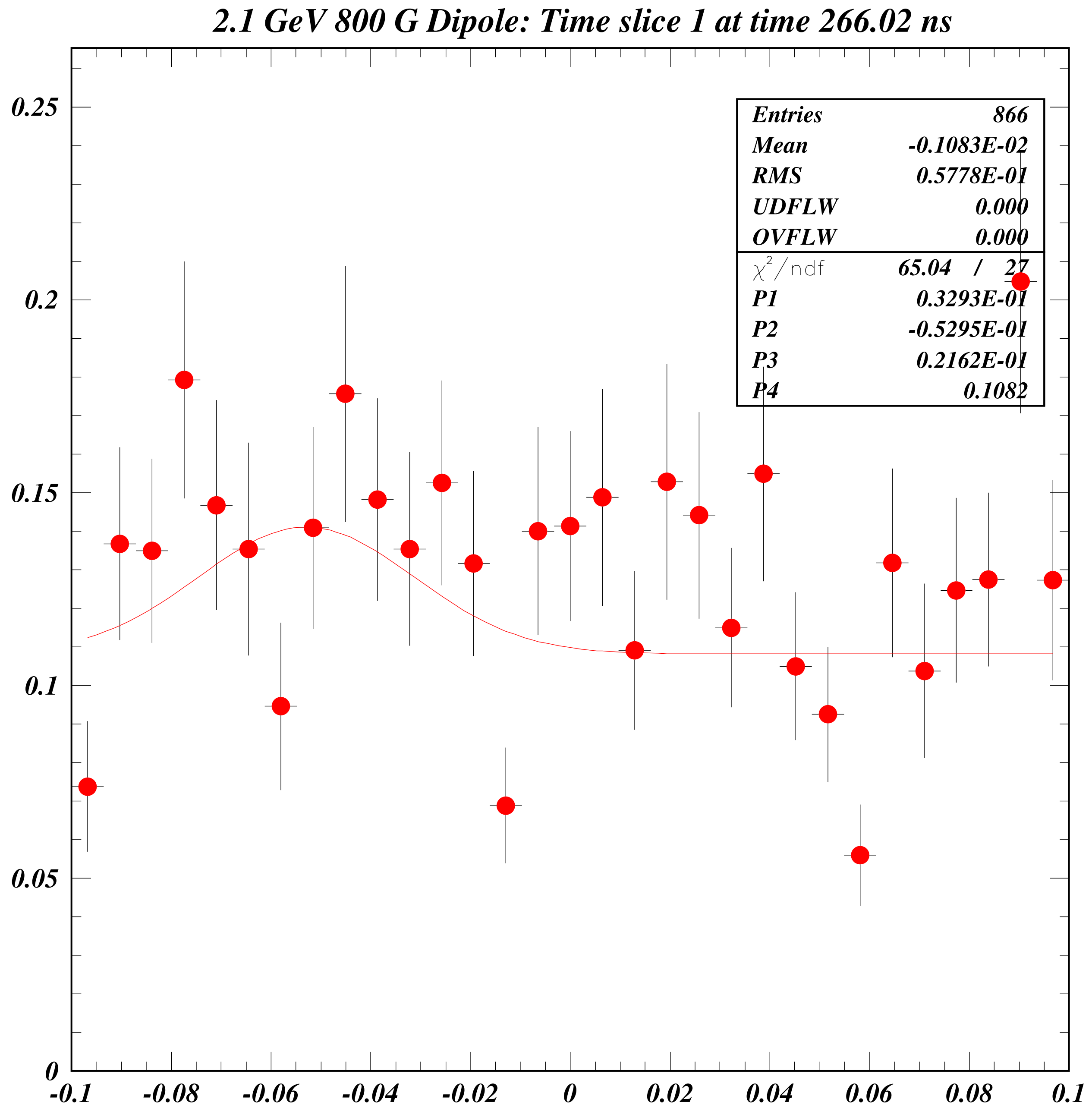
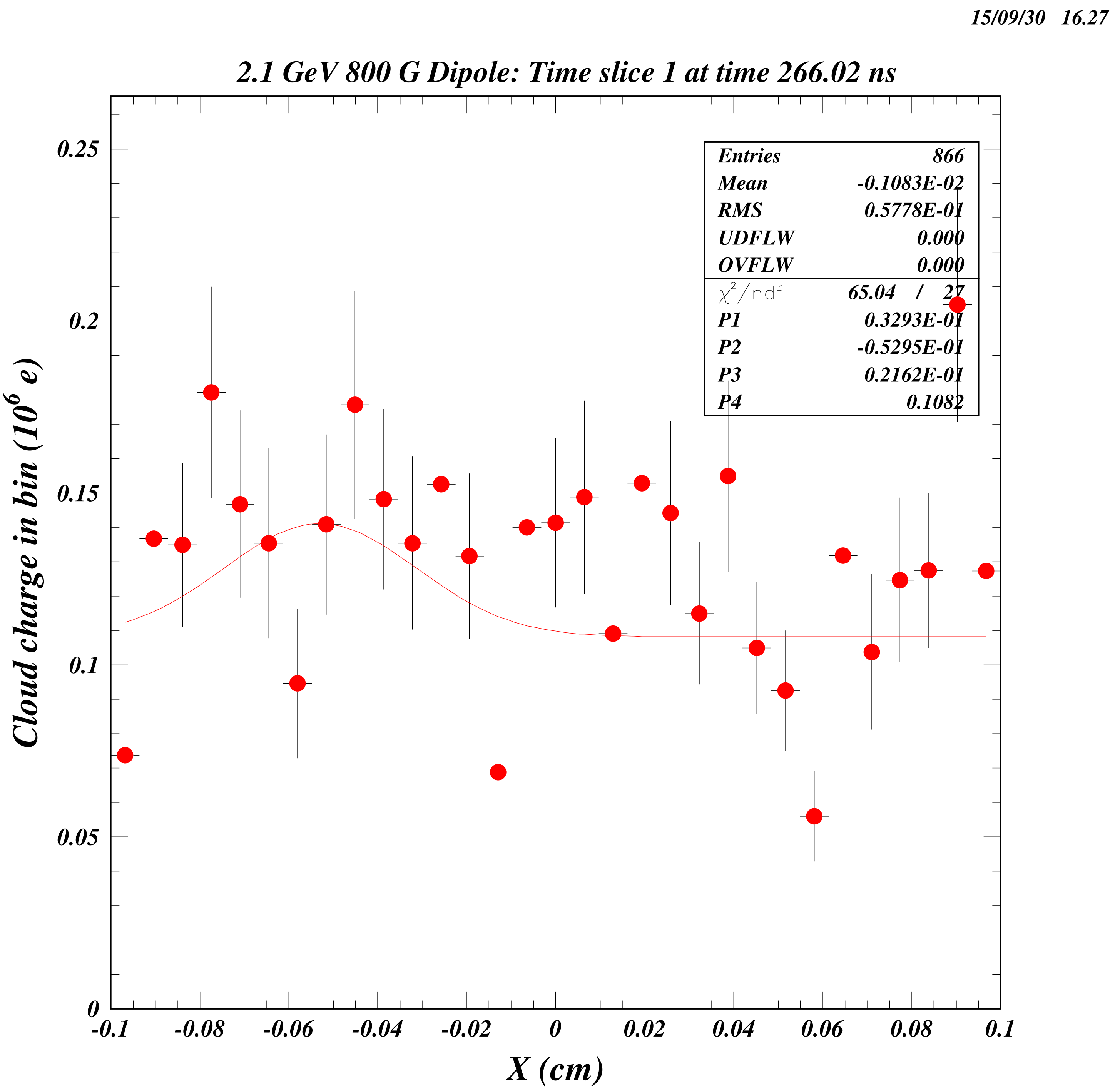

2.1 GeV 800 G Dipole: Time slice 1 at time 266.02 ns
Entries 866
Mean -0.1083E-02
RMS 0.5778E-01
UDFLW 0.000
OVFLW 0.000
χ^2/ndf 65.04 / 27
P1 0.3293E-01
P2 -0.5295E-01
P3 0.2162E-01
P4 0.1082
0.25
0.2
0.15
0.1
0.05
0
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1


15/09/30 16.27
2.1 GeV 800 G Dipole: Time slice 1 at time 266.02 ns
Entries 866
Mean -0.1083E-02
RMS 0.5778E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 65.04 / 27
P1 0.3293E-01
P2 -0.5295E-01
P3 0.2162E-01
P4 0.1082
Cloud charge in bin (10⁶ e)
X (cm)
0.25
0.2
0.15
0.1
0.05
0
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1

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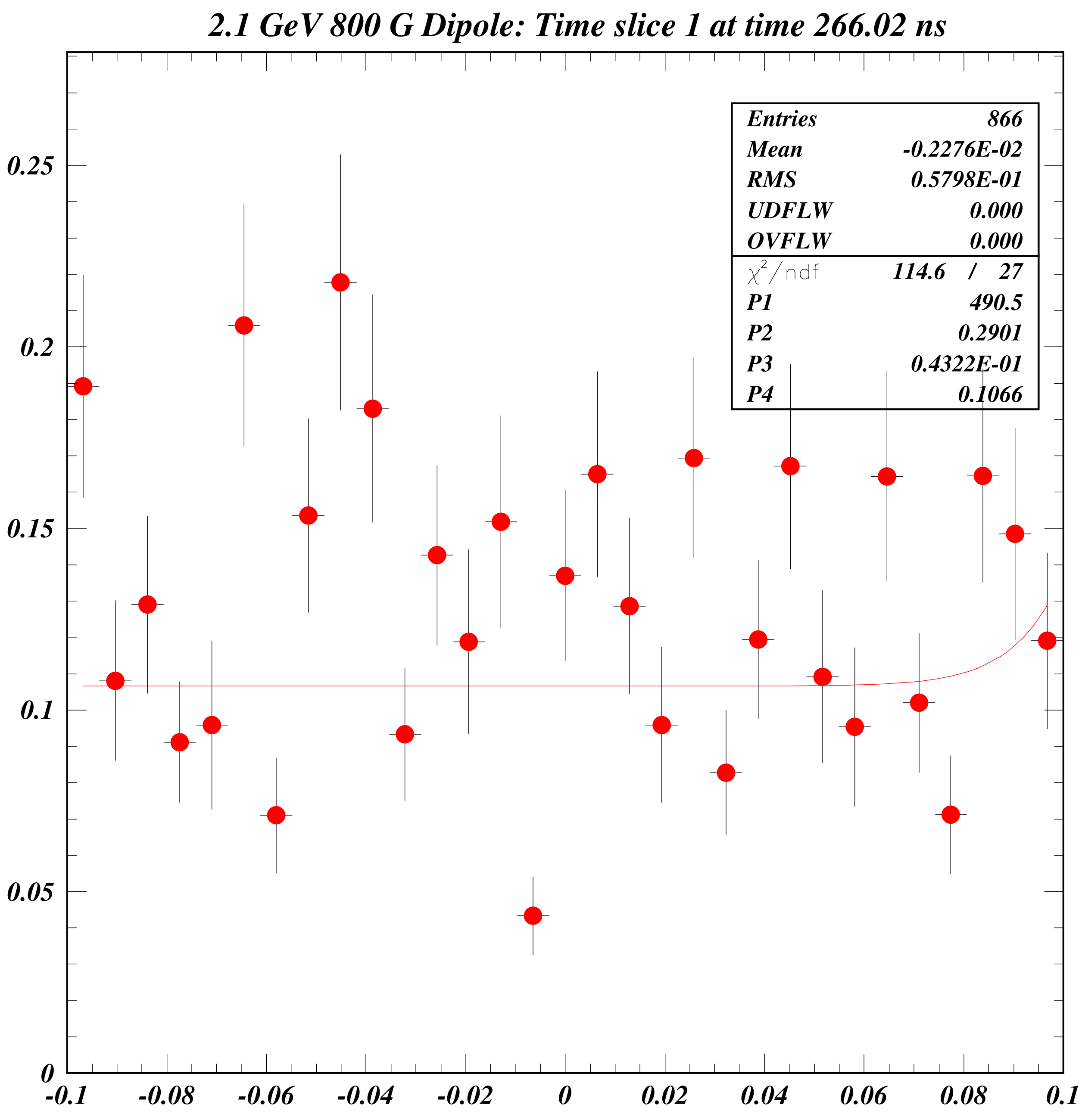
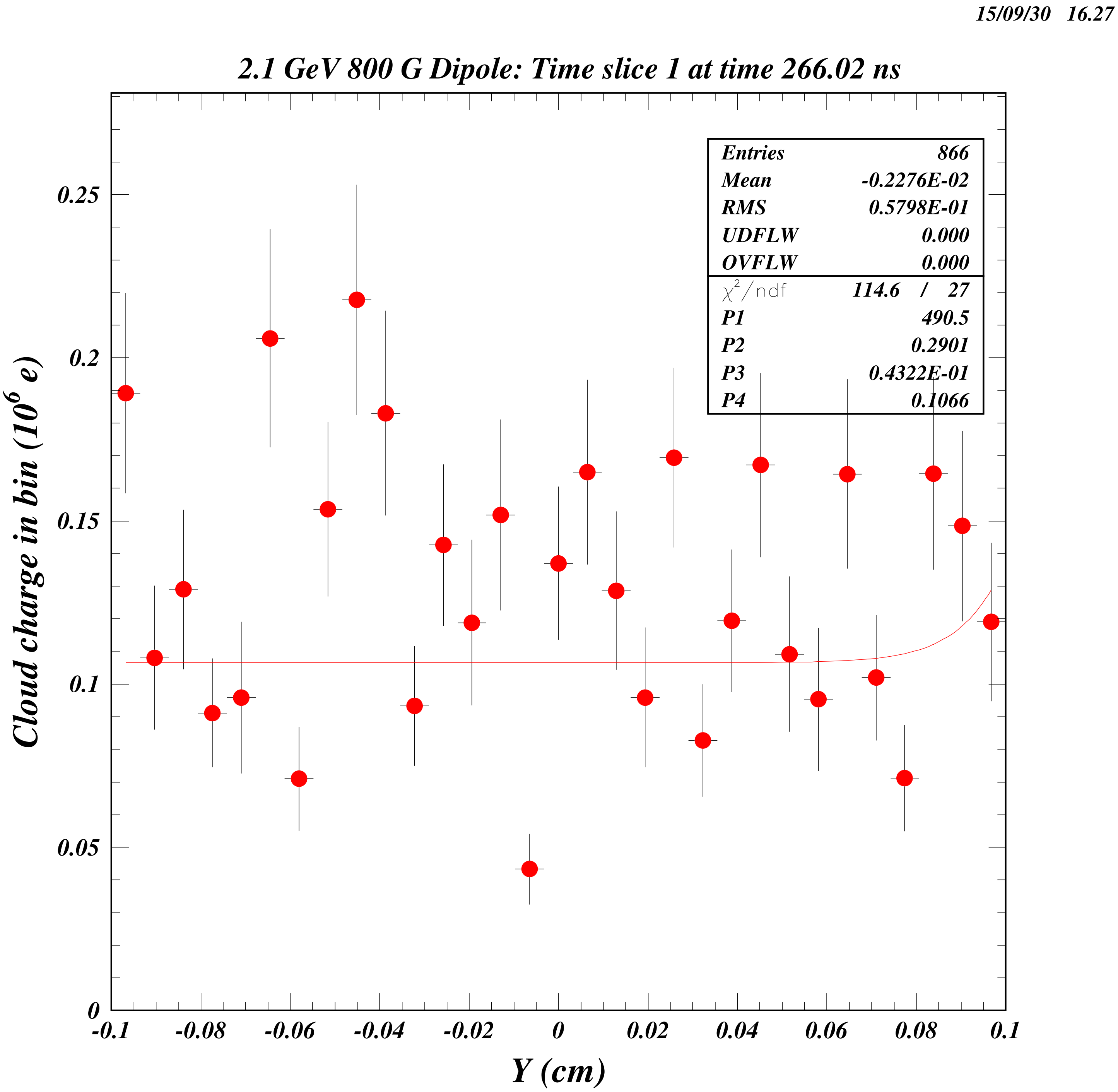


2.1 GeV 800 G Dipole: Time slice 1 at time 266.02 ns
Entries 866
Mean -0.2276E-02
RMS 0.5798E-01
UDFLW 0.000
OVFLW 0.000
χ^2/ndf 114.6 / 27
P1 490.5
P2 0.2901
P3 0.4322E-01
P4 0.1066
0.25
0.2
0.15
0.1
0.05
0
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1



15/09/30 16.27
2.1 GeV 800 G Dipole: Time slice 1 at time 266.02 ns
Entries 866
Mean -0.2276E-02
RMS 0.5798E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 114.6 / 27
P1 490.5
P2 0.2901
P3 0.4322E-01
P4 0.1066
Cloud charge in bin (10⁶ e)
Y (cm)

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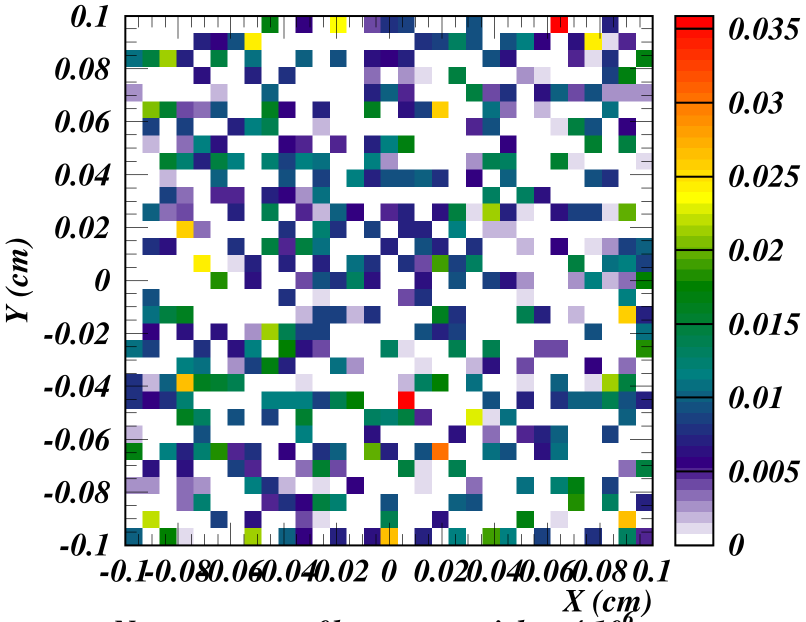
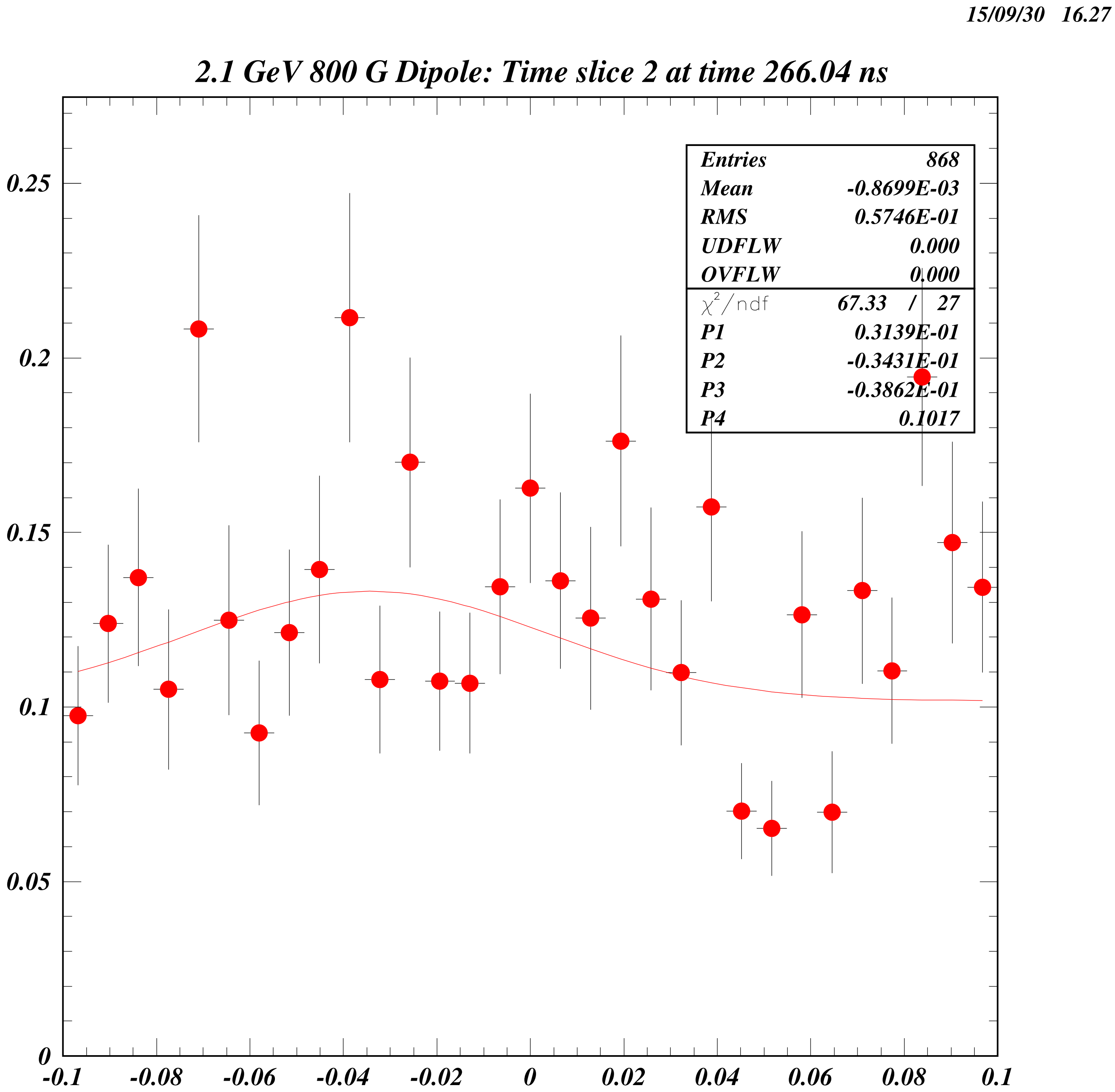
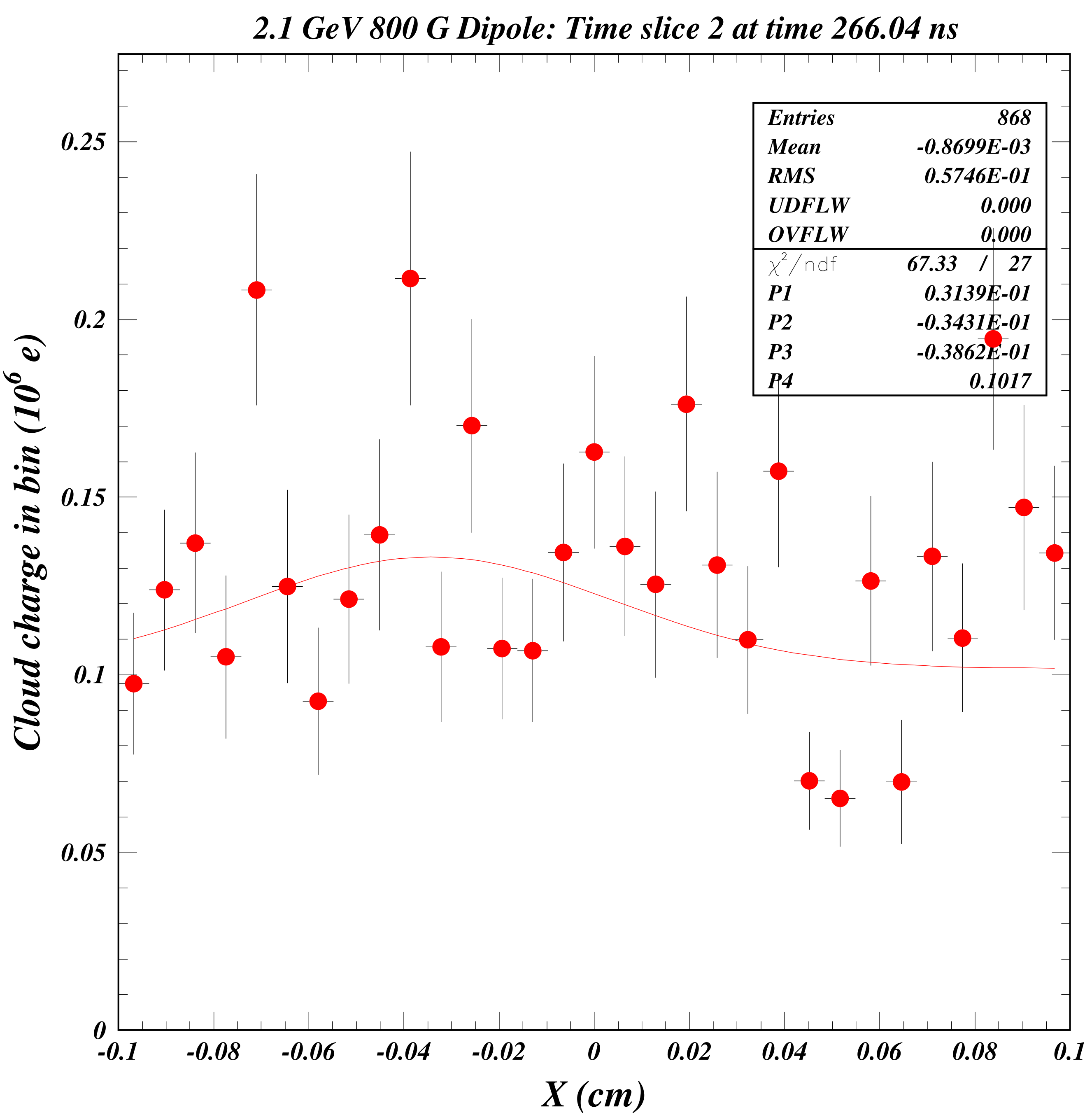
Snapshot after bunch 20 at time = 266.02 ns

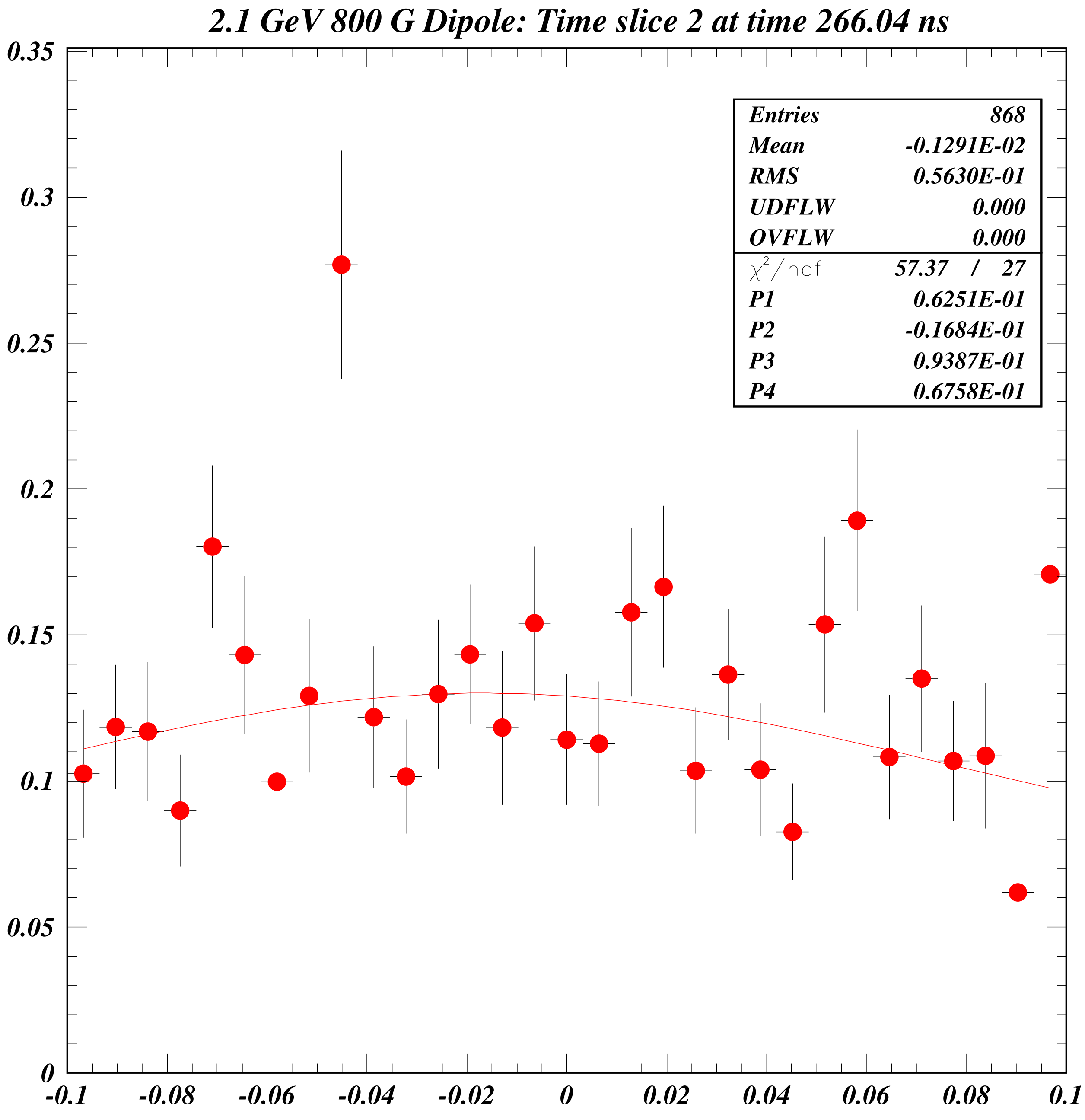


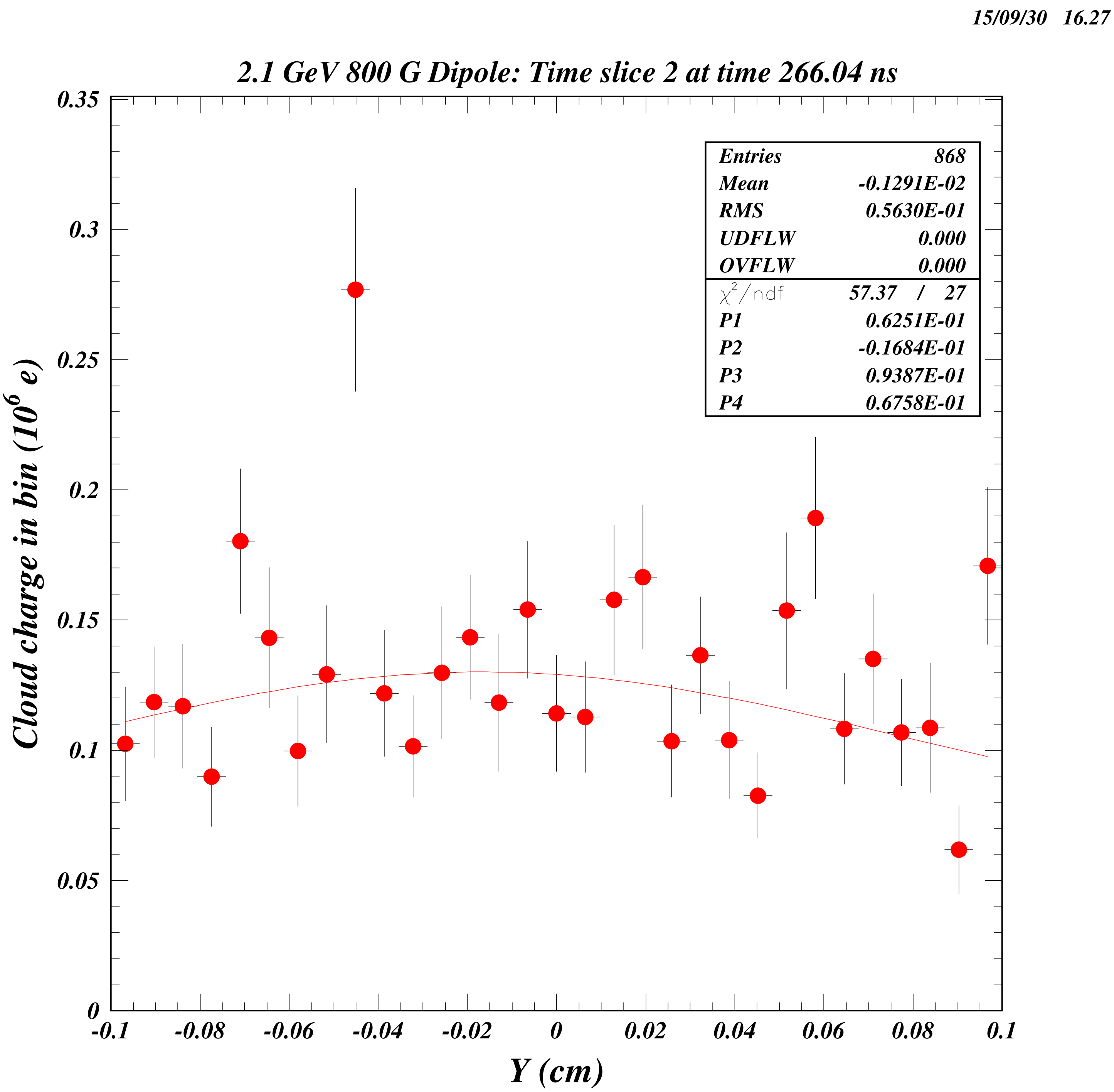
No energy cut: 0k macroparticles, 4 10^6 e-

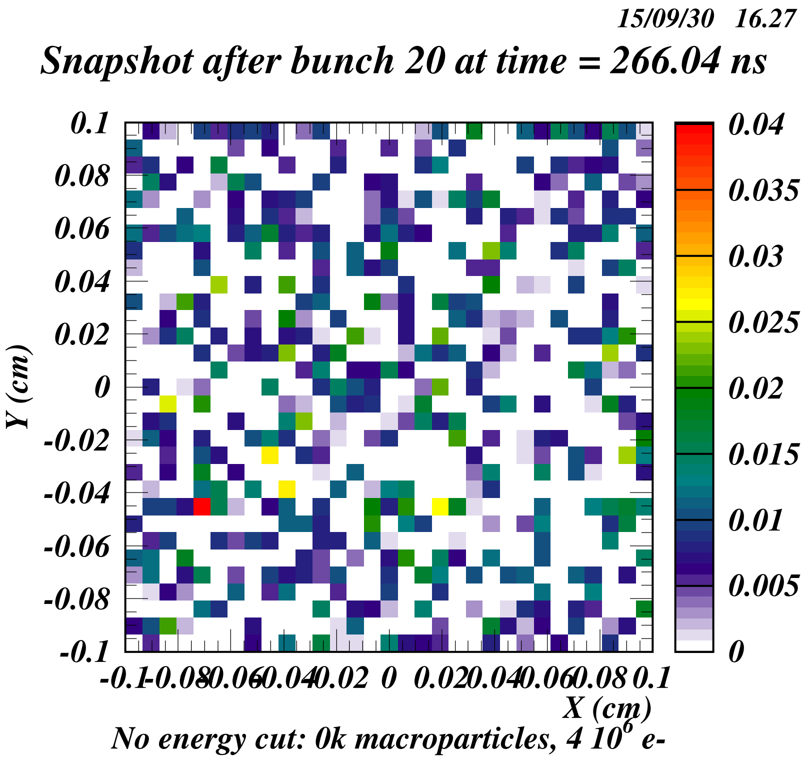

15/09/30 16.27
2.1 GeV 800 G Dipole: Time slice 2 at time 266.04 ns
Entries 868
Mean -0.8699E-03
RMS 0.5746E-01
UDFLW 0.000
OVFLW 0.000
χ^2/ndf 67.33 / 27
P1 0.3139E-01
P2 -0.3431E-01
P3 -0.3862E-01
P4 0.1017
0.25
0.2
0.15
0.1
0.05
0
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1


2.1 GeV 800 G Dipole: Time slice 2 at time 266.04 ns
Entries 868
Mean -0.8699E-03
RMS 0.5746E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 67.33 / 27
P1 0.3139E-01
P2 -0.3431E-01
P3 -0.3862E-01
P4 0.1017
Cloud charge in bin (10⁶ e)
X (cm)
0.25
0.2
0.15
0.1
0.05
0
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1

15/09/30 16.27

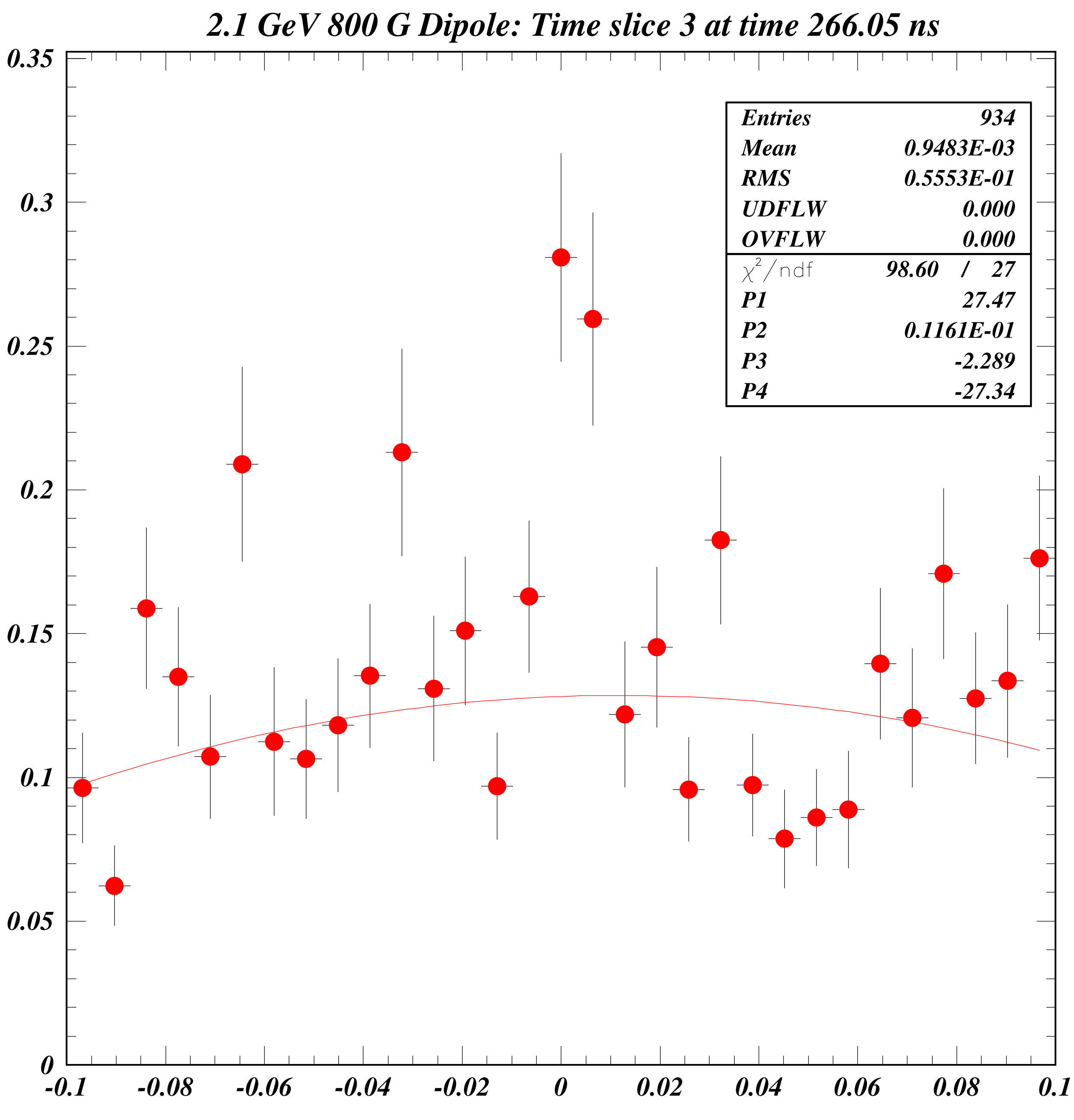

2.1 GeV 800 G Dipole: Time slice 2 at time 266.04 ns
Entries 868
Mean -0.1291E-02
RMS 0.5630E-01
UDFLW 0.000
OVFLW 0.000
χ^2/ndf 57.37 / 27
P1 0.6251E-01
P2 -0.1684E-01
P3 0.9387E-01
P4 0.6758E-01
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1


15/09/30 16.27
2.1 GeV 800 G Dipole: Time slice 2 at time 266.04 ns
Entries 868
Mean -0.1291E-02
RMS 0.5630E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 57.37 / 27
P1 0.6251E-01
P2 -0.1684E-01
P3 0.9387E-01
P4 0.6758E-01
Cloud charge in bin (10⁶ e)
Y (cm)
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1

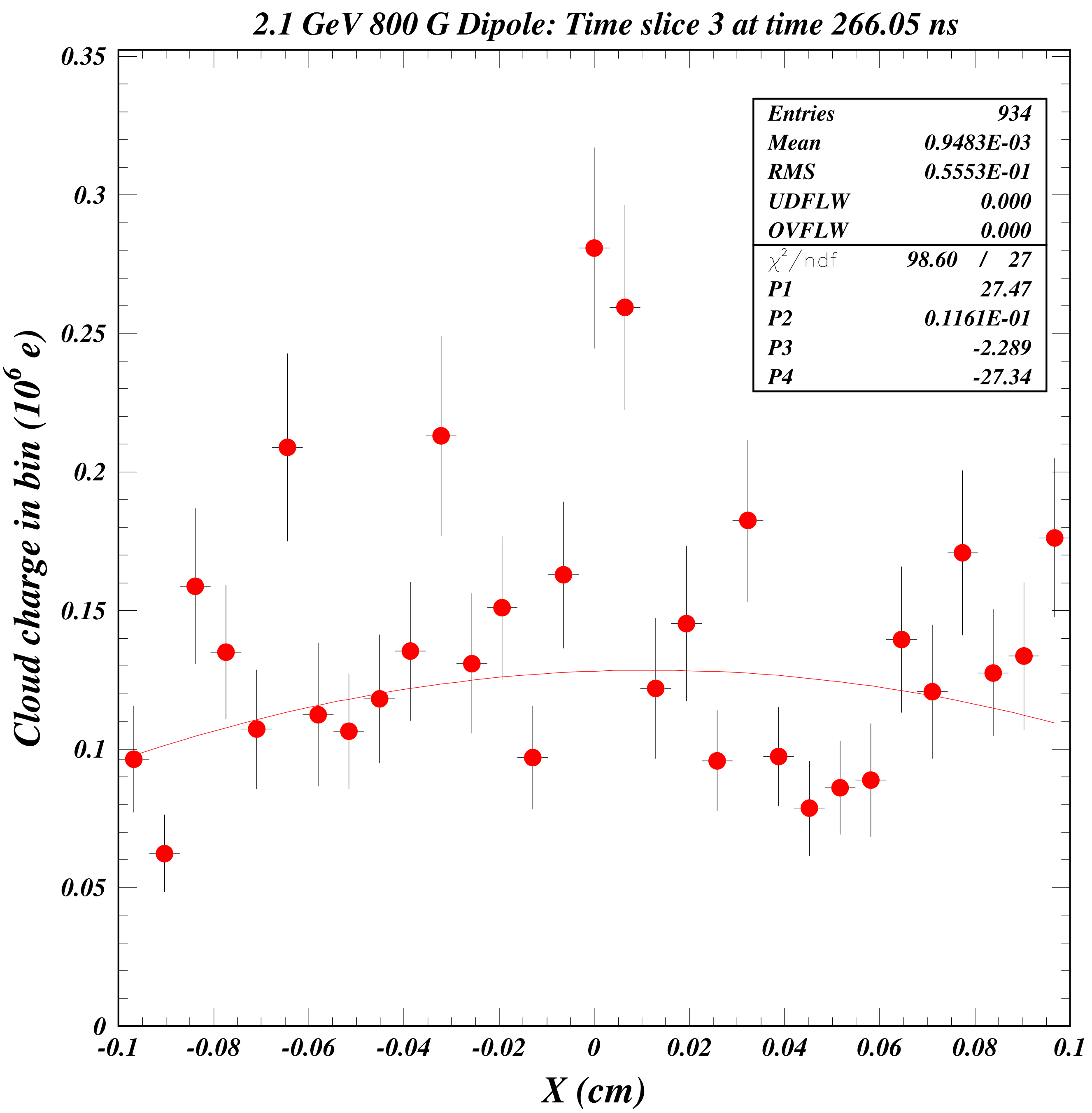


15/09/30 16.27
Snapshot after bunch 20 at time = 266.04 ns
Y (cm)
X (cm)
0.1
0.08
0.06
0.04
0.02
0
-0.02
-0.04
-0.06
-0.08
-0.1
0.04
0.035
0.03
0.025
0.02
0.015
0.01
0.005
No energy cut: 0k macroparticles, 4 10^{6} e-

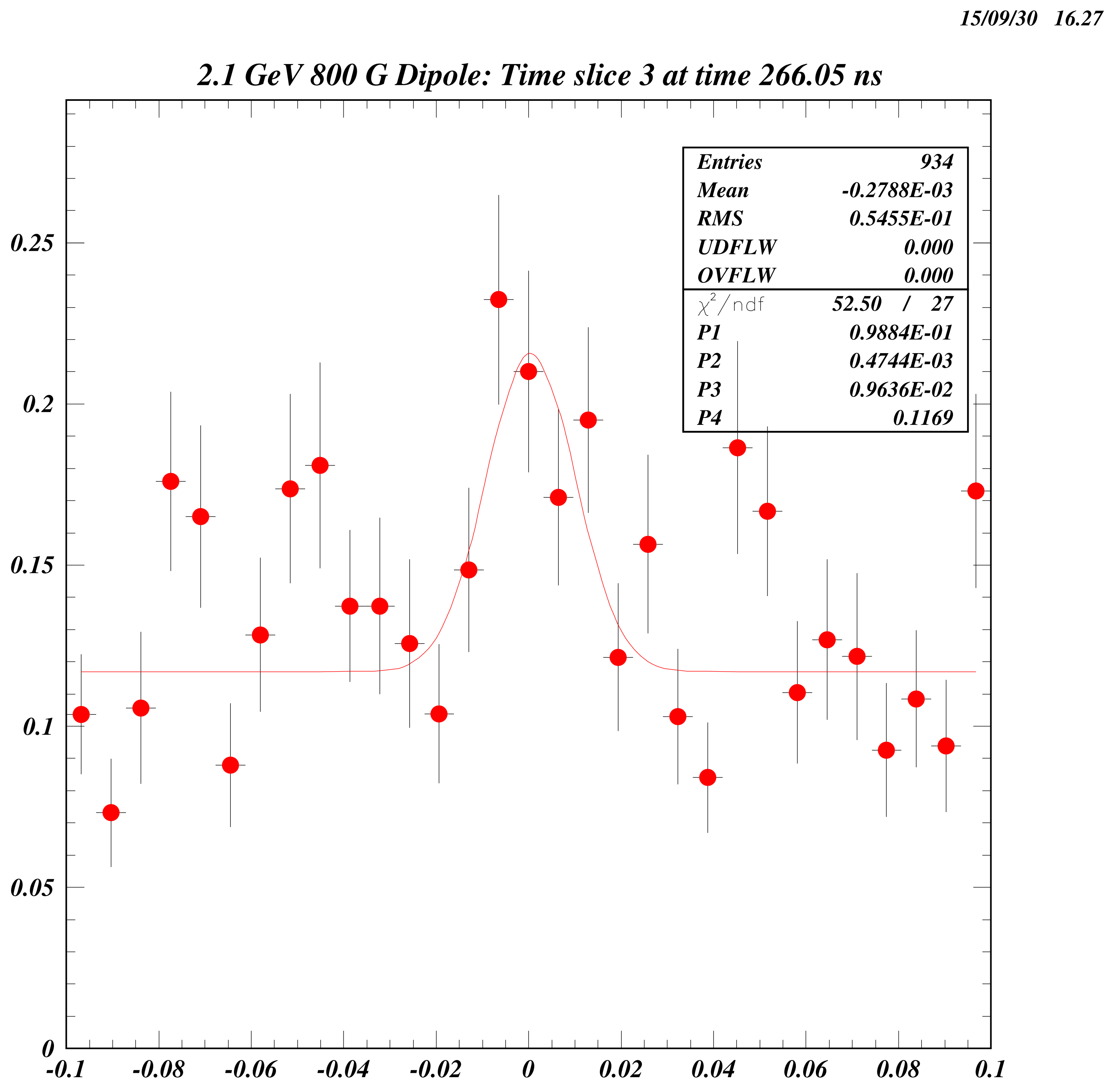
15/09/30 16.27

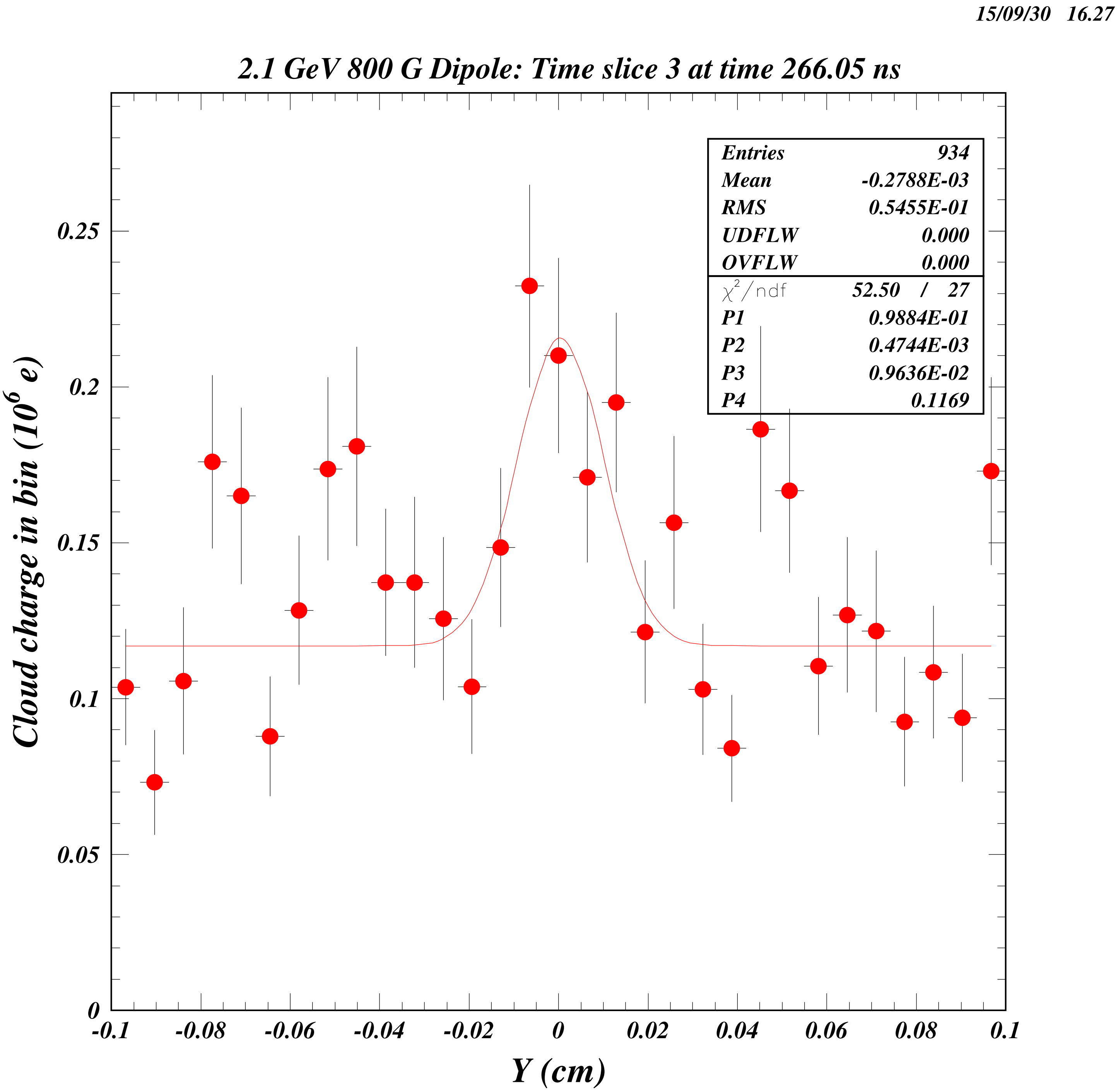

2.1 GeV 800 G Dipole: Time slice 3 at time 266.05 ns
Entries 934
Mean 0.9483E-03
RMS 0.5553E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 98.60 / 27
P1 27.47
P2 0.1161E-01
P3 -2.289
P4 -27.34
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1

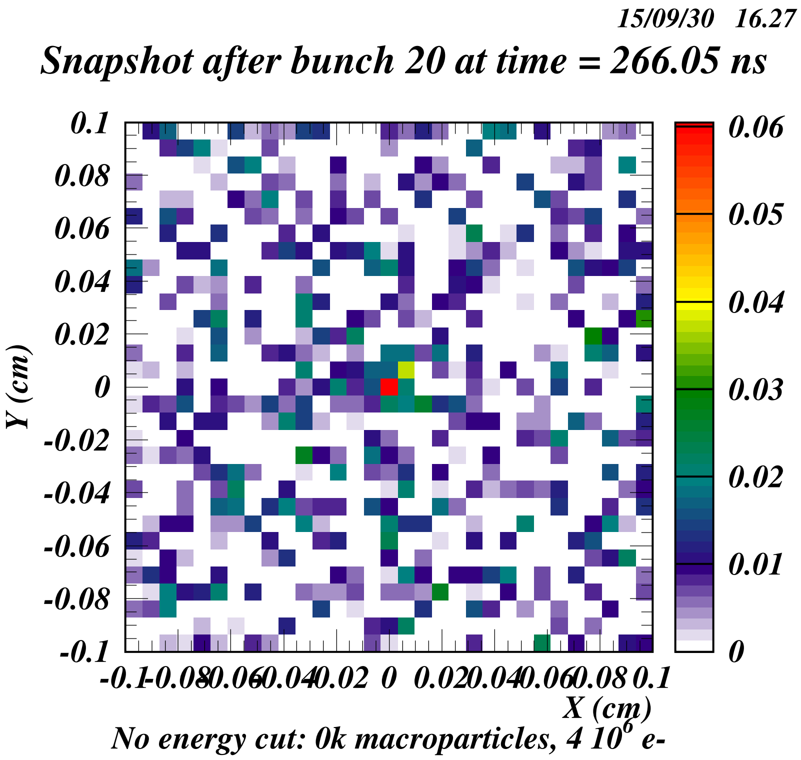
15/09/30 16.27



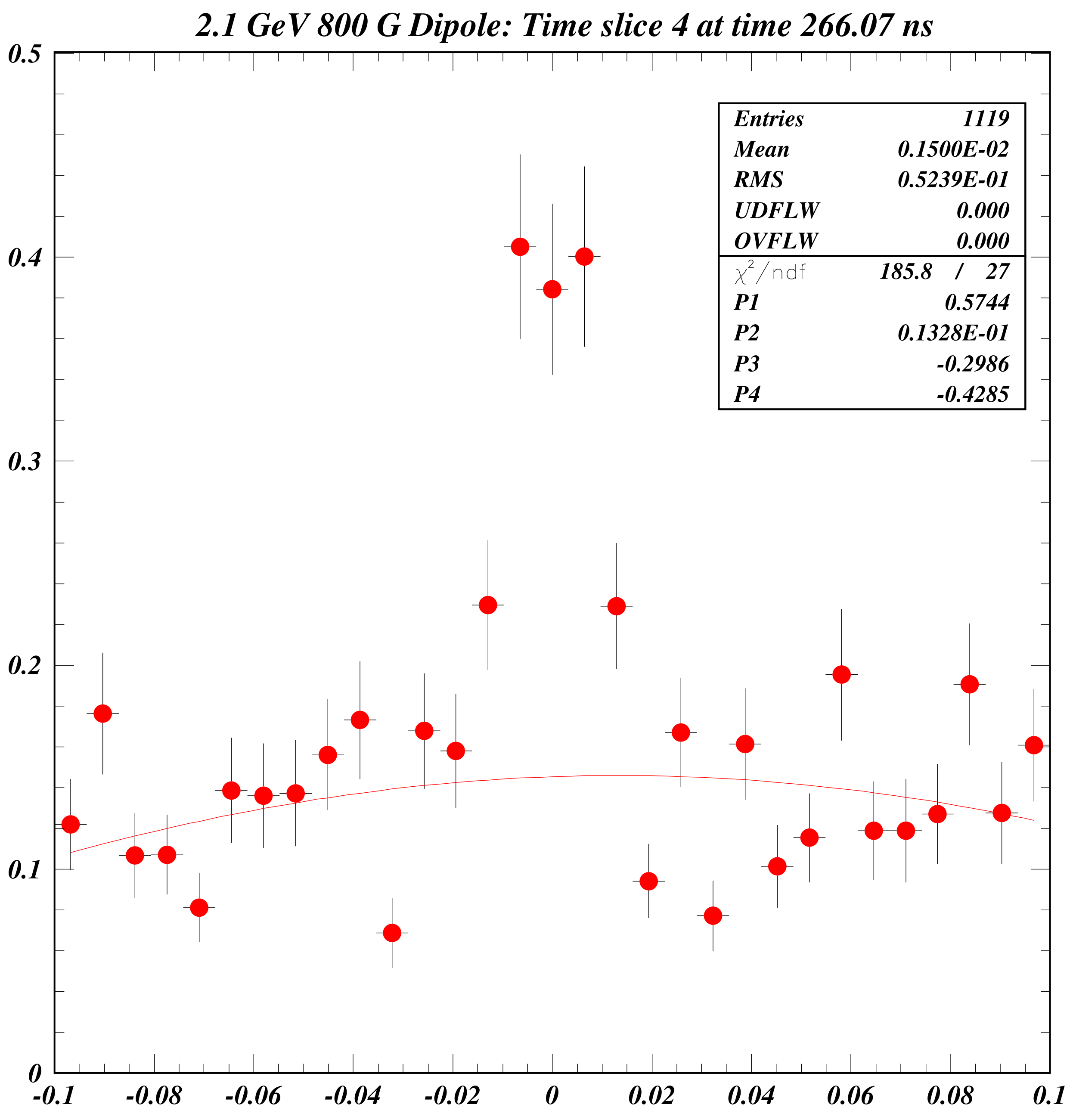
2.1 GeV 800 G Dipole: Time slice 3 at time 266.05 ns
Entries 934
Mean 0.9483E-03
RMS 0.5553E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 98.60 / 27
P1 27.47
P2 0.1161E-01
P3 -2.289
P4 -27.34
Cloud charge in bin (10⁶ e)
X (cm)
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1


15/09/30 16.27
2.1 GeV 800 G Dipole: Time slice 3 at time 266.05 ns
Entries 934
Mean -0.2788E-03
RMS 0.5455E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 52.50 / 27
P1 0.9884E-01
P2 0.4744E-03
P3 0.9636E-02
P4 0.1169
0.25
0.2
0.15
0.1
0.05
0
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1

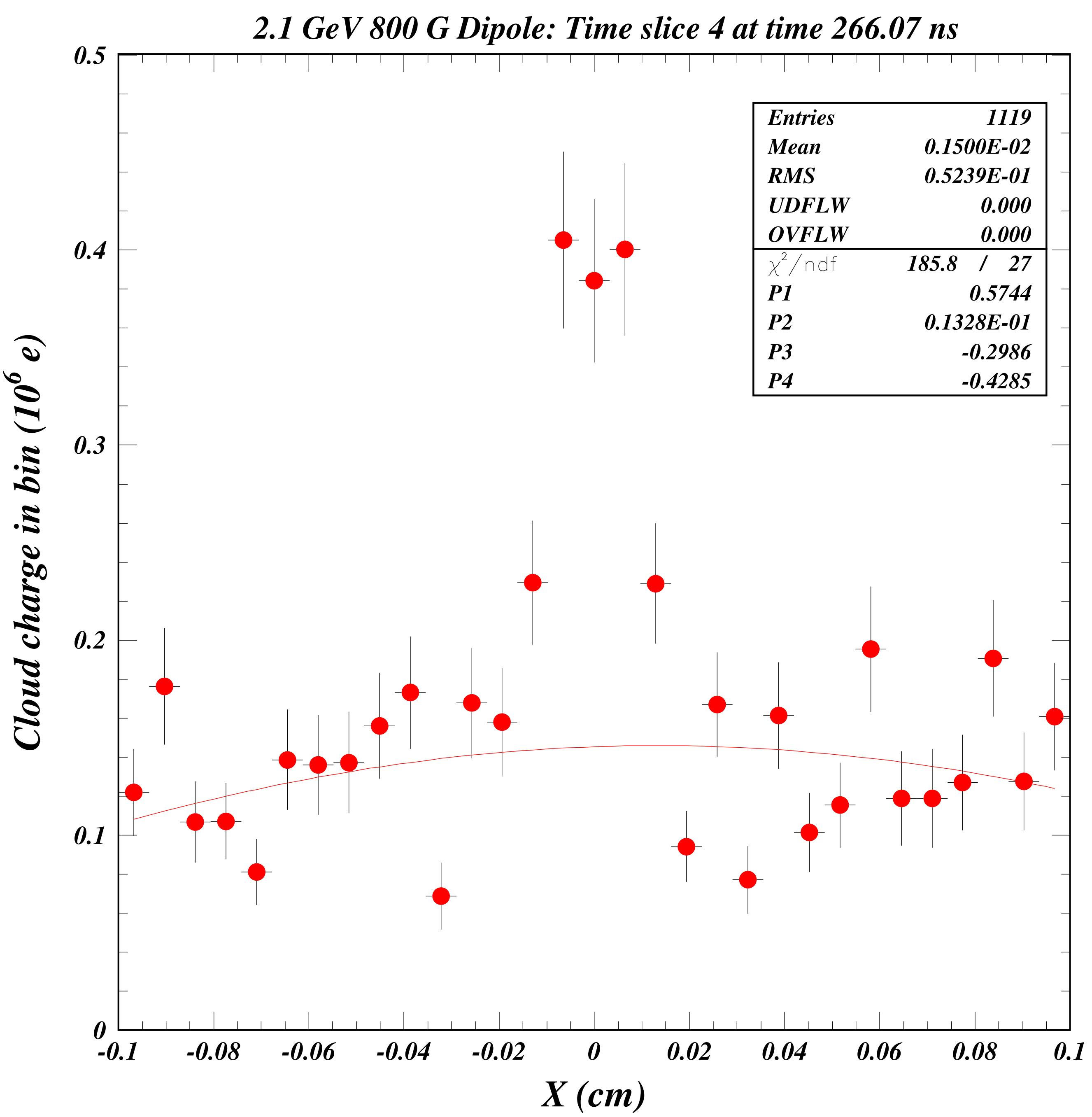

15/09/30 16.27
2.1 GeV 800 G Dipole: Time slice 3 at time 266.05 ns
Entries 934
Mean -0.2788E-03
RMS 0.5455E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 52.50 / 27
P1 0.9884E-01
P2 0.4744E-03
P3 0.9636E-02
P4 0.1169
Cloud charge in bin (10⁶ e)
Y (cm)
0.25
0.2
0.15
0.1
0.05
0
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1


15/09/30 16.27
Snapshot after bunch 20 at time = 266.05 ns
Y (cm)
X (cm)
0.1
0.08
0.06
0.04
0.02
0
-0.02
-0.04
-0.06
-0.08
-0.1
0.06
0.05
0.04
0.03
0.02
0.01
No energy cut: 0k macroparticles, 4 10^6 e-

15/09/30 16.27

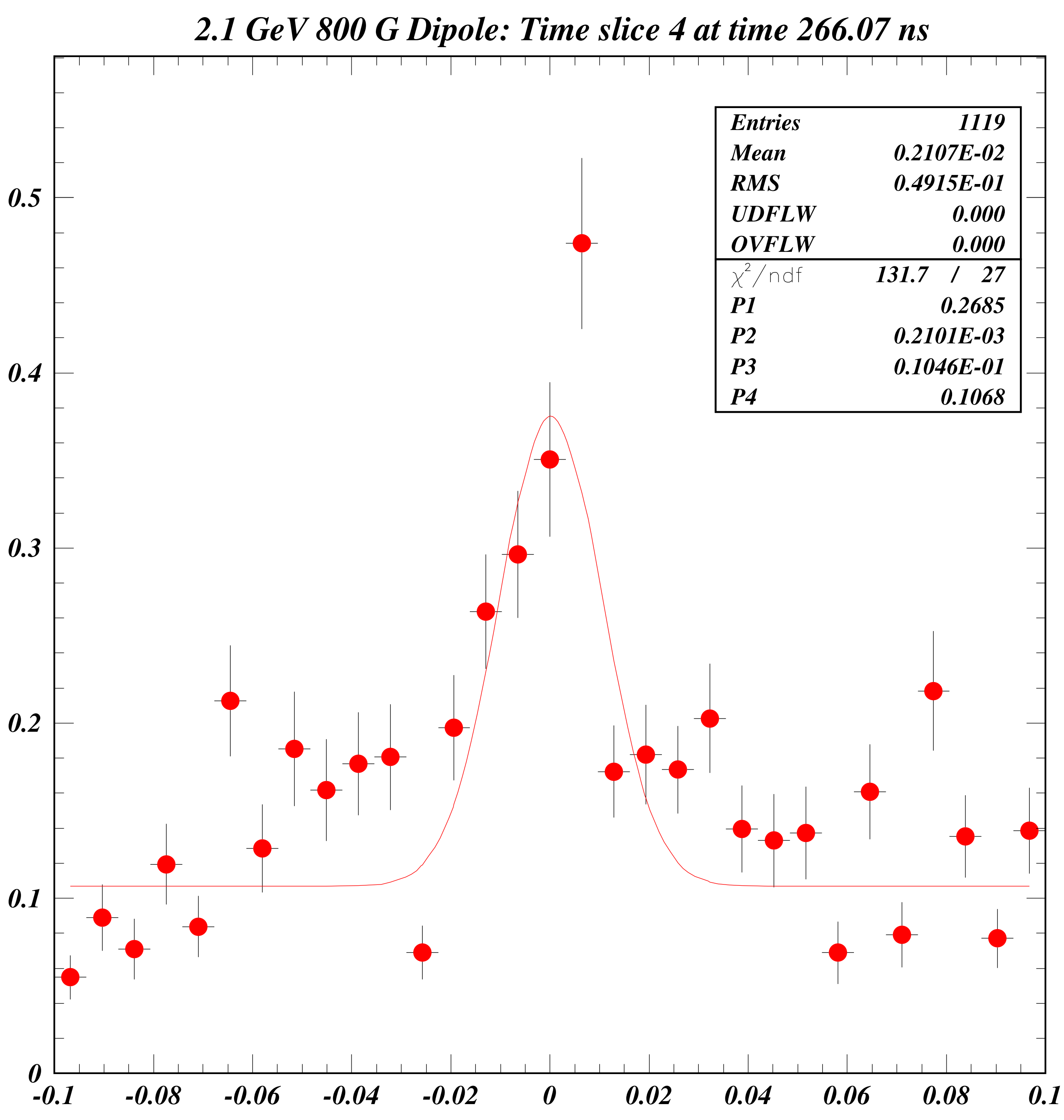

2.1 GeV 800 G Dipole: Time slice 4 at time 266.07 ns
Entries 1119
Mean 0.1500E-02
RMS 0.5239E-01
UDFLW 0.000
OVFLW 0.000
χ^2/ndf 185.8 / 27
P1 0.5744
P2 0.1328E-01
P3 -0.2986
P4 -0.4285
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1

15/09/30 16.27

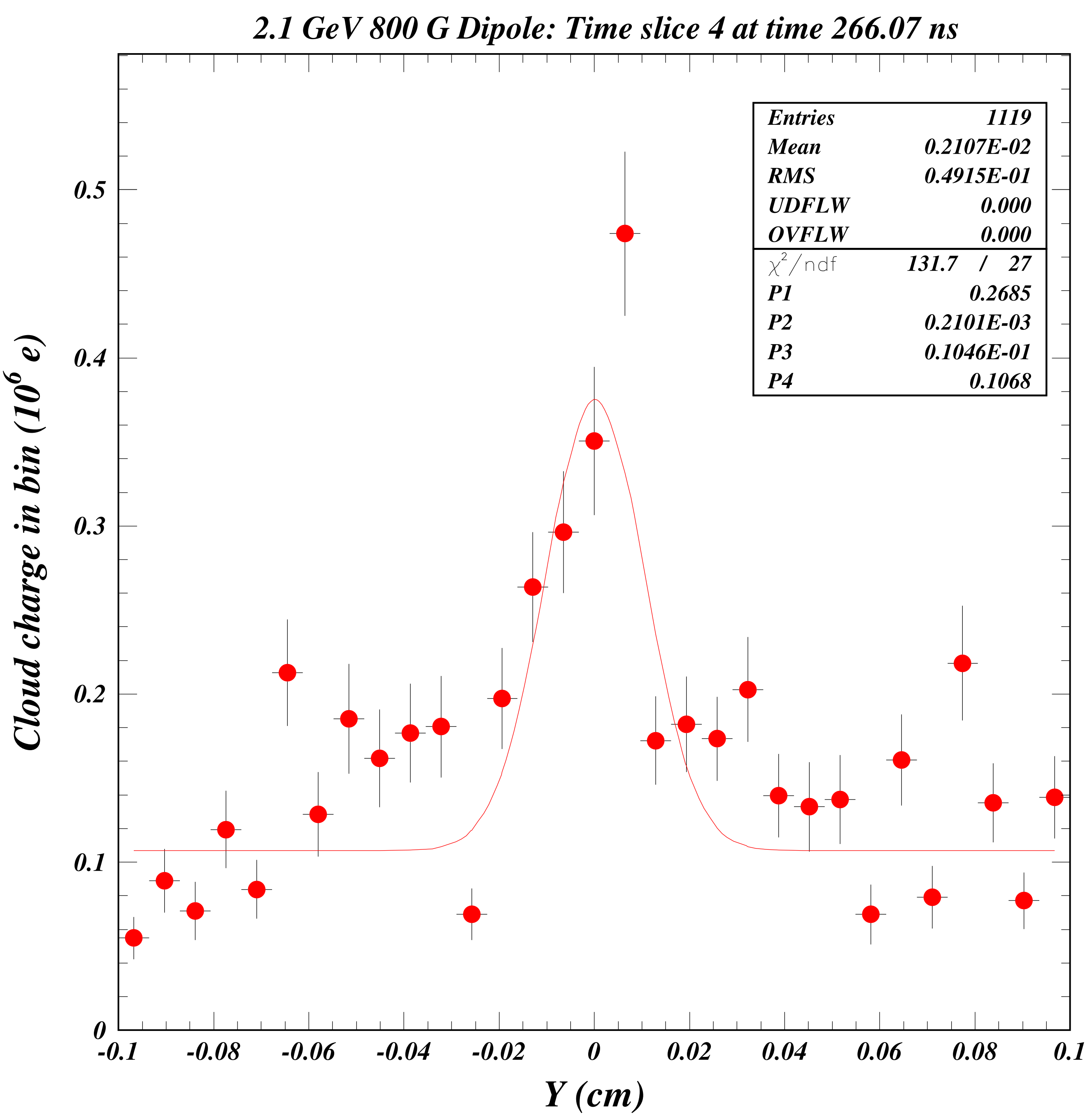


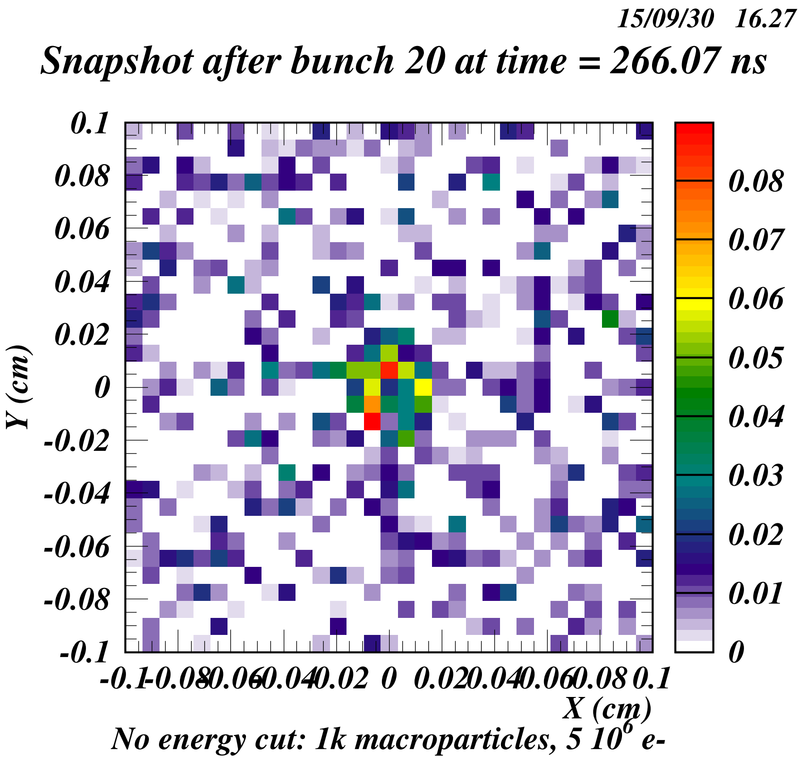
2.1 GeV 800 G Dipole: Time slice 4 at time 266.07 ns
Entries 1119
Mean 0.1500E-02
RMS 0.5239E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 185.8 / 27
P1 0.5744
P2 0.1328E-01
P3 -0.2986
P4 -0.4285
Cloud charge in bin (10⁶ e)
X (cm)
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1

15/09/30 16.27

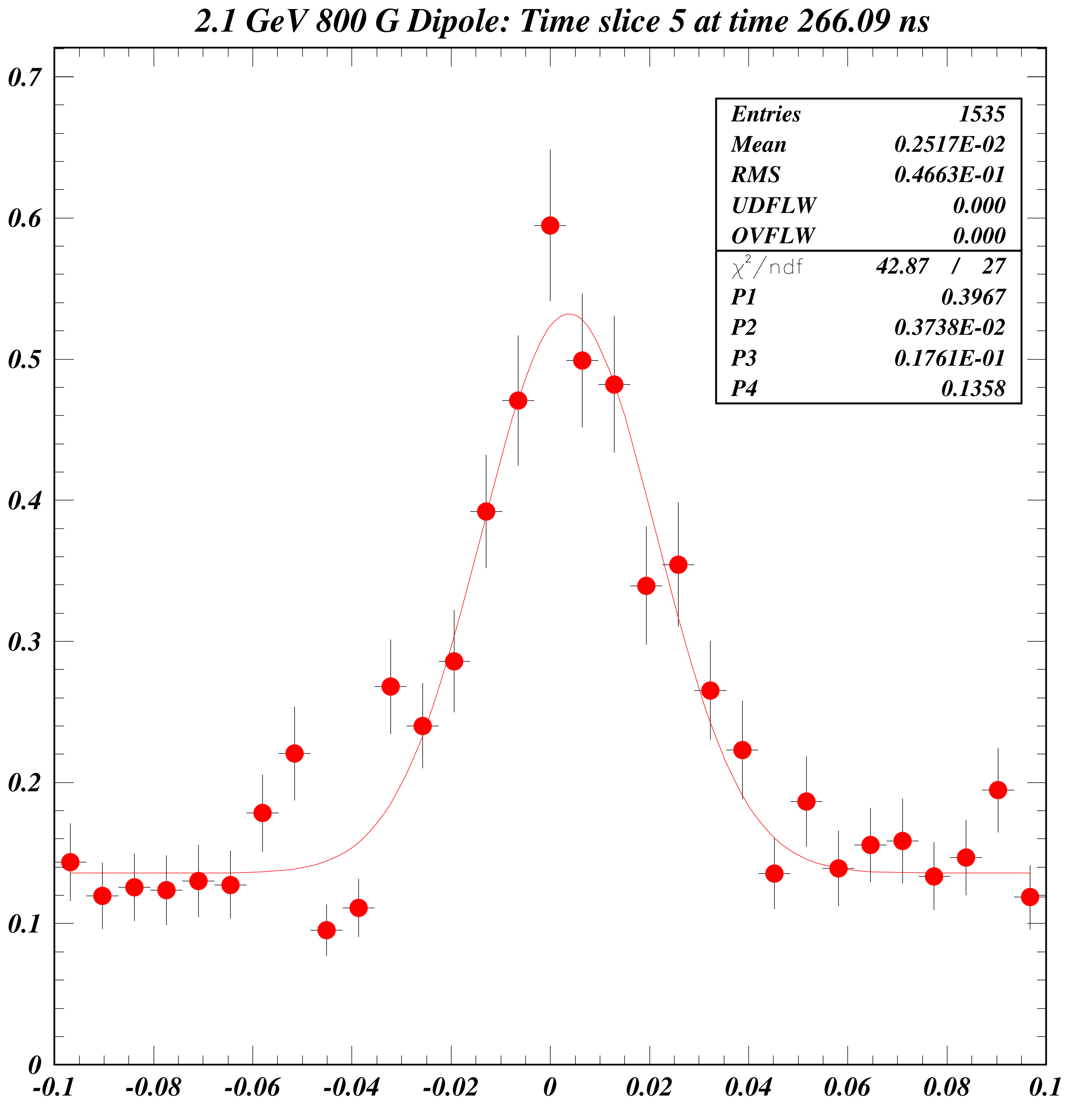

2.1 GeV 800 G Dipole: Time slice 4 at time 266.07 ns
Entries 1119
Mean 0.2107E-02
RMS 0.4915E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 131.7 / 27
P1 0.2685
P2 0.2101E-03
P3 0.1046E-01
P4 0.1068
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1

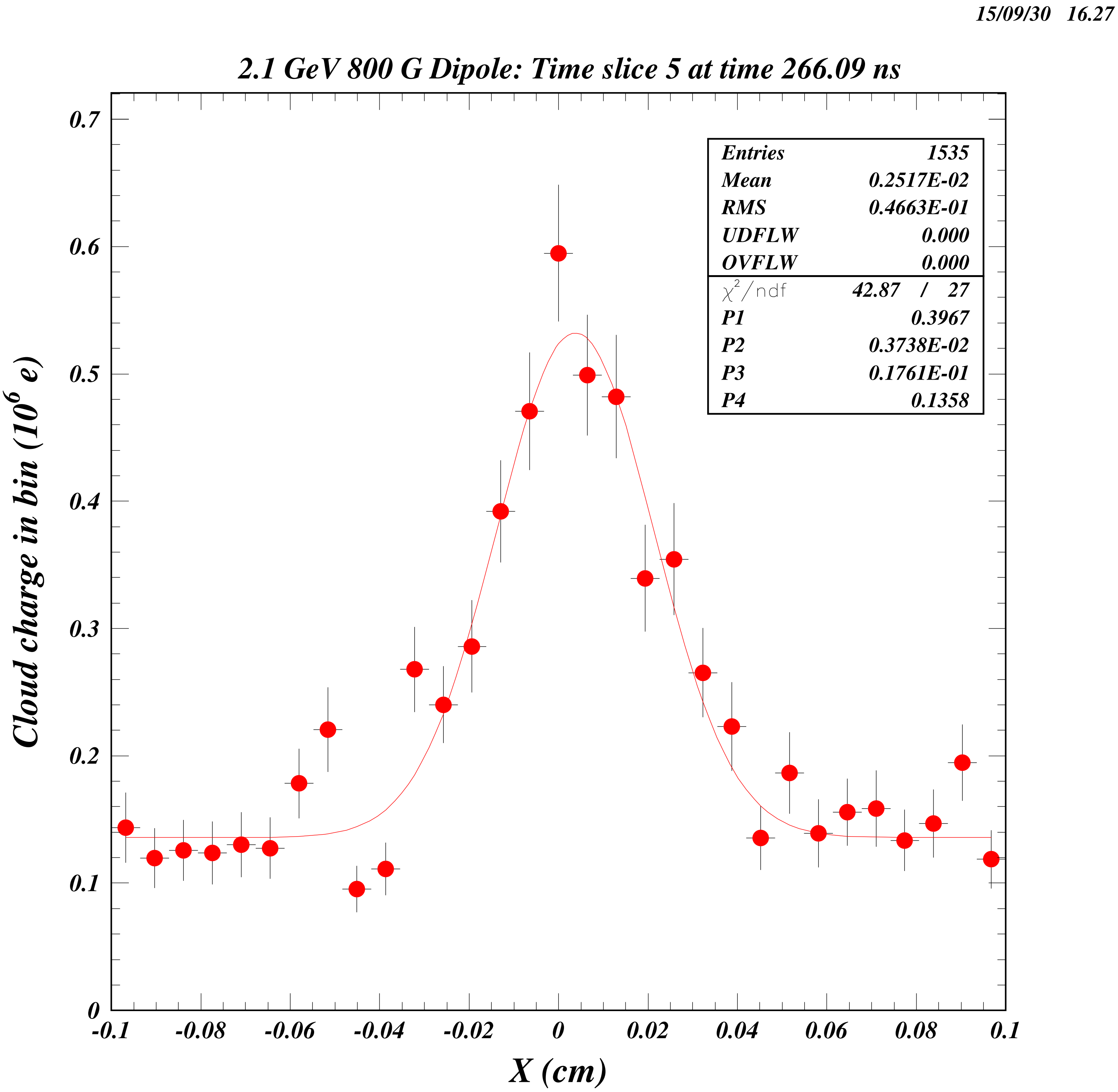
15/09/30 16.27


2.1 GeV 800 G Dipole: Time slice 4 at time 266.07 ns
Entries 1119
Mean 0.2107E-02
RMS 0.4915E-01
UDFLW 0.000
OVFLW 0.000
χ^2/ndf 131.7 / 27
P1 0.2685
P2 0.2101E-03
P3 0.1046E-01
P4 0.1068
Cloud charge in bin (10^6 e)
0
0.1
0.2
0.3
0.4
0.5
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1
Y (cm)

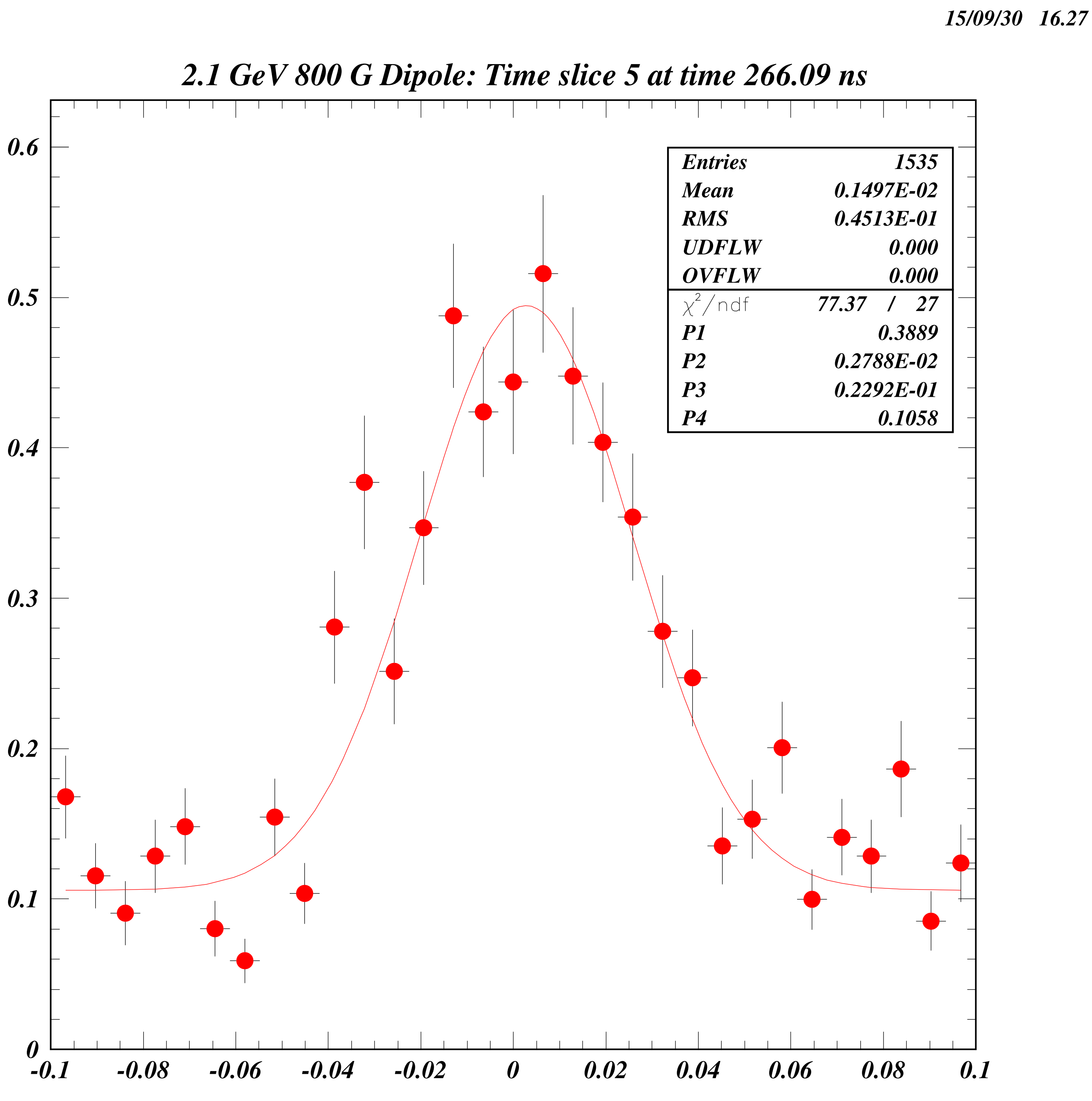

15/09/30 16.27
Snapshot after bunch 20 at time = 266.07 ns
Y (cm)
X (cm)
0.1
0.08
0.06
0.04
0.02
0
-0.02
-0.04
-0.06
-0.08
-0.1
No energy cut: 1k macroparticles, 5 10^6 e-

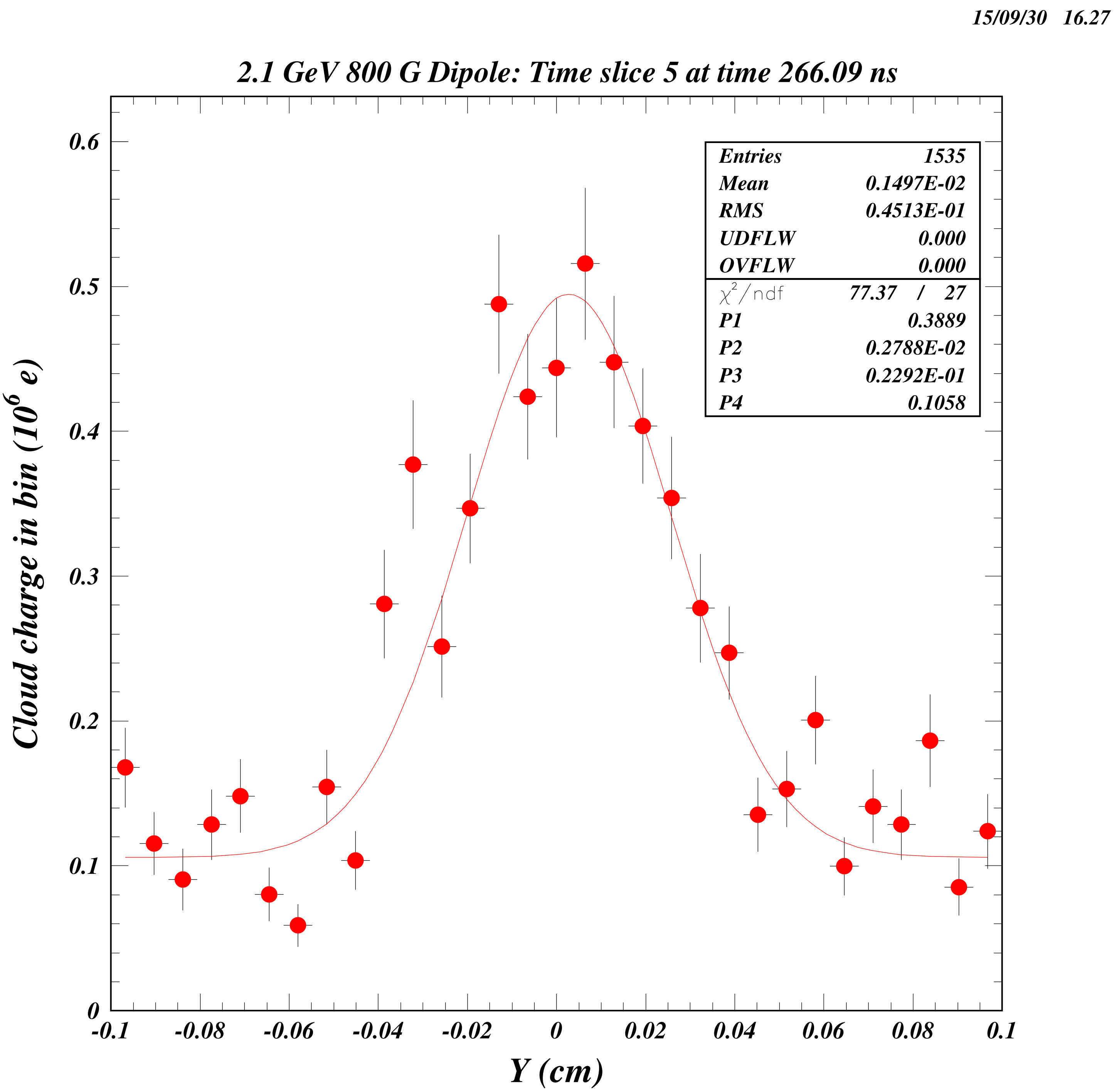
15/09/30 16.27

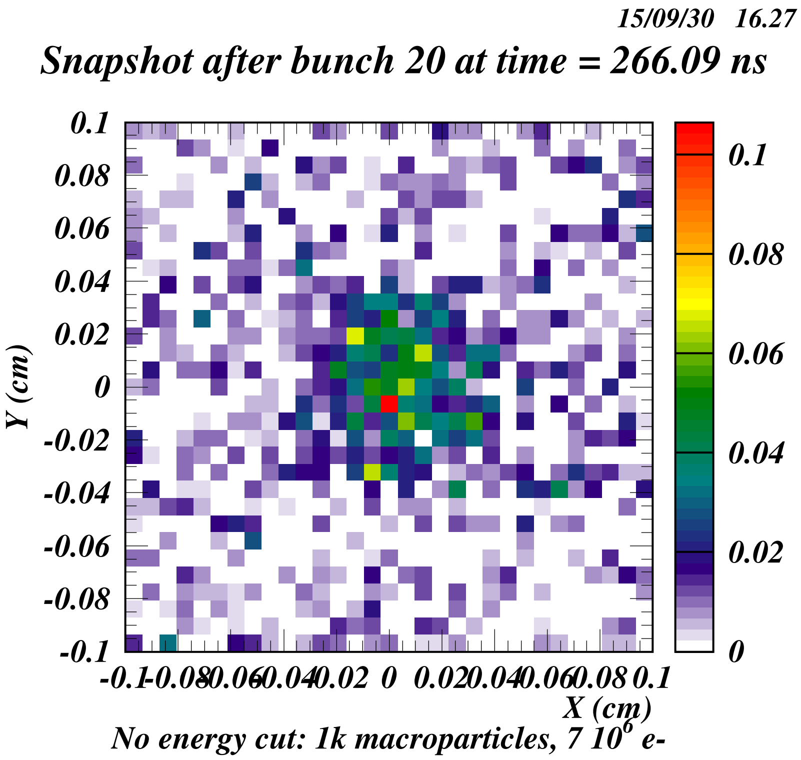

2.1 GeV 800 G Dipole: Time slice 5 at time 266.09 ns
Entries 1535
Mean 0.2517E-02
RMS 0.4663E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 42.87 / 27
P1 0.3967
P2 0.3738E-02
P3 0.1761E-01
P4 0.1358
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1

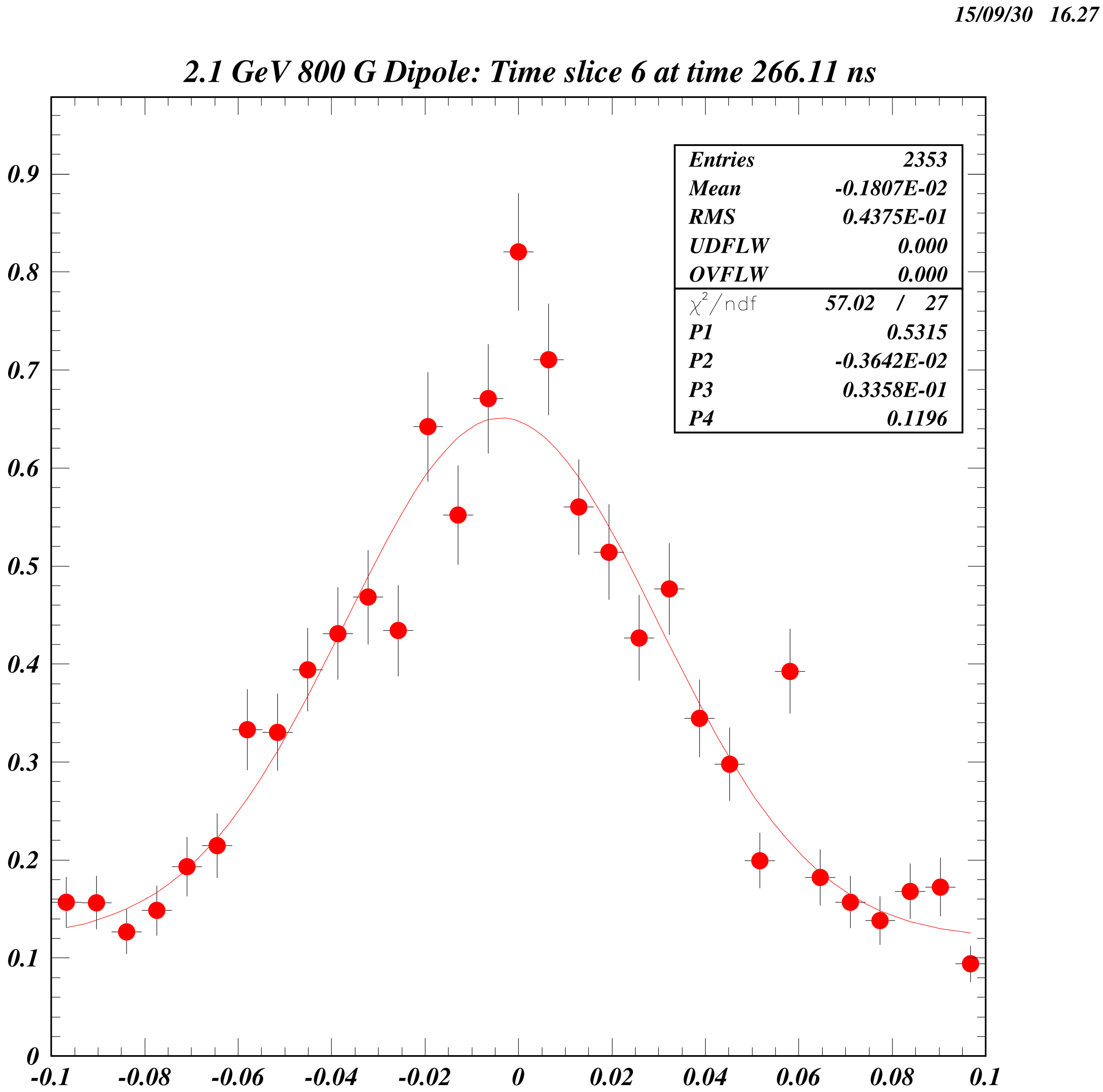


15/09/30 16.27
2.1 GeV 800 G Dipole: Time slice 5 at time 266.09 ns
Entries 1535
Mean 0.2517E-02
RMS 0.4663E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 42.87 / 27
P1 0.3967
P2 0.3738E-02
P3 0.1761E-01
P4 0.1358
Cloud charge in bin (10⁶ e)
X (cm)

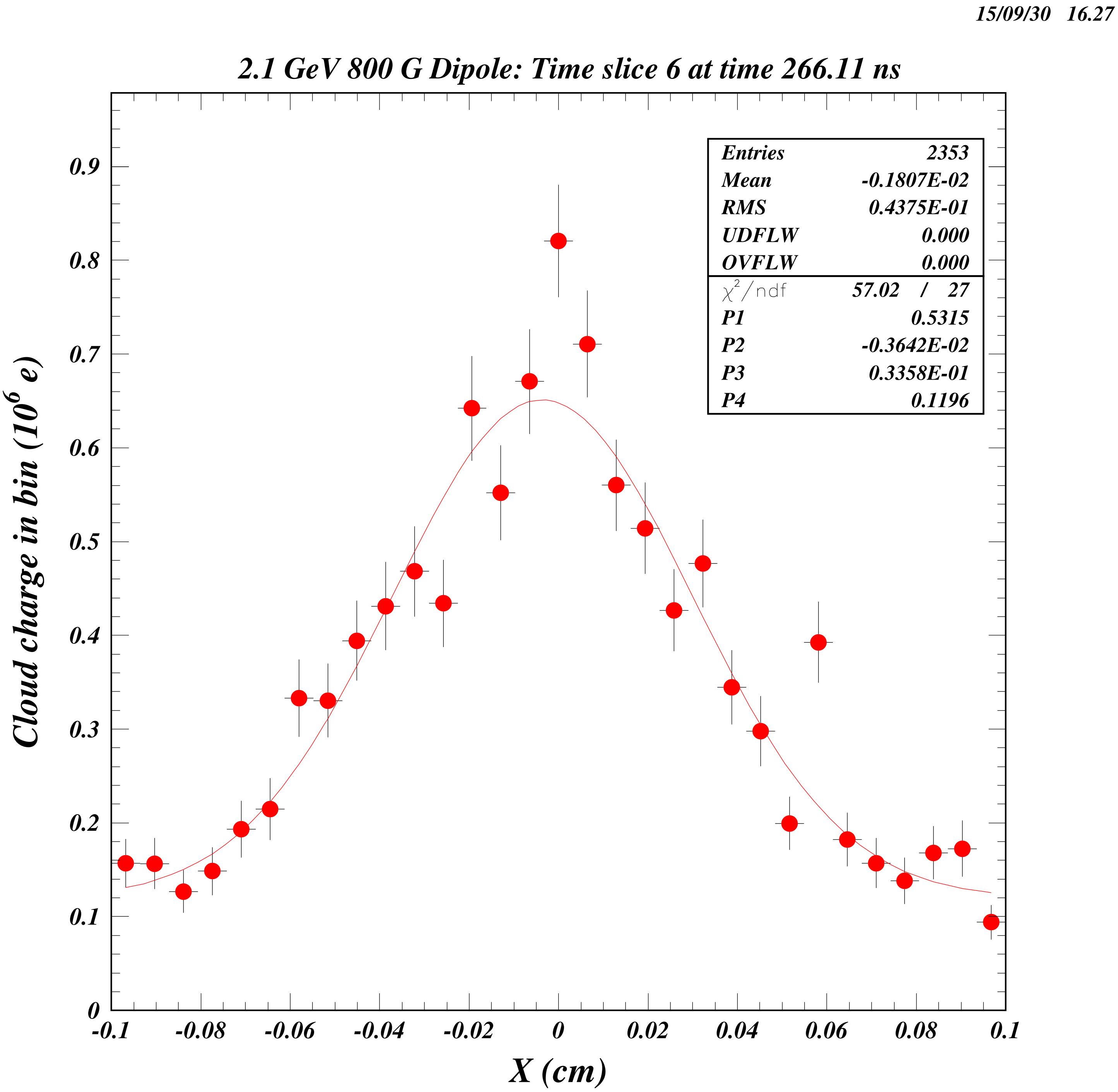

15/09/30 16.27
2.1 GeV 800 G Dipole: Time slice 5 at time 266.09 ns
Entries 1535
Mean 0.1497E-02
RMS 0.4513E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 77.37 / 27
P1 0.3889
P2 0.2788E-02
P3 0.2292E-01
P4 0.1058
0.6
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1


15/09/30 16.27
2.1 GeV 800 G Dipole: Time slice 5 at time 266.09 ns
Entries 1535
Mean 0.1497E-02
RMS 0.4513E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 77.37 / 27
P1 0.3889
P2 0.2788E-02
P3 0.2292E-01
P4 0.1058
Cloud charge in bin (10⁶ e)
Y (cm)
0
0.1
0.2
0.3
0.4
0.5
0.6
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1


15/09/30 16.27
Snapshot after bunch 20 at time = 266.09 ns
Y (cm)
X (cm)
0.1
0.08
0.06
0.04
0.02
0
-0.02
-0.04
-0.06
-0.08
-0.1
No energy cut: 1k macroparticles, 7 10^6 e-

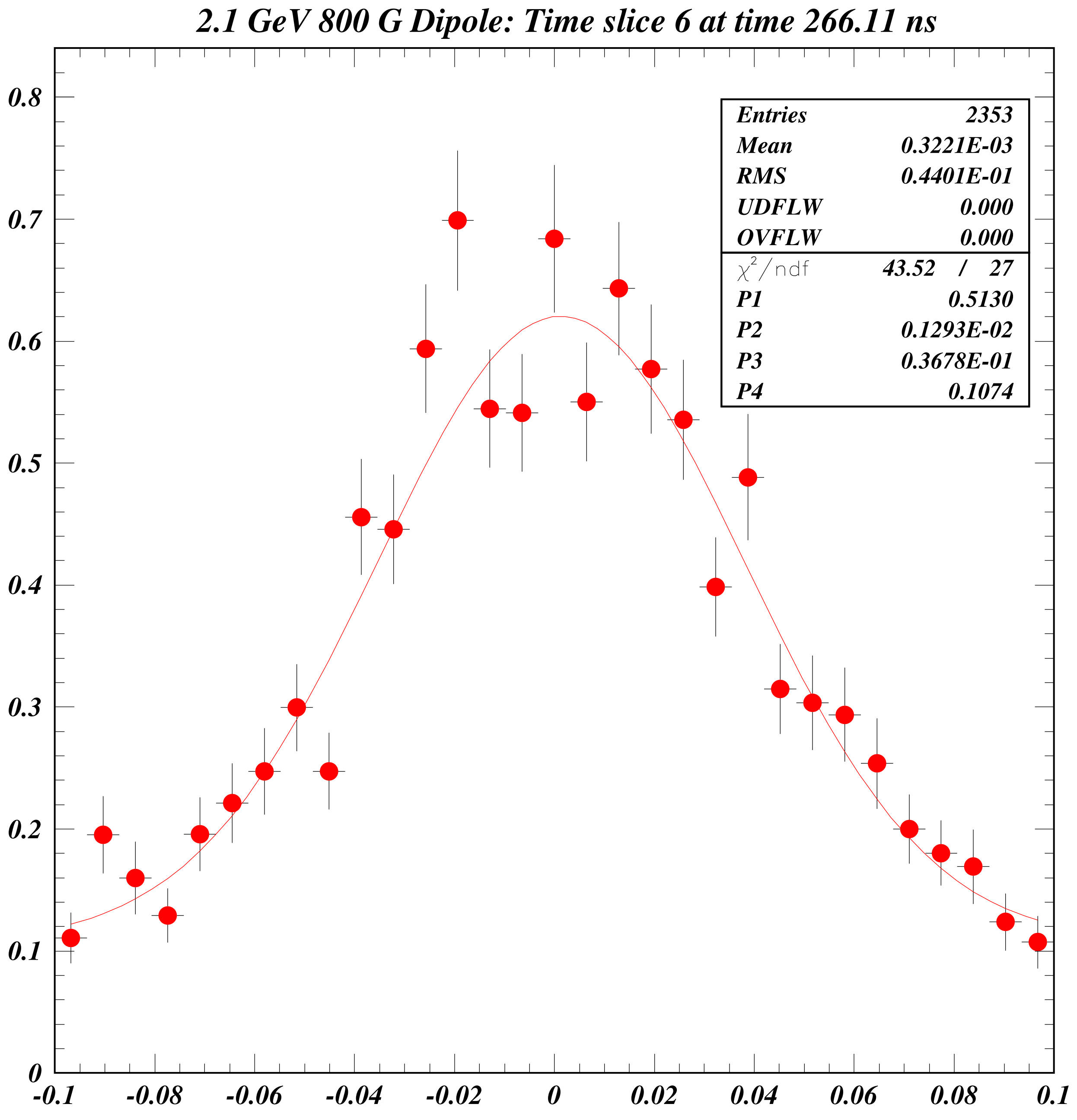


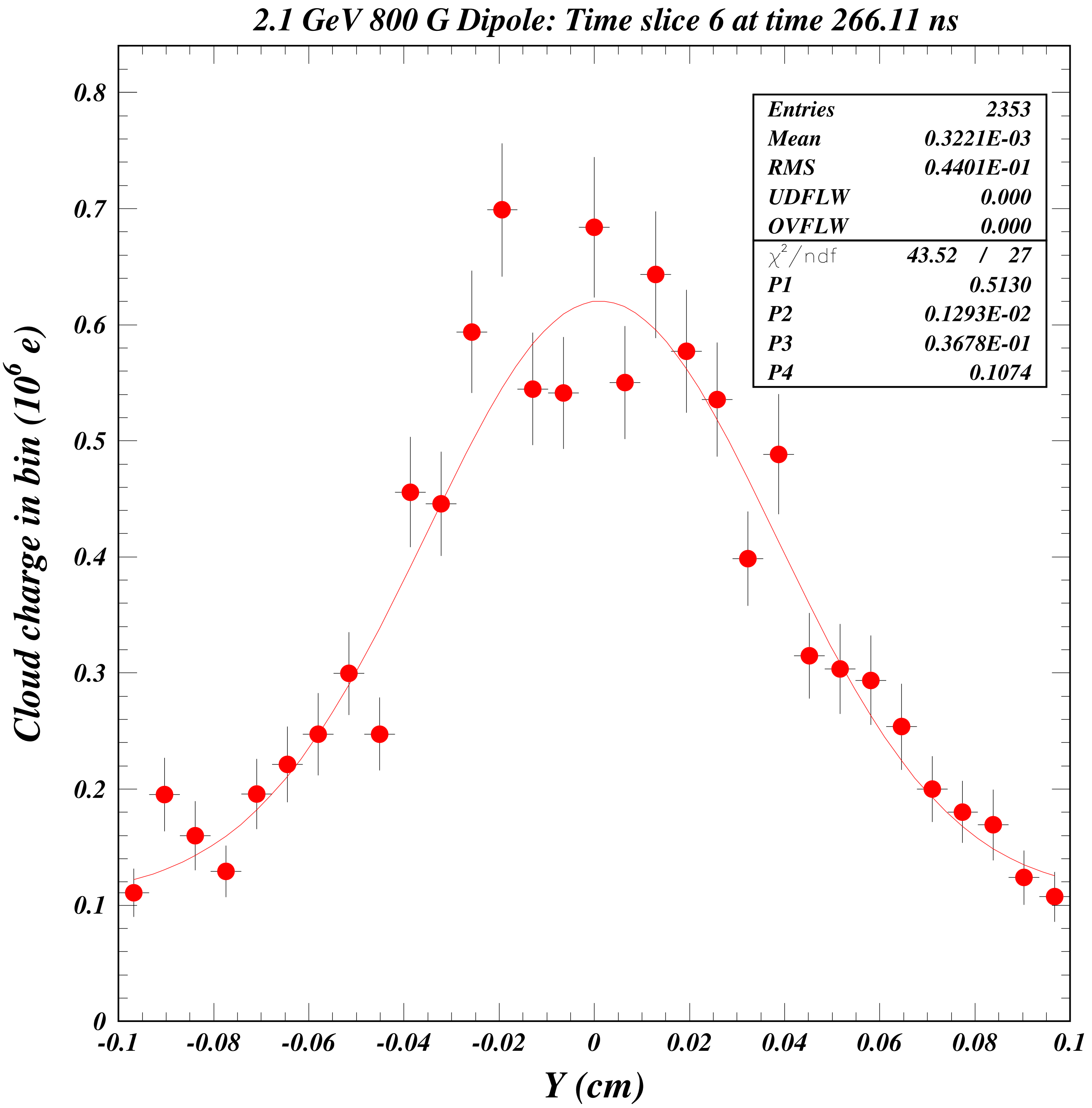
15/09/30 16.27
2.1 GeV 800 G Dipole: Time slice 6 at time 266.11 ns
Entries 2353
Mean -0.1807E-02
RMS 0.4375E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 57.02 / 27
P1 0.5315
P2 -0.3642E-02
P3 0.3358E-01
P4 0.1196
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1

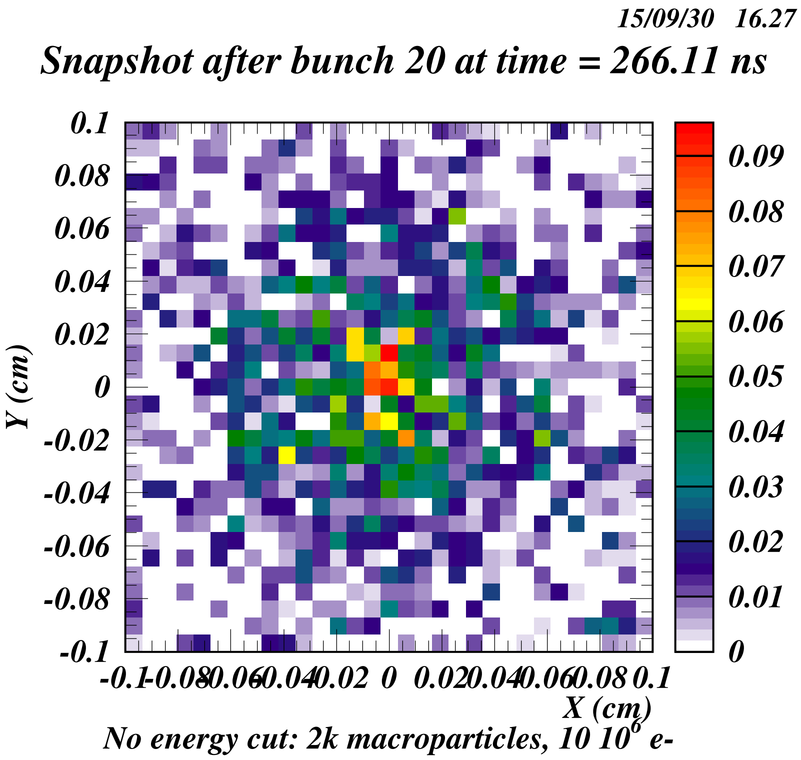


15/09/30 16.27
2.1 GeV 800 G Dipole: Time slice 6 at time 266.11 ns
Entries 2353
Mean -0.1807E-02
RMS 0.4375E-01
UDFLW 0.000
OVFLW 0.000
χ^2/ndf 57.02 / 27
P1 0.5315
P2 -0.3642E-02
P3 0.3358E-01
P4 0.1196
Cloud charge in bin (10^6 e)
X (cm)

15/09/30 16.27


2.1 GeV 800 G Dipole: Time slice 6 at time 266.11 ns
Entries 2353
Mean 0.3221E-03
RMS 0.4401E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 43.52 / 27
P1 0.5130
P2 0.1293E-02
P3 0.3678E-01
P4 0.1074
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1


2.1 GeV 800 G Dipole: Time slice 6 at time 266.11 ns
Entries 2353
Mean 0.3221E-03
RMS 0.4401E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 43.52 / 27
P1 0.5130
P2 0.1293E-02
P3 0.3678E-01
P4 0.1074
Cloud charge in bin (10⁶ e)
Y (cm)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1


15/09/30 16.27
Snapshot after bunch 20 at time = 266.11 ns
Y (cm)
X (cm)
0.1
0.08
0.06
0.04
0.02
0
-0.02
-0.04
-0.06
-0.08
-0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
No energy cut: 2k macroparticles, 10 10^6 e-

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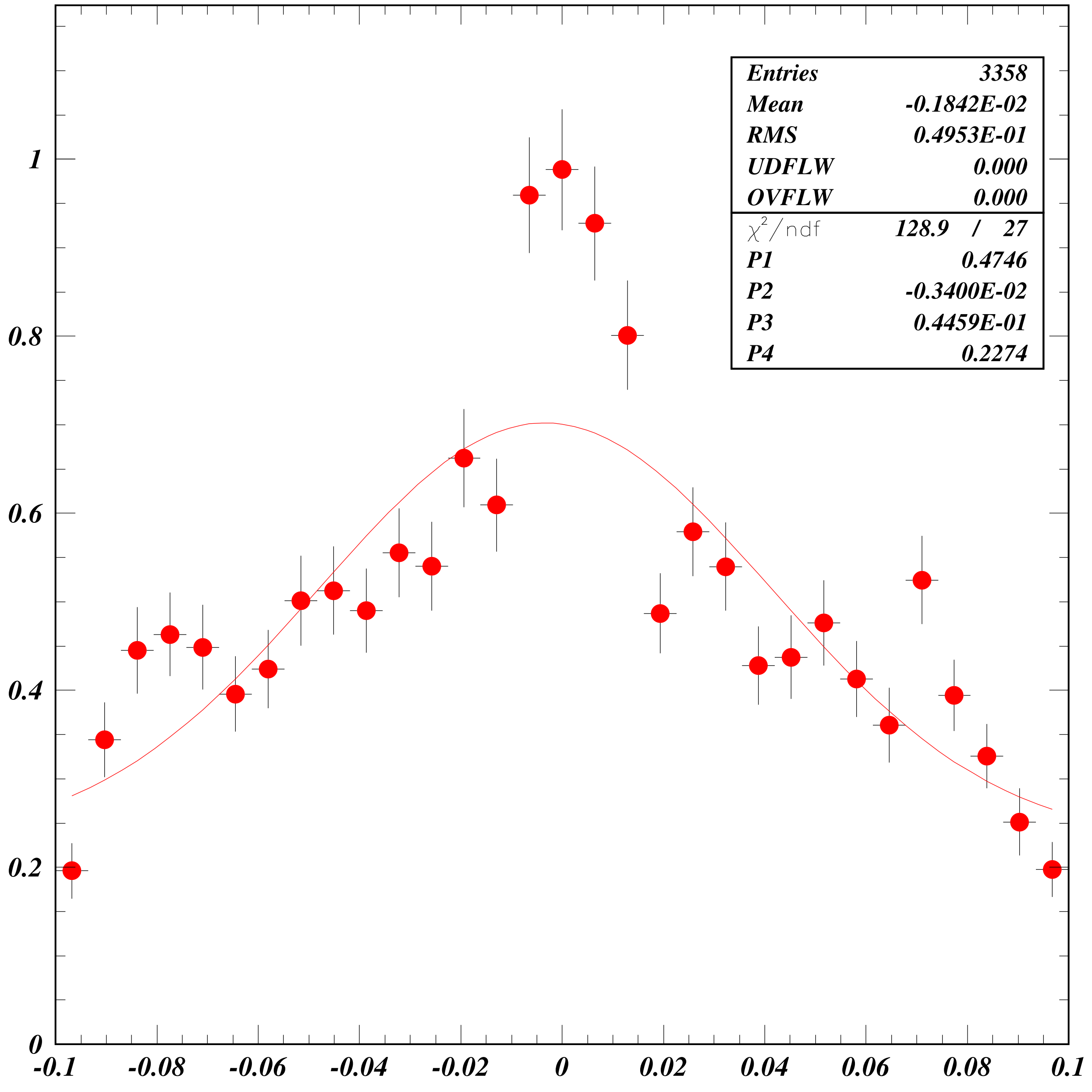
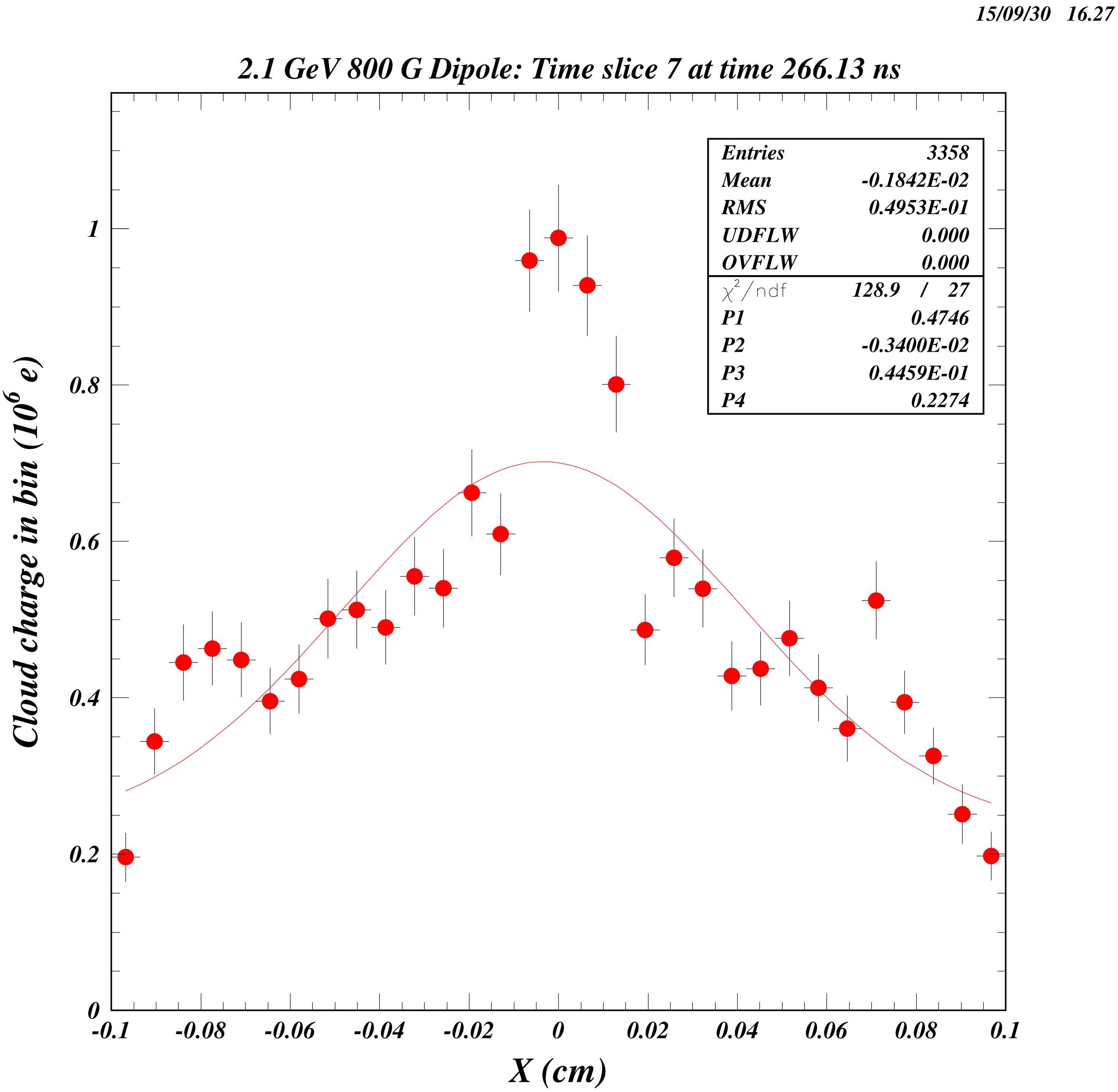
2.1 GeV 800 G Dipole: Time slice 7 at time 266.13 ns





15/09/30 16.27
2.1 GeV 800 G Dipole: Time slice 7 at time 266.13 ns
Entries 3358
Mean -0.1842E-02
RMS 0.4953E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 128.9 / 27
P1 0.4746
P2 -0.3400E-02
P3 0.4459E-01
P4 0.2274
Cloud charge in bin (10⁶ e)
X (cm)
0
0.2
0.4
0.6
0.8
1
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1

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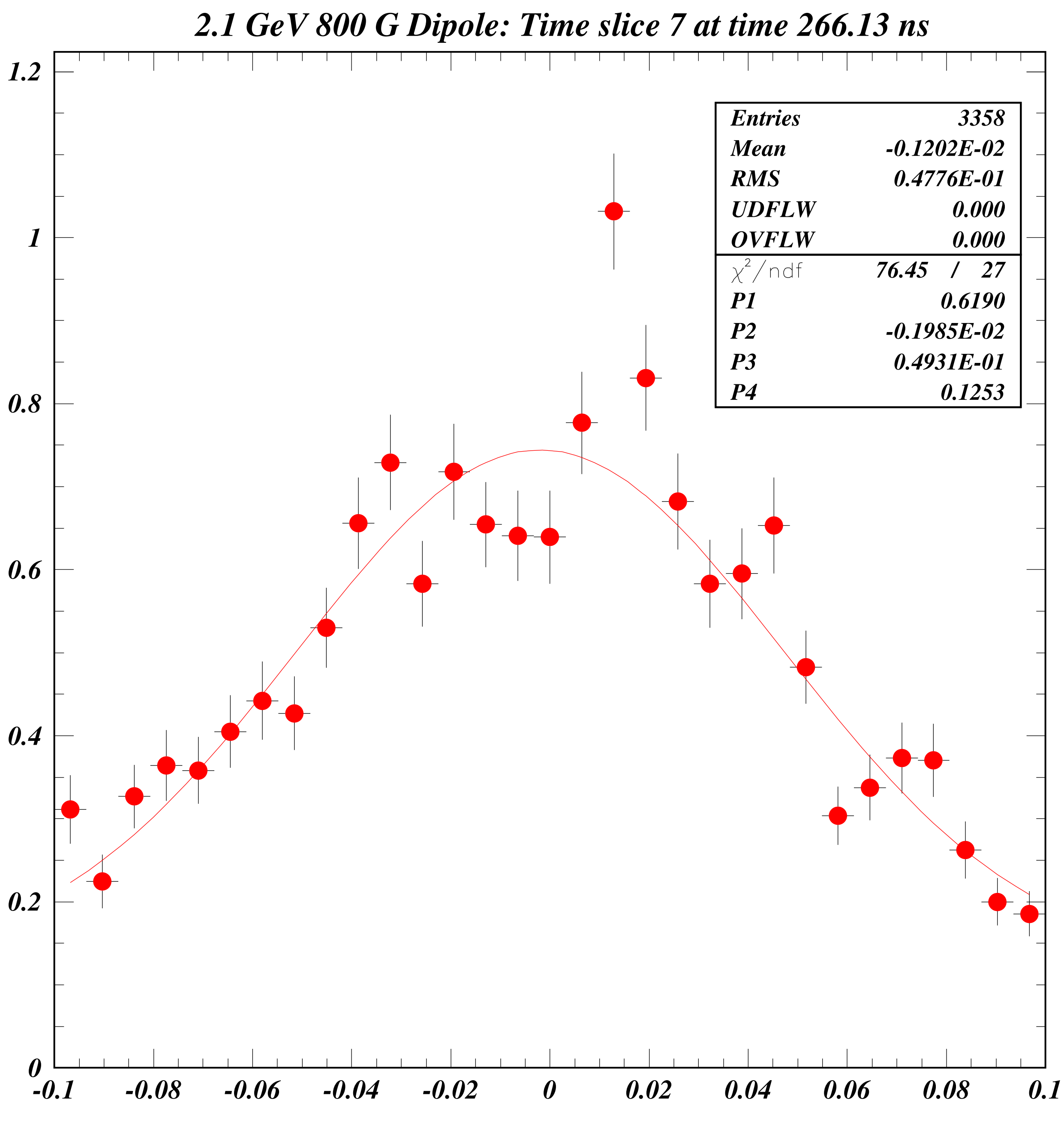
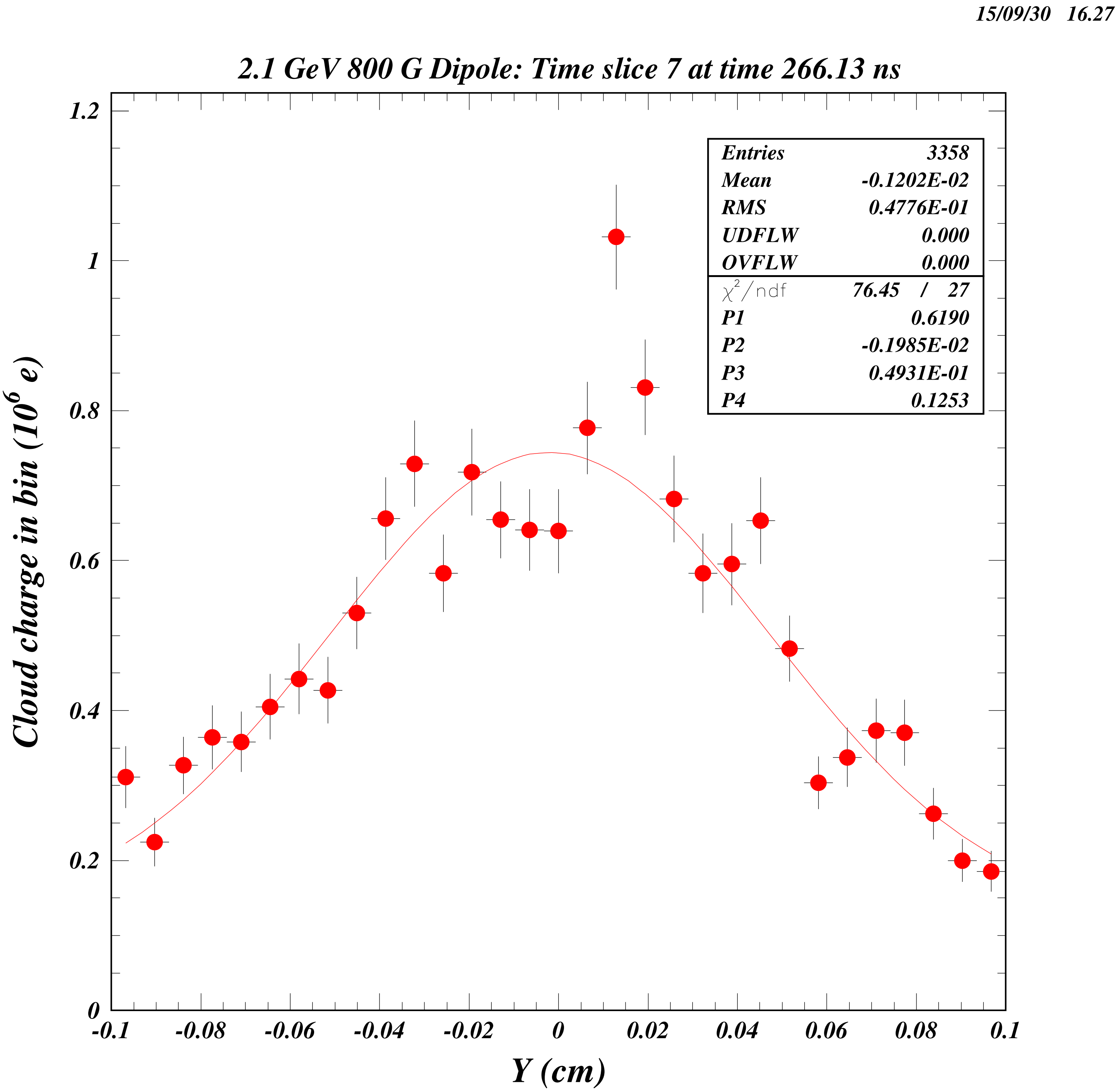


2.1 GeV 800 G Dipole: Time slice 7 at time 266.13 ns
Entries 3358
Mean -0.1202E-02
RMS 0.4776E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 76.45 / 27
P1 0.6190
P2 -0.1985E-02
P3 0.4931E-01
P4 0.1253
1.2
1
0.8
0.6
0.4
0.2
0
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1



15/09/30 16.27
2.1 GeV 800 G Dipole: Time slice 7 at time 266.13 ns
Entries 3358
Mean -0.1202E-02
RMS 0.4776E-01
UDFLW 0.000
OVFLW 0.000
χ^2/ndf 76.45 / 27
P1 0.6190
P2 -0.1985E-02
P3 0.4931E-01
P4 0.1253
Cloud charge in bin (10^6 e)
Y (cm)
1.2
1
0.8
0.6
0.4
0.2
0
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1

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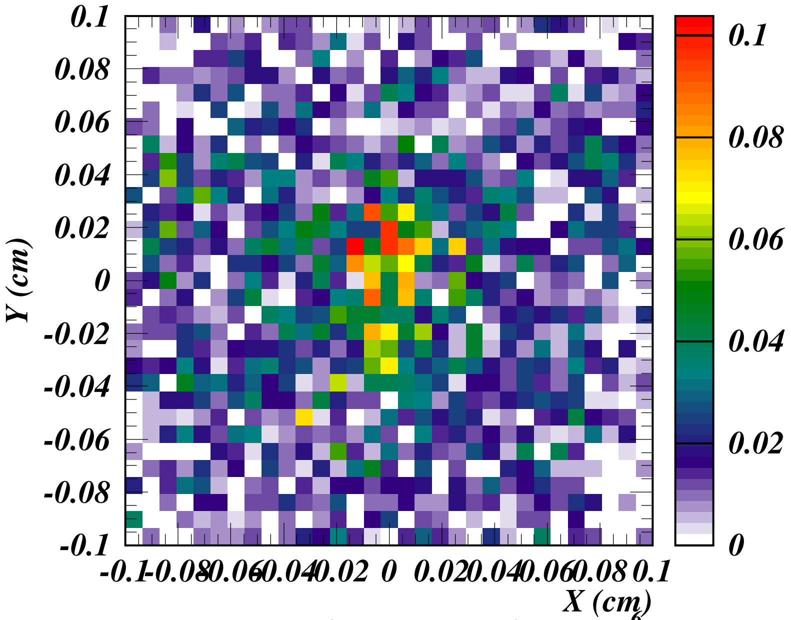
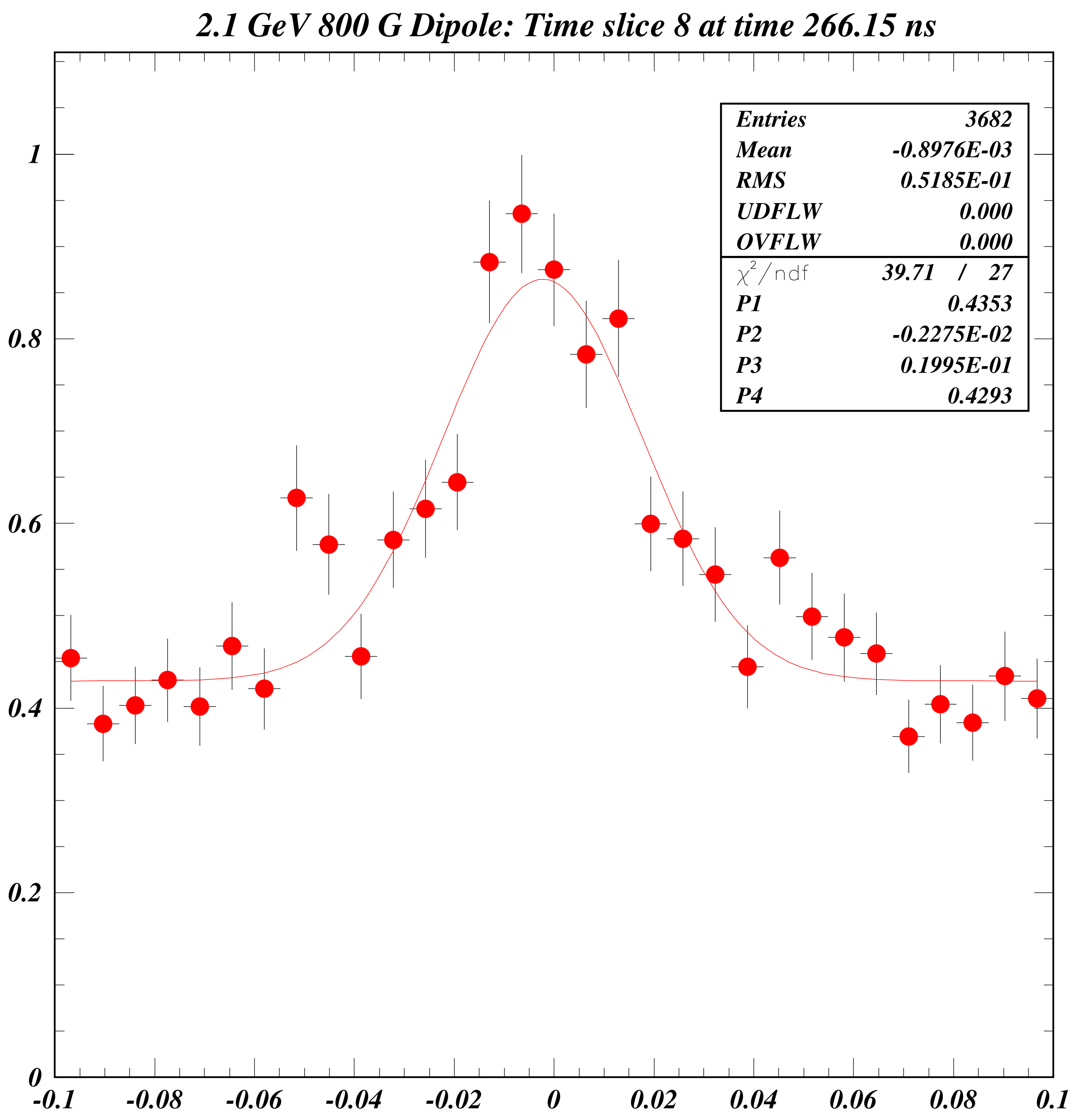
Snapshot after bunch 20 at time = 266.13 ns

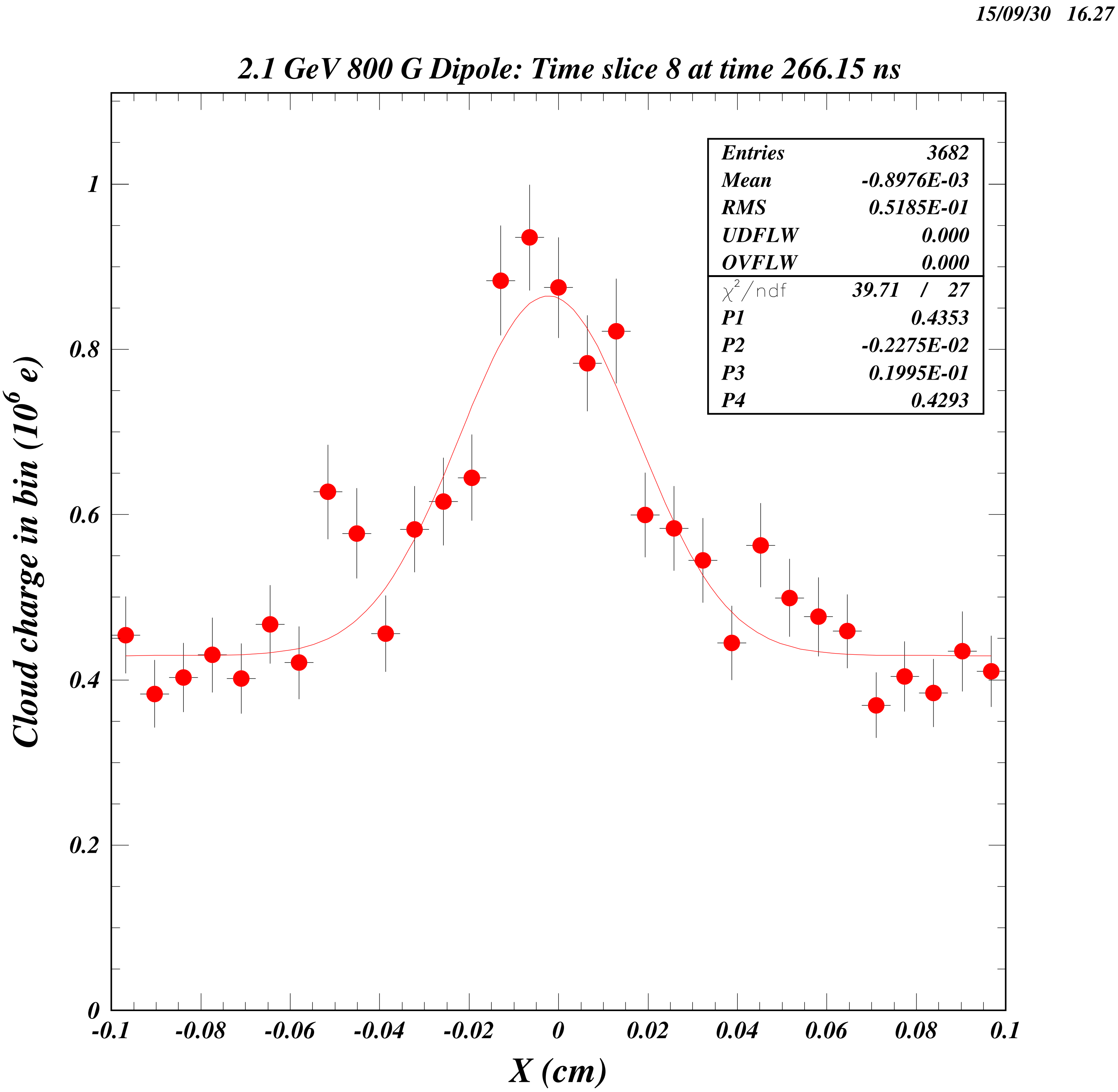


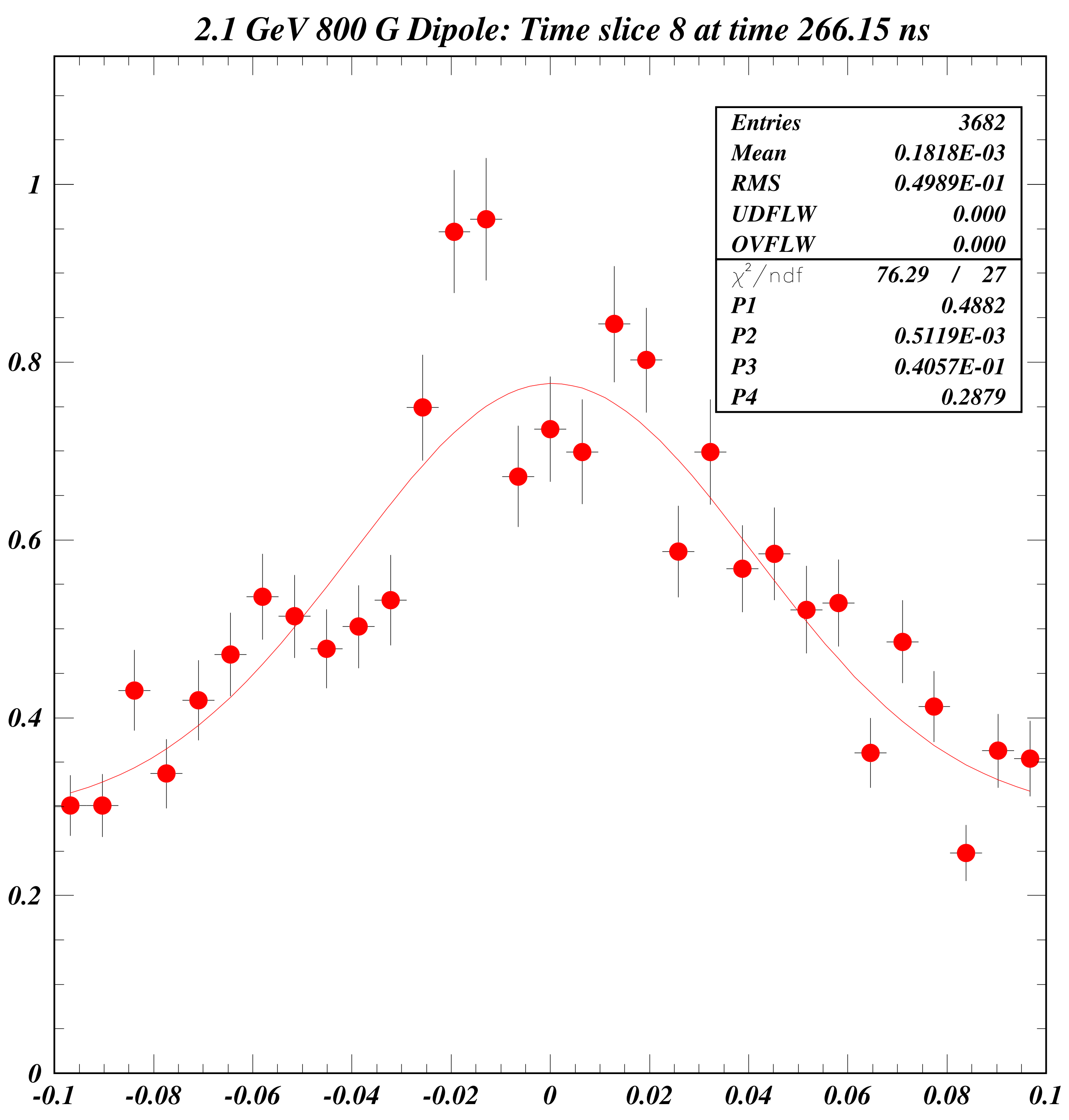
No energy cut: 3k macroparticles, 15 10^6 e-

15/09/30 16.27

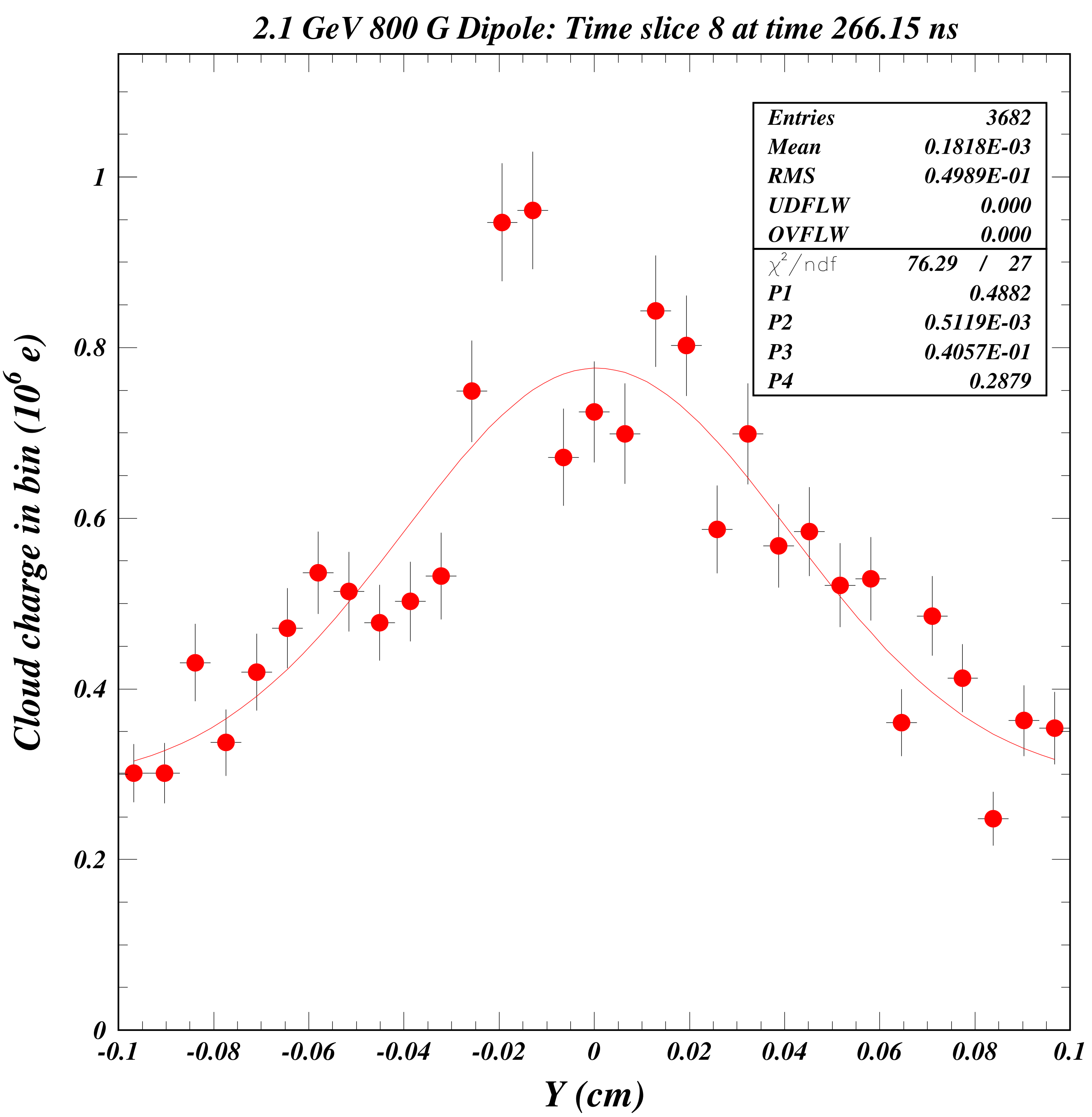


2.1 GeV 800 G Dipole: Time slice 8 at time 266.15 ns
Entries 3682
Mean -0.8976E-03
RMS 0.5185E-01
UDFLW 0.000
OVFLW 0.000
χ^2/ndf 39.71 / 27
P1 0.4353
P2 -0.2275E-02
P3 0.1995E-01
P4 0.4293
1
0.8
0.6
0.4
0.2
0
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1

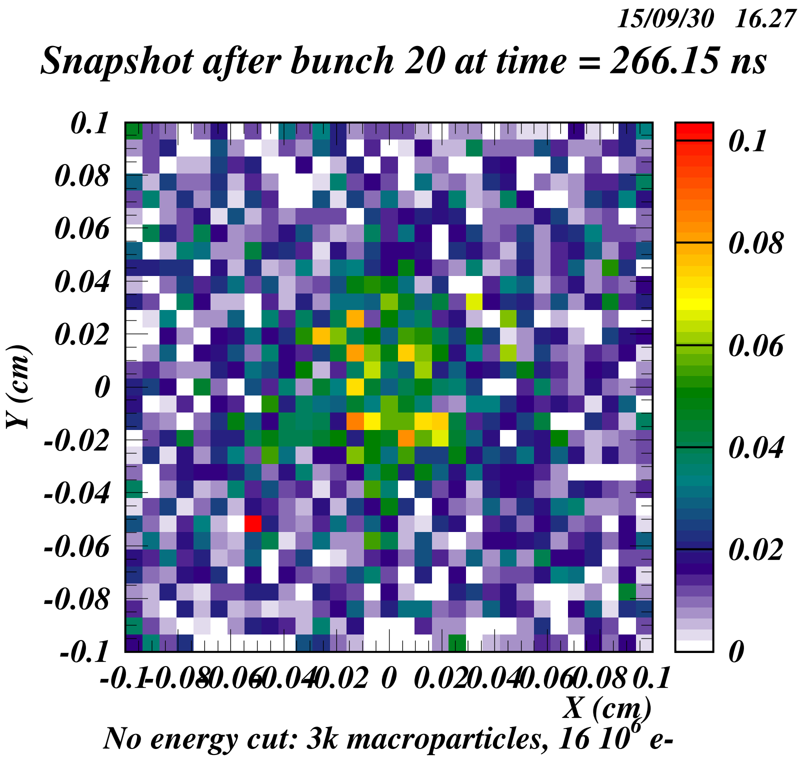

15/09/30 16.27
2.1 GeV 800 G Dipole: Time slice 8 at time 266.15 ns
Entries 3682
Mean -0.8976E-03
RMS 0.5185E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 39.71 / 27
P1 0.4353
P2 -0.2275E-02
P3 0.1995E-01
P4 0.4293
Cloud charge in bin (10⁶ e)
X (cm)
1
0.8
0.6
0.4
0.2
0
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1


2.1 GeV 800 G Dipole: Time slice 8 at time 266.15 ns
Entries 3682
Mean 0.1818E-03
RMS 0.4989E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 76.29 / 27
P1 0.4882
P2 0.5119E-03
P3 0.4057E-01
P4 0.2879
0 0.2 0.4 0.6 0.8 1
-0.1 -0.08 -0.06 -0.04 -0.02 0 0.02 0.04 0.06 0.08 0.1

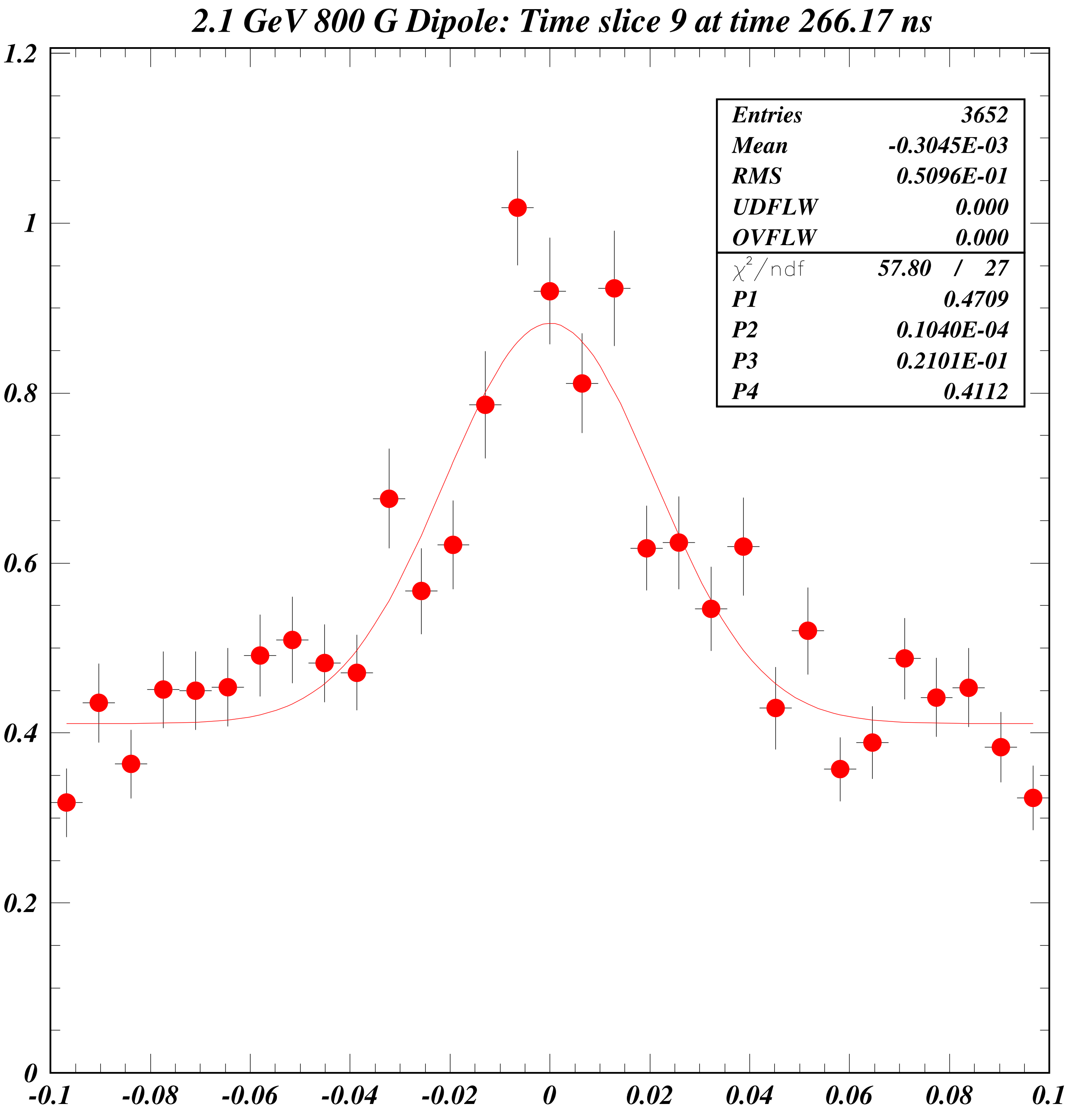
15/09/30 16.27



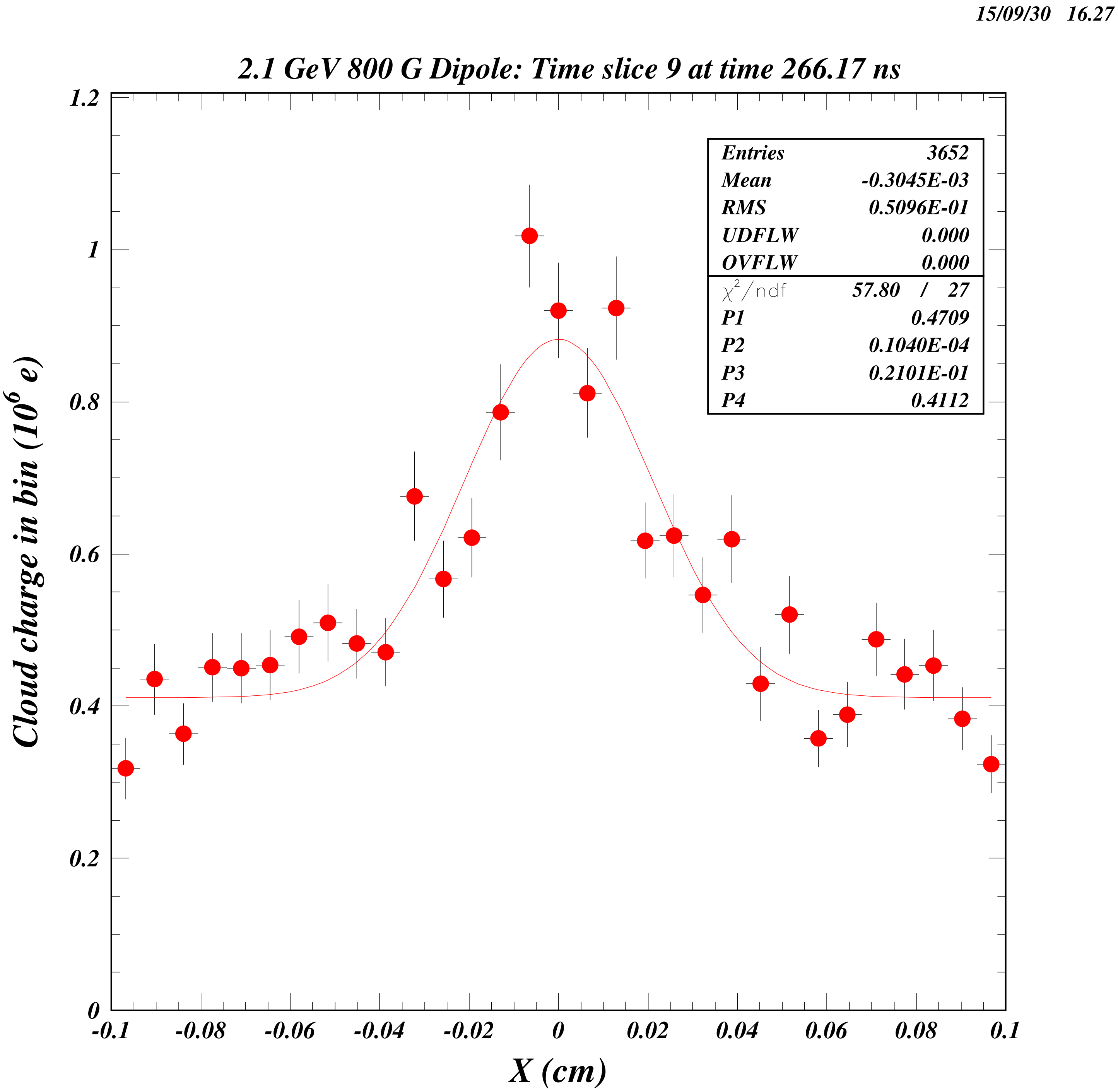
2.1 GeV 800 G Dipole: Time slice 8 at time 266.15 ns
Entries 3682
Mean 0.1818E-03
RMS 0.4989E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 76.29 / 27
P1 0.4882
P2 0.5119E-03
P3 0.4057E-01
P4 0.2879
Cloud charge in bin (10⁶ e)
Y (cm)

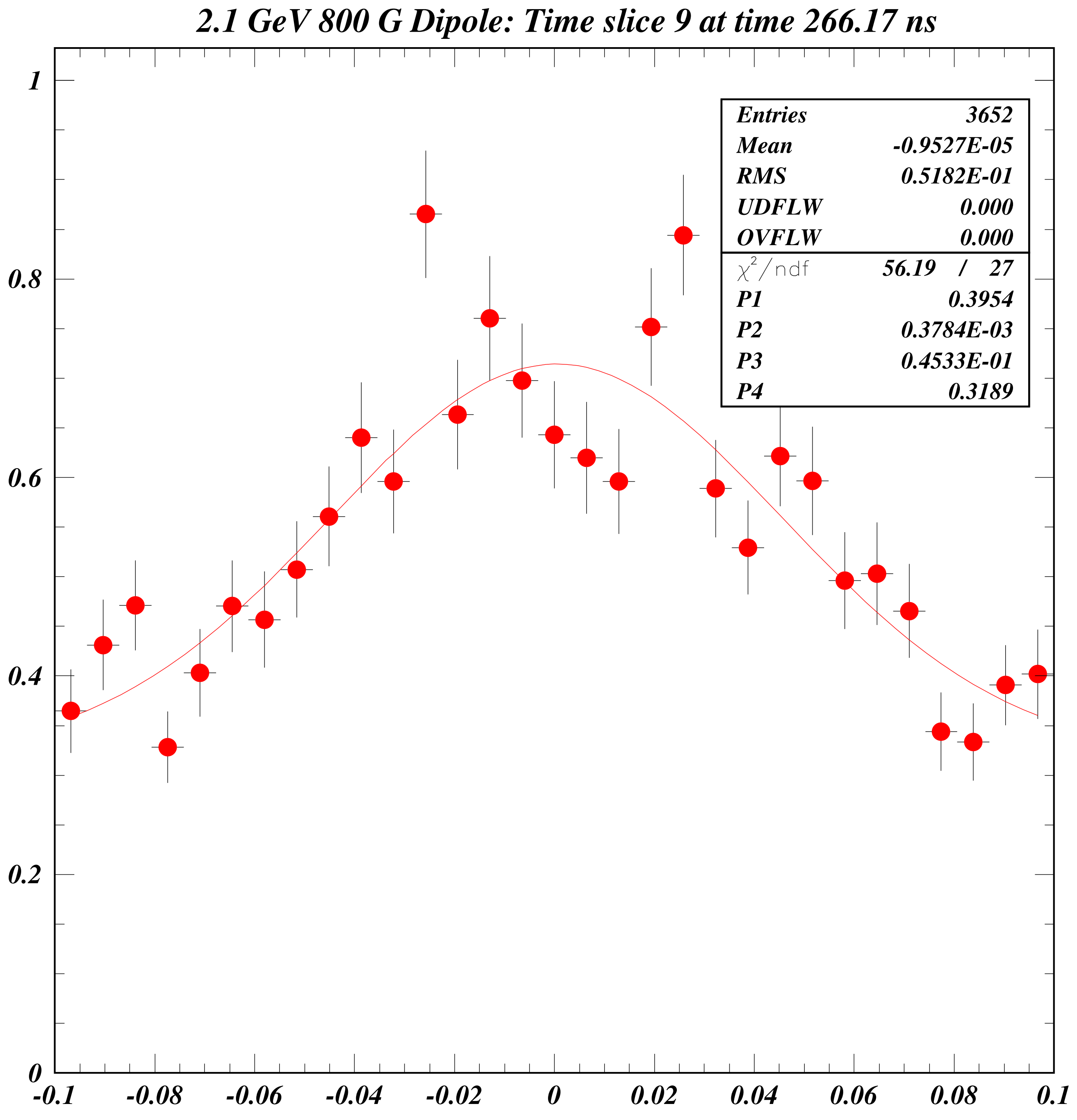

15/09/30 16.27
Snapshot after bunch 20 at time = 266.15 ns
Y (cm)
0.1
0.08
0.06
0.04
0.02
0
-0.02
-0.04
-0.06
-0.08
-0.1
-0.1 -0.08 -0.06 -0.04 -0.02 0 0.02 0.04 0.06 0.08 0.1
X (cm)
0.1
0.08
0.06
0.04
0.02
0
No energy cut: 3k macroparticles, 16 10^6 e-

15/09/30 16.27



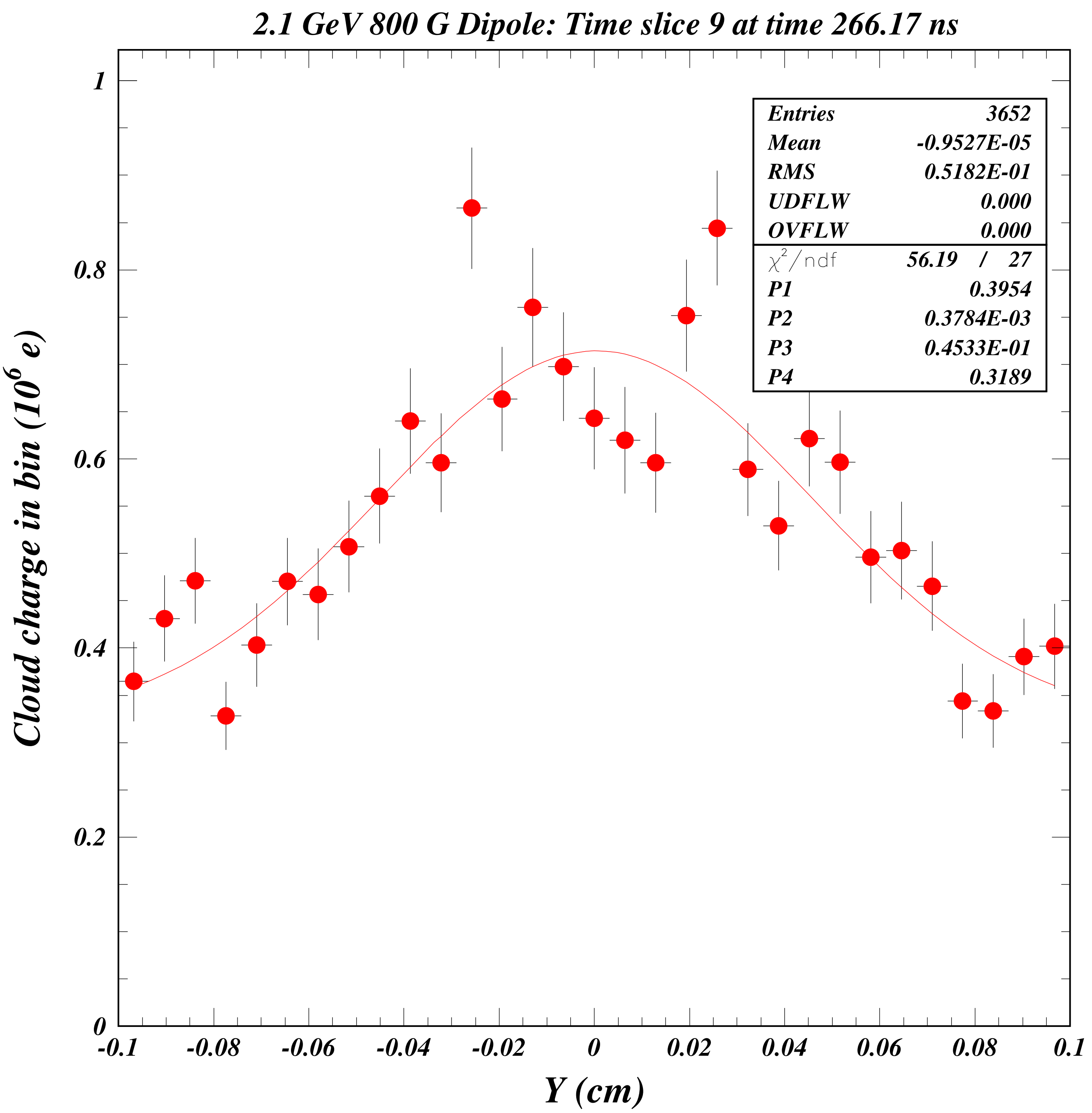
2.1 GeV 800 G Dipole: Time slice 9 at time 266.17 ns
Entries 3652
Mean -0.3045E-03
RMS 0.5096E-01
UDFLW 0.000
OVFLW 0.000
χ^2/ndf 57.80 / 27
P1 0.4709
P2 0.1040E-04
P3 0.2101E-01
P4 0.4112
1.2
1
0.8
0.6
0.4
0.2
0
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1


15/09/30 16.27
2.1 GeV 800 G Dipole: Time slice 9 at time 266.17 ns
Entries 3652
Mean -0.3045E-03
RMS 0.5096E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 57.80 / 27
P1 0.4709
P2 0.1040E-04
P3 0.2101E-01
P4 0.4112
Cloud charge in bin (10⁶ e)
X (cm)
1.2
1
0.8
0.6
0.4
0.2
0
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1



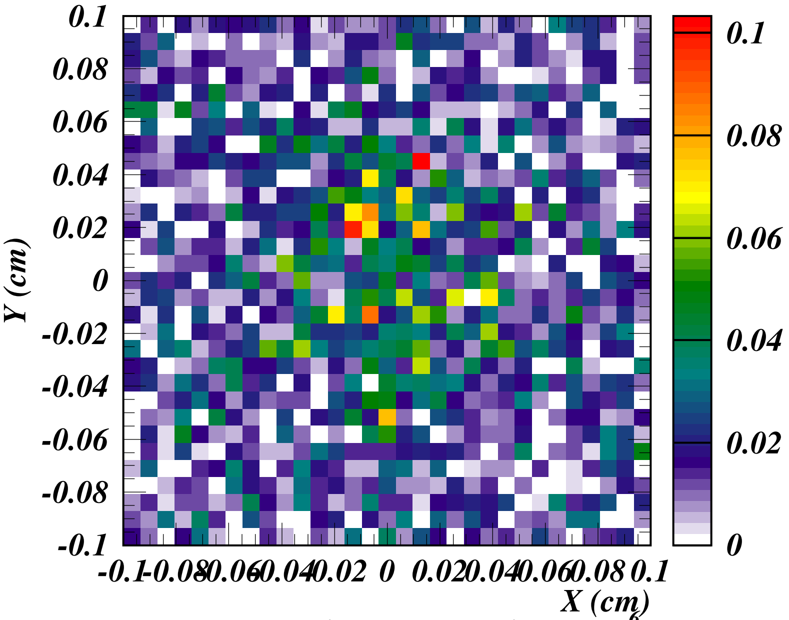
2.1 GeV 800 G Dipole: Time slice 9 at time 266.17 ns
Entries 3652
Mean -0.9527E-05
RMS 0.5182E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 56.19 / 27
P1 0.3954
P2 0.3784E-03
P3 0.4533E-01
P4 0.3189
1
0.8
0.6
0.4
0.2
0
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1

15/09/30 16.27

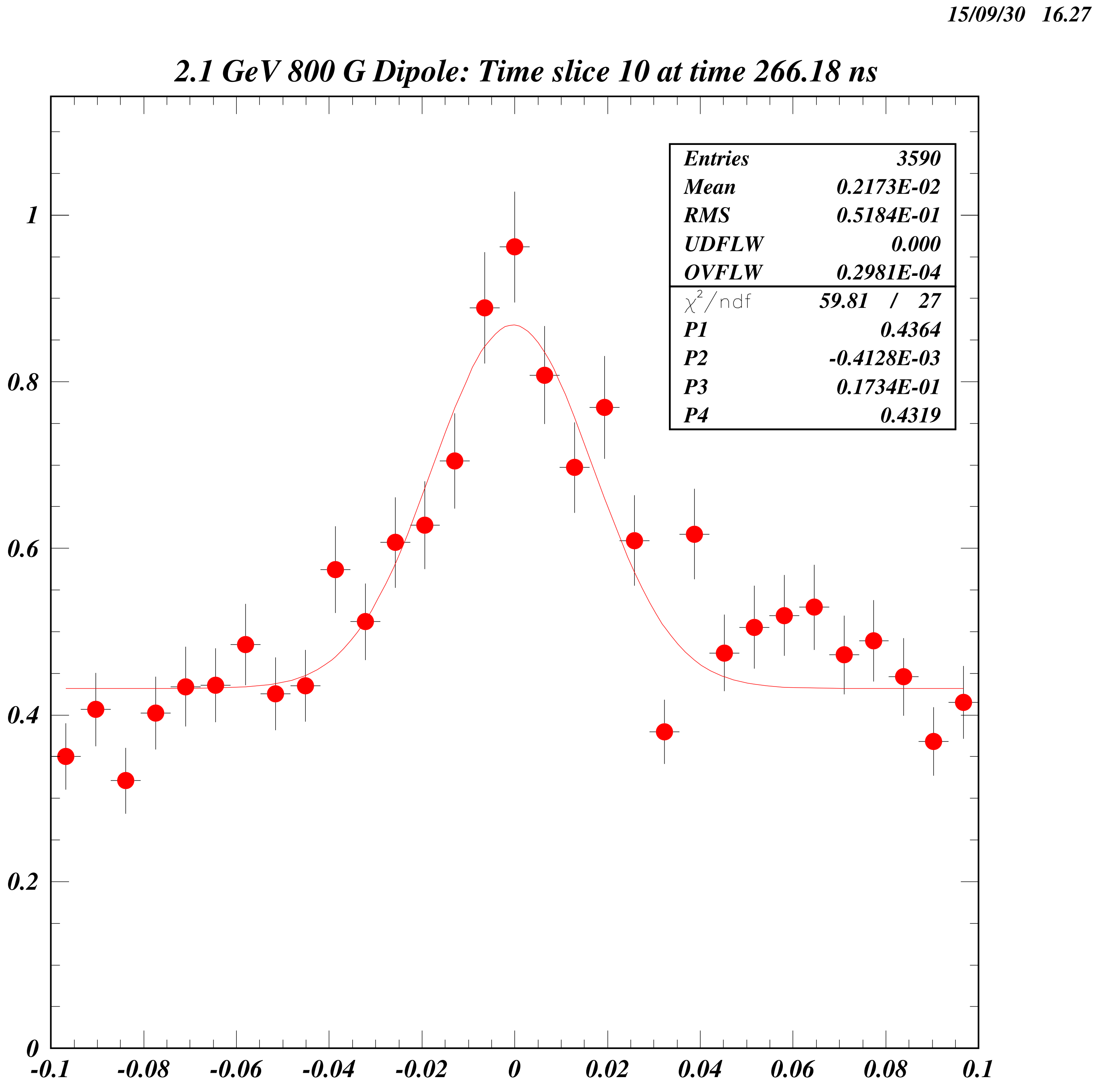

2.1 GeV 800 G Dipole: Time slice 9 at time 266.17 ns
Entries 3652
Mean -0.9527E-05
RMS 0.5182E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 56.19 / 27
P1 0.3954
P2 0.3784E-03
P3 0.4533E-01
P4 0.3189
Cloud charge in bin (10⁶ e)
Y (cm)
0
0.2
0.4
0.6
0.8
1
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1

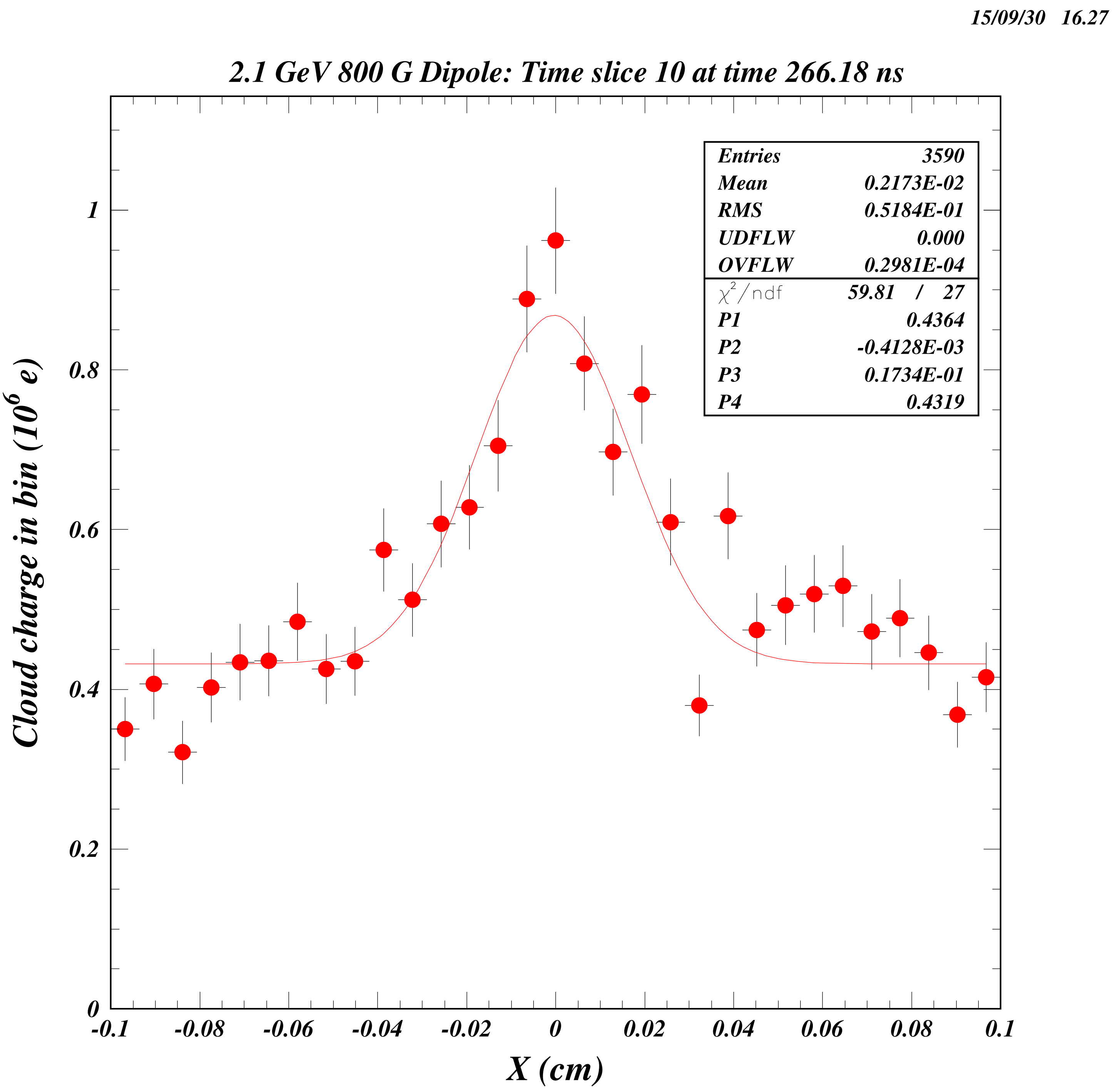
15/09/30 16.27

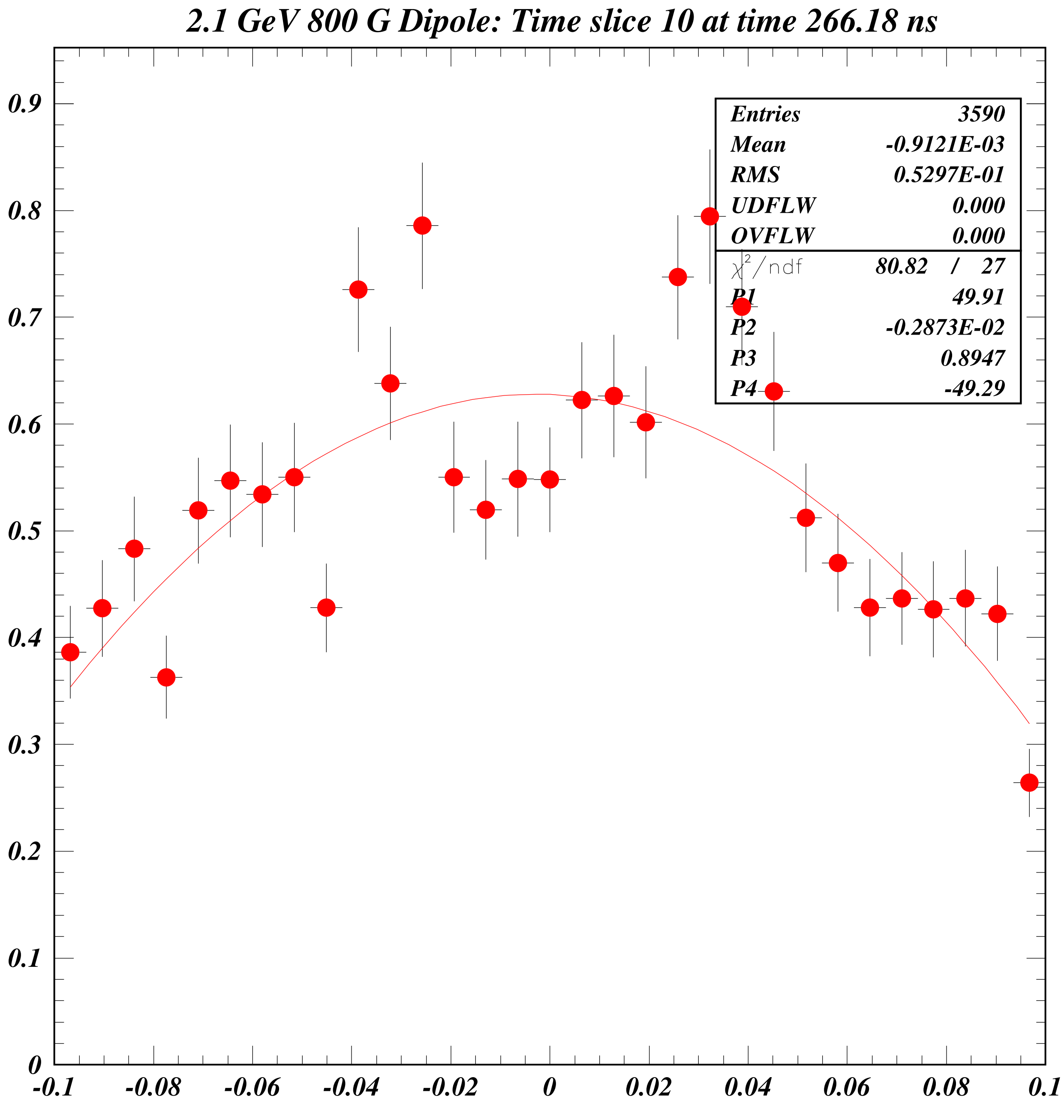
Snapshot after bunch 20 at time = 266.17 ns

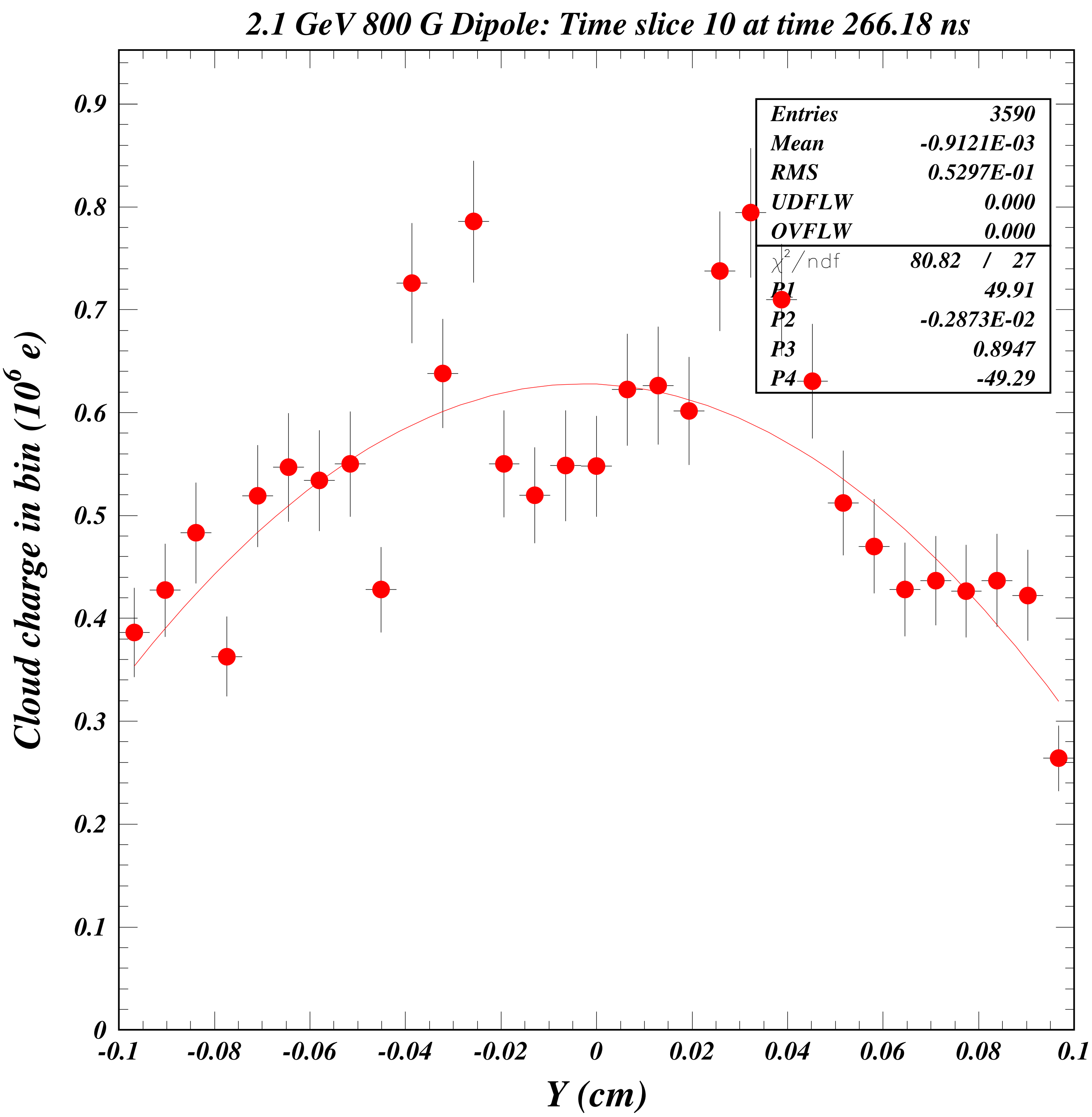


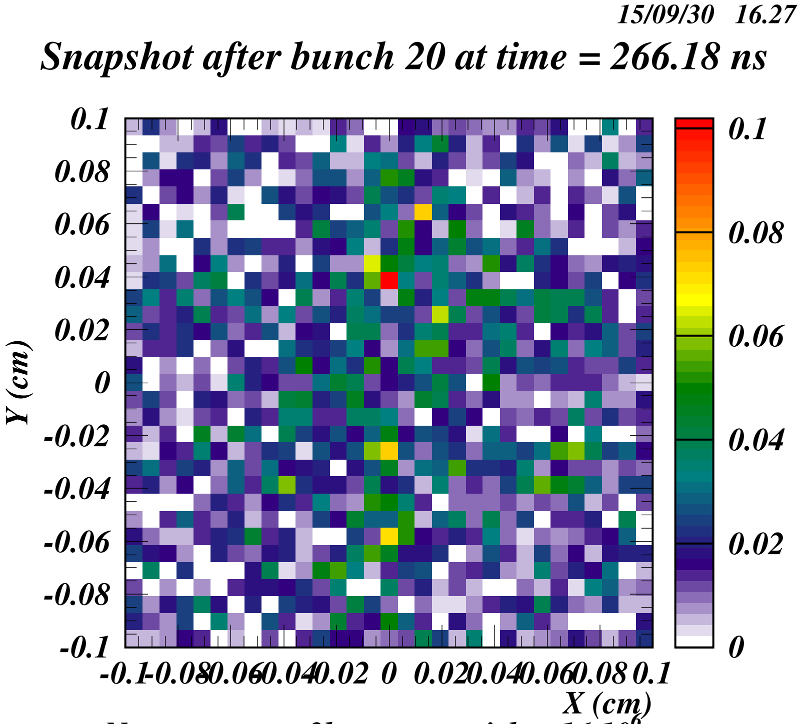
No energy cut: 3k macroparticles, 16 10^6 e-


15/09/30 16.27
2.1 GeV 800 G Dipole: Time slice 10 at time 266.18 ns
Entries 3590
Mean 0.2173E-02
RMS 0.5184E-01
UDFLW 0.000
OVFLW 0.2981E-04
χ²/ndf 59.81 / 27
P1 0.4364
P2 -0.4128E-03
P3 0.1734E-01
P4 0.4319
0
0.2
0.4
0.6
0.8
1
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1


15/09/30 16.27
2.1 GeV 800 G Dipole: Time slice 10 at time 266.18 ns
Entries 3590
Mean 0.2173E-02
RMS 0.5184E-01
UDFLW 0.000
OVFLW 0.2981E-04
χ²/ndf 59.81 / 27
P1 0.4364
P2 -0.4128E-03
P3 0.1734E-01
P4 0.4319
Cloud charge in bin (10⁶ e)
X (cm)
0
0.2
0.4
0.6
0.8
1
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1

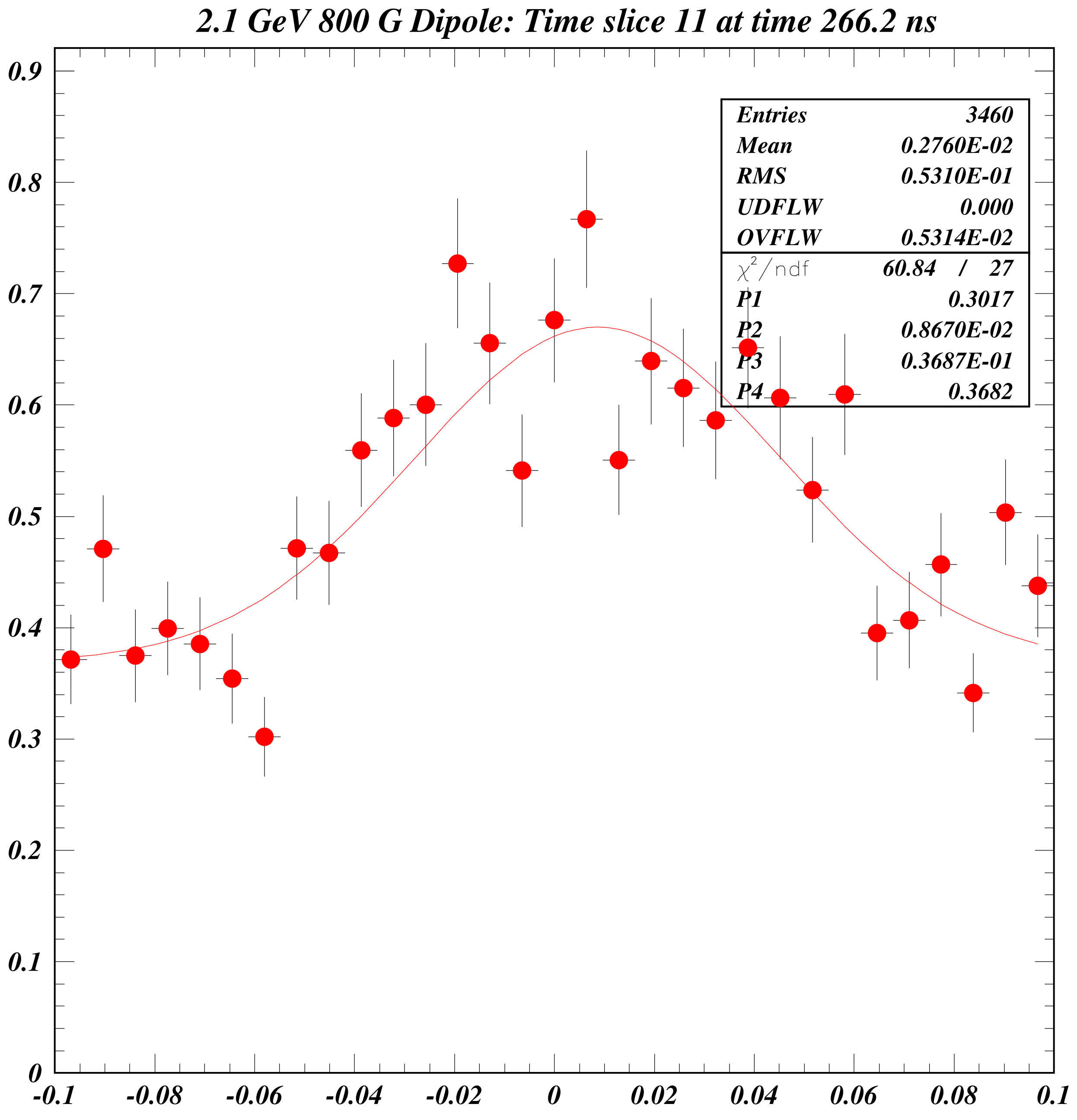

2.1 GeV 800 G Dipole: Time slice 10 at time 266.18 ns
Entries 3590
Mean -0.9121E-03
RMS 0.5297E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 80.82 / 27
P1 49.91
P2 -0.2873E-02
P3 0.8947
P4 -49.29
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1

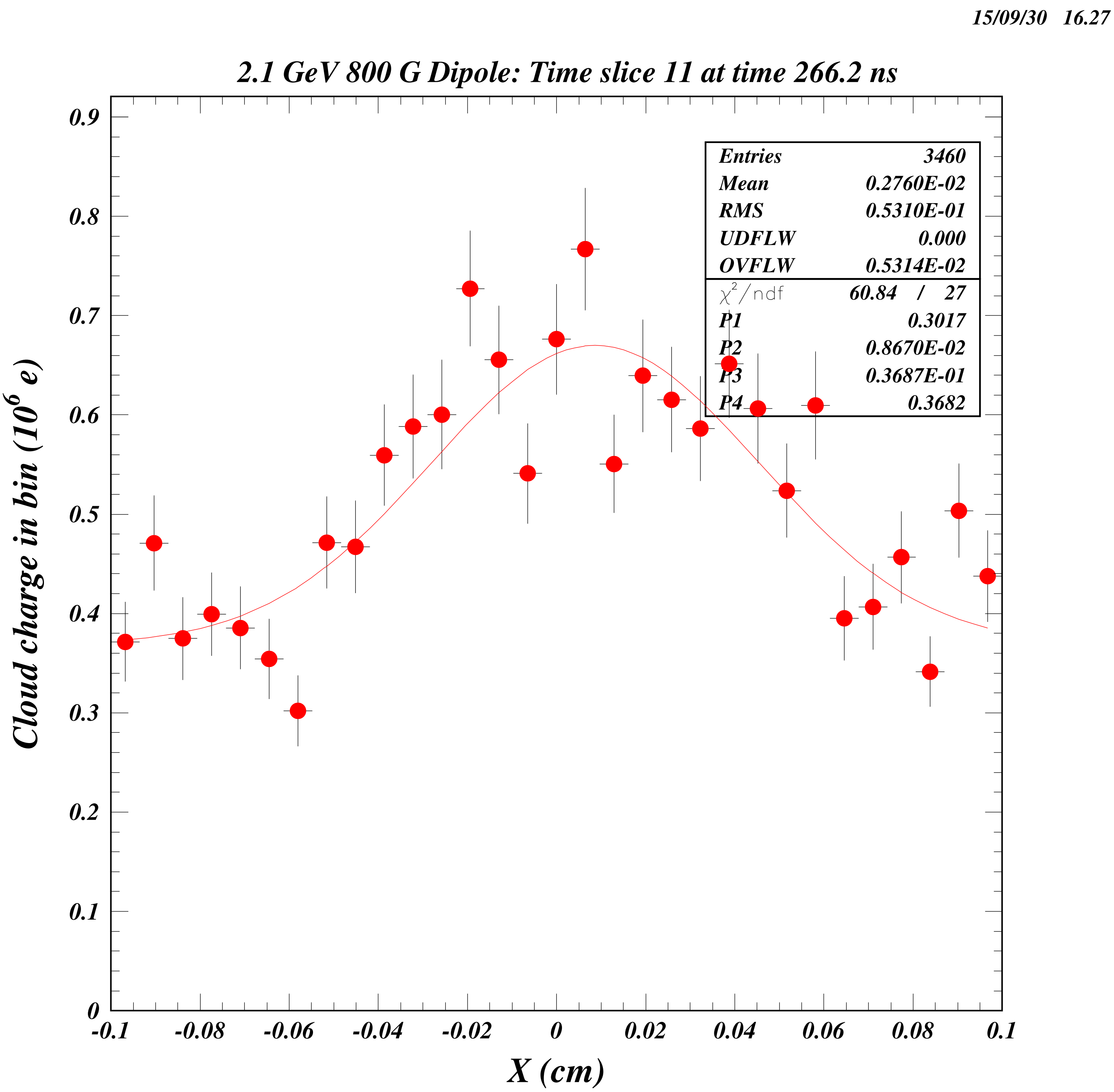

2.1 GeV 800 G Dipole: Time slice 10 at time 266.18 ns
Entries 3590
Mean -0.9121E-03
RMS 0.5297E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 80.82 / 27
P1 49.91
P2 -0.2873E-02
P3 0.8947
P4 -49.29
Cloud charge in bin (10⁶ e)
Y (cm)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1



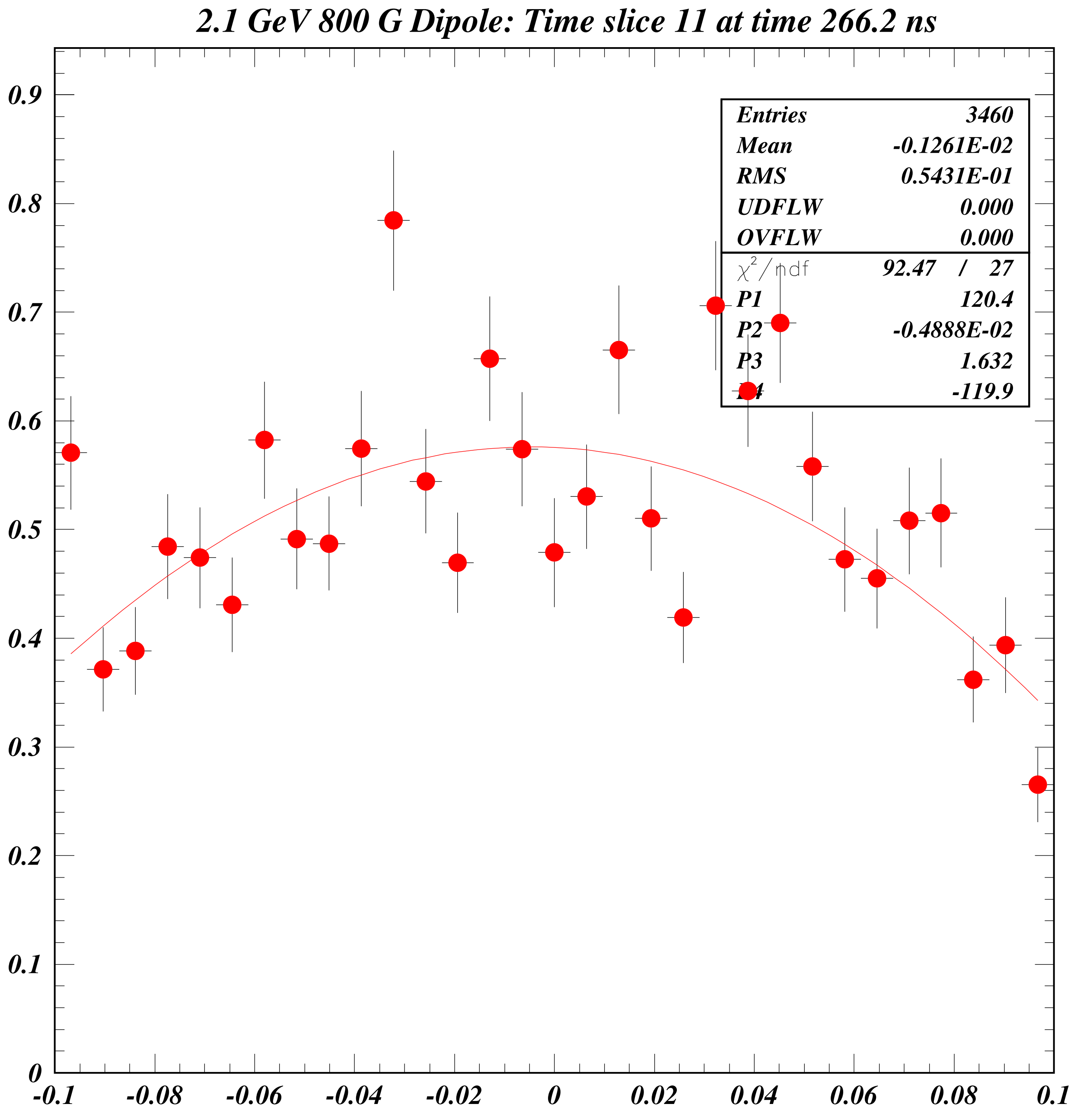
No energy cut: 3k macroparticles, 16 10^{6} e-

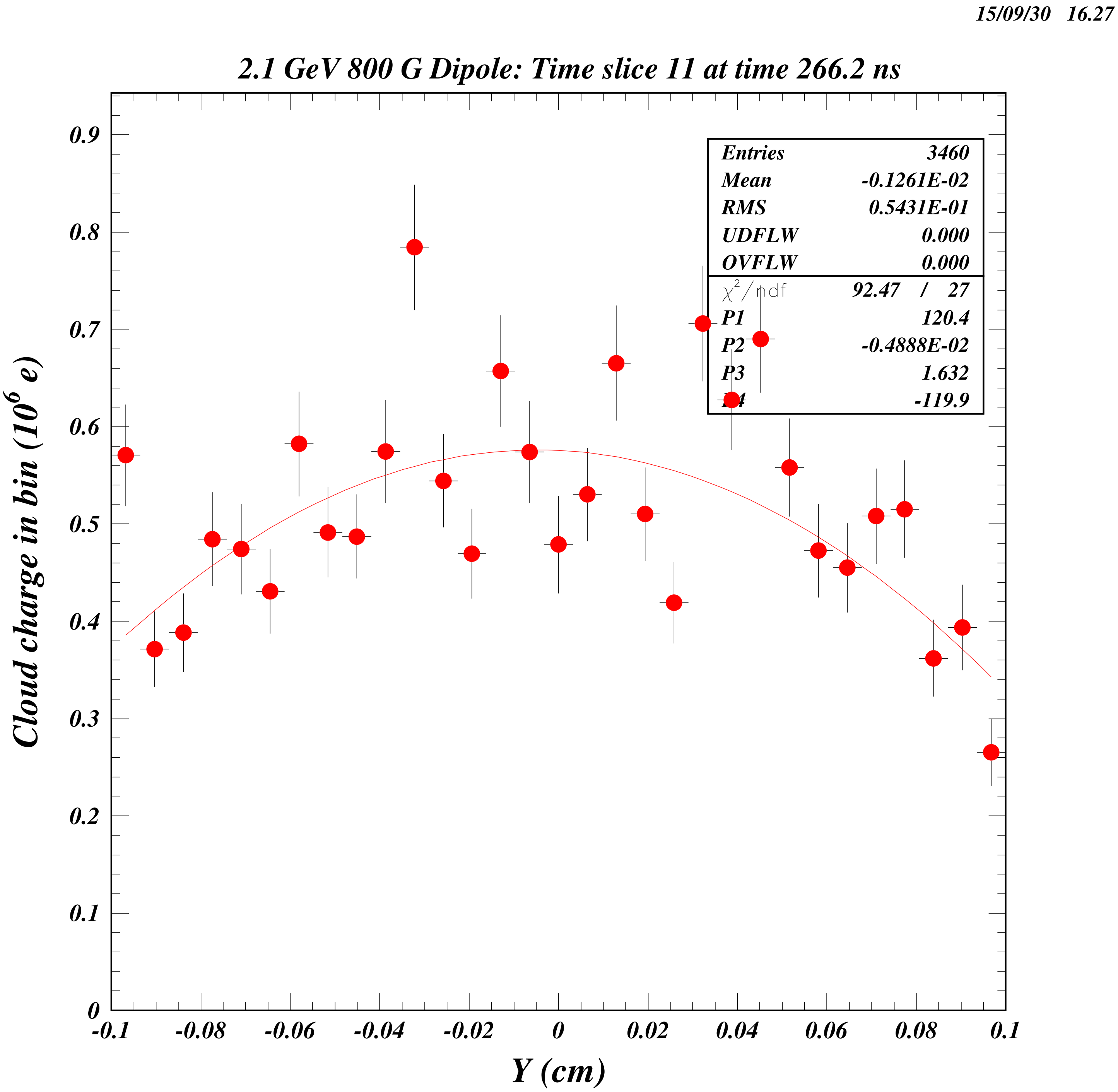
15/09/30 16.27


2.1 GeV 800 G Dipole: Time slice 11 at time 266.2 ns
Entries 3460
Mean 0.2760E-02
RMS 0.5310E-01
UDFLW 0.000
OVFLW 0.5314E-02
χ²/ndf 60.84 / 27
P1 0.3017
P2 0.8670E-02
P3 0.3687E-01
P4 0.3682
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1



15/09/30 16.27
2.1 GeV 800 G Dipole: Time slice 11 at time 266.2 ns
Entries 3460
Mean 0.2760E-02
RMS 0.5310E-01
UDFLW 0.000
OVFLW 0.5314E-02
χ²/ndf 60.84 / 27
P1 0.3017
P2 0.8670E-02
P3 0.3687E-01
P4 0.3682
Cloud charge in bin (10⁶ e)
X (cm)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1

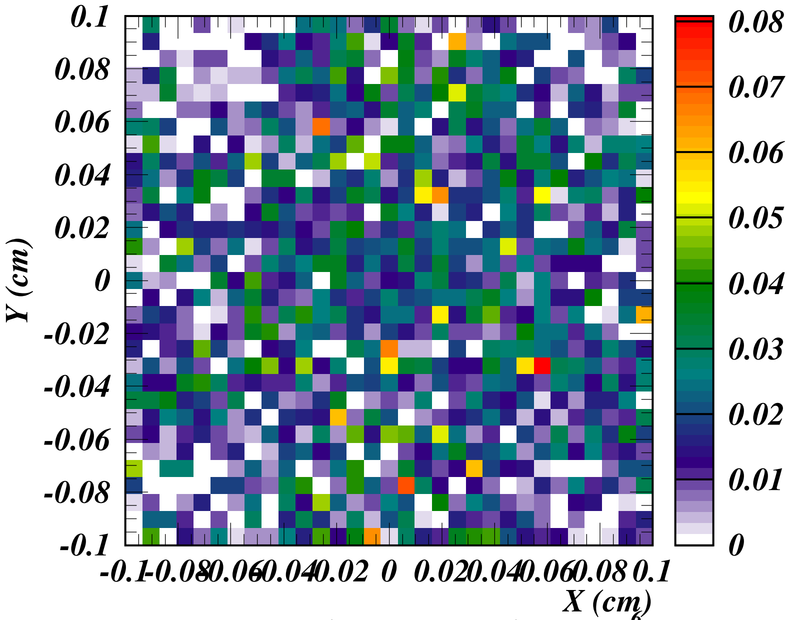

2.1 GeV 800 G Dipole: Time slice 11 at time 266.2 ns
Entries 3460
Mean -0.1261E-02
RMS 0.5431E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 92.47 / 27
P1 120.4
P2 -0.4888E-02
P3 1.632
P4 -119.9
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1



15/09/30 16.27
2.1 GeV 800 G Dipole: Time slice 11 at time 266.2 ns
Entries 3460
Mean -0.1261E-02
RMS 0.5431E-01
UDFLW 0.000
OVFLW 0.000
χ²/ndf 92.47 / 27
P1 120.4
P2 -0.4888E-02
P3 1.632
P4 -119.9
Cloud charge in bin (10⁶ e)
Y (cm)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
-0.1
-0.08
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
0.08
0.1

15/09/30 16.27

Snapshot after bunch 20 at time = 266.2 ns



No energy cut: 3k macroparticles, 16 10^6 e-

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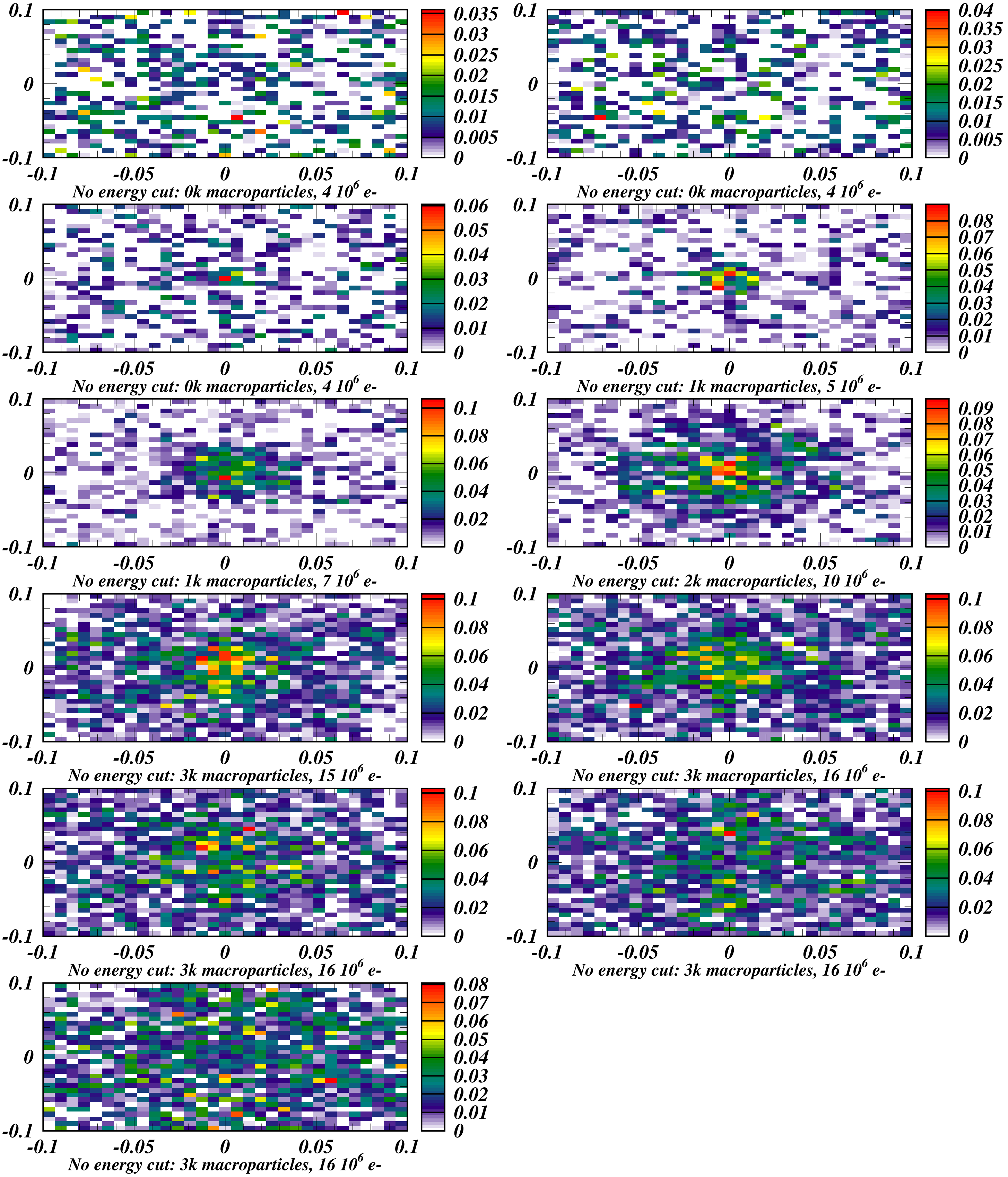
2.1 GeV 800 G Dipole: Cloud charge shapshots



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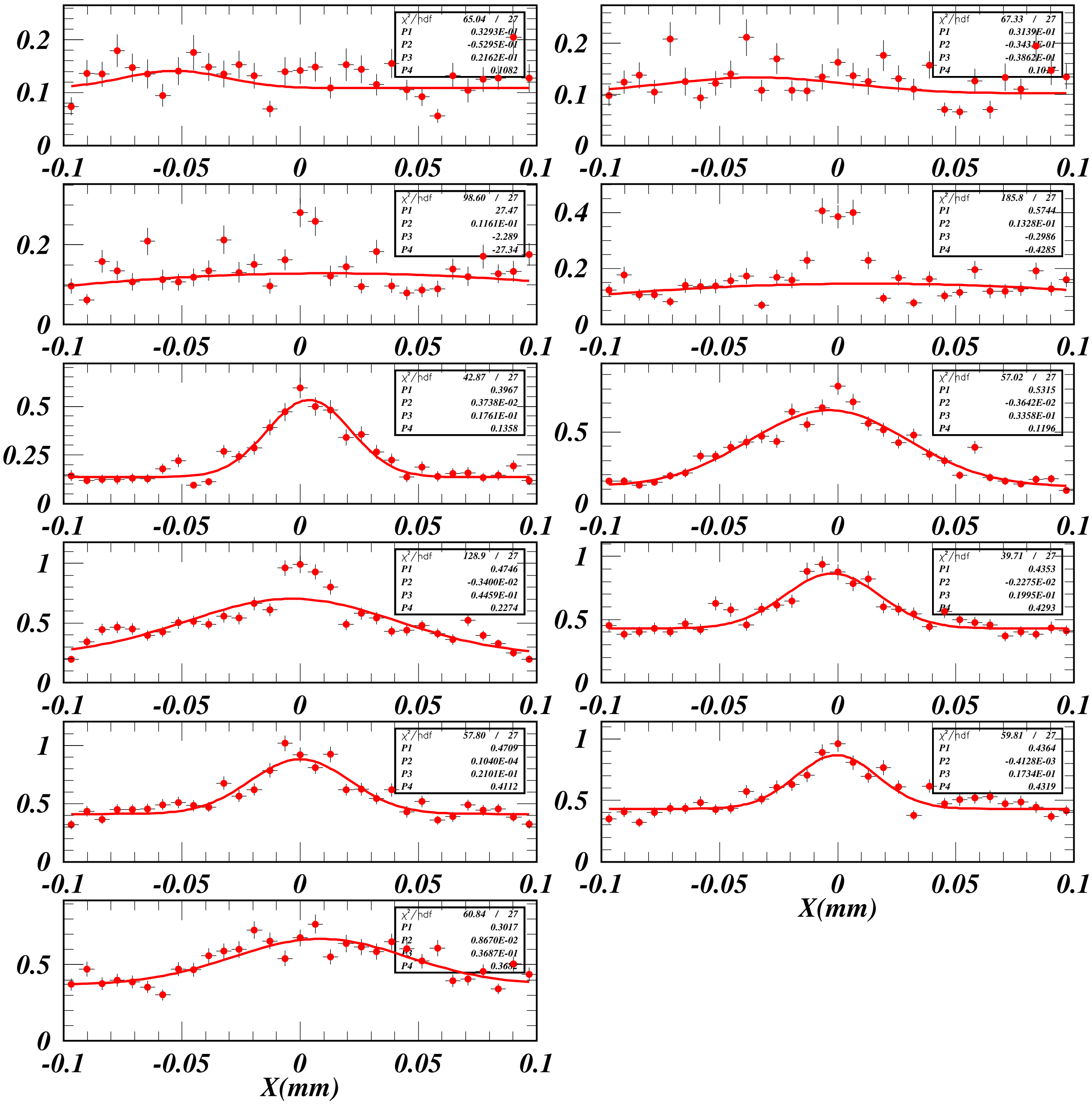
2.1 GeV 800 G Dipole: Fits to cloud charge X distribution



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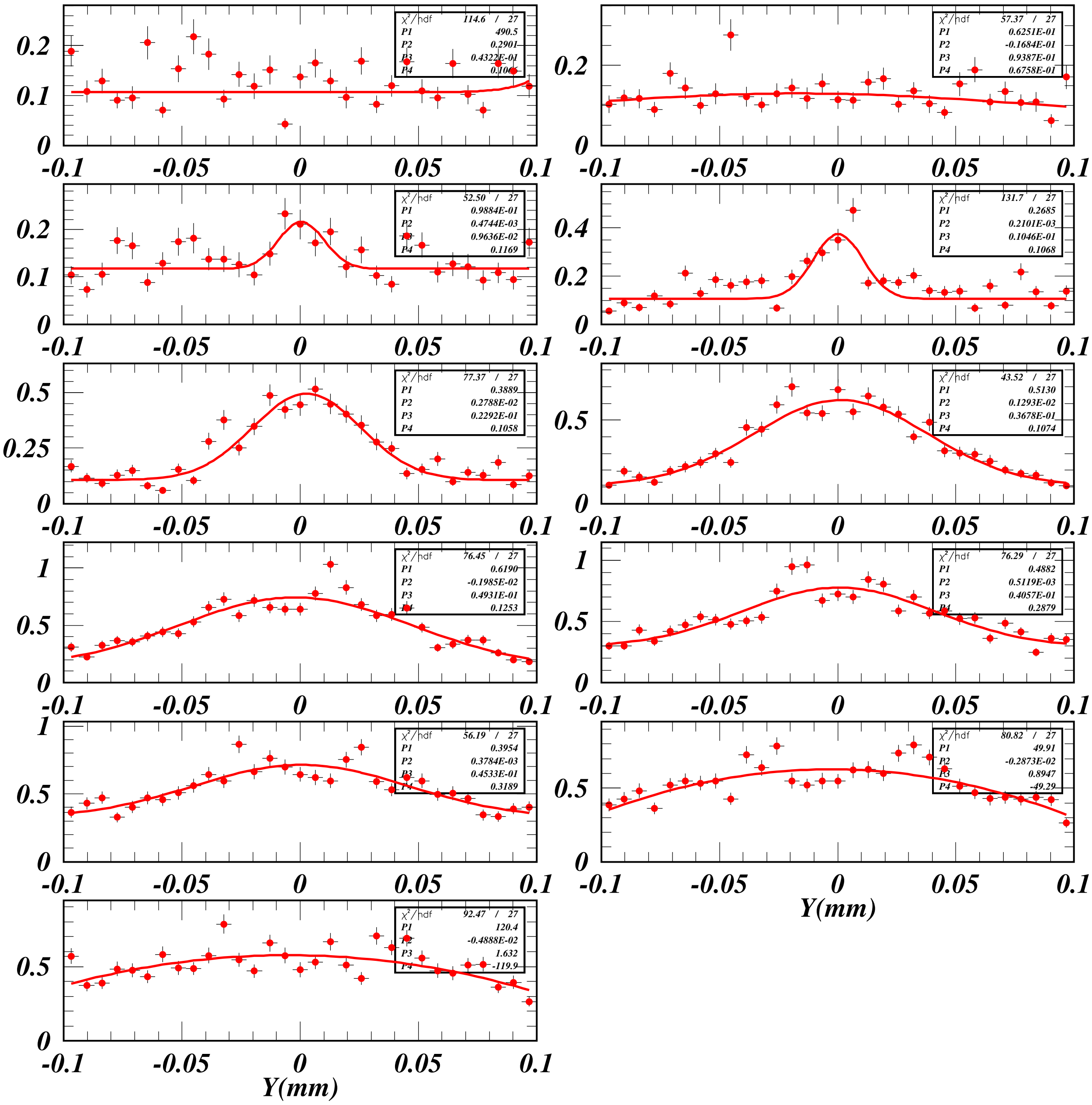
2.1 GeV 800 G Dipole: Fits to cloud charge Y distribution



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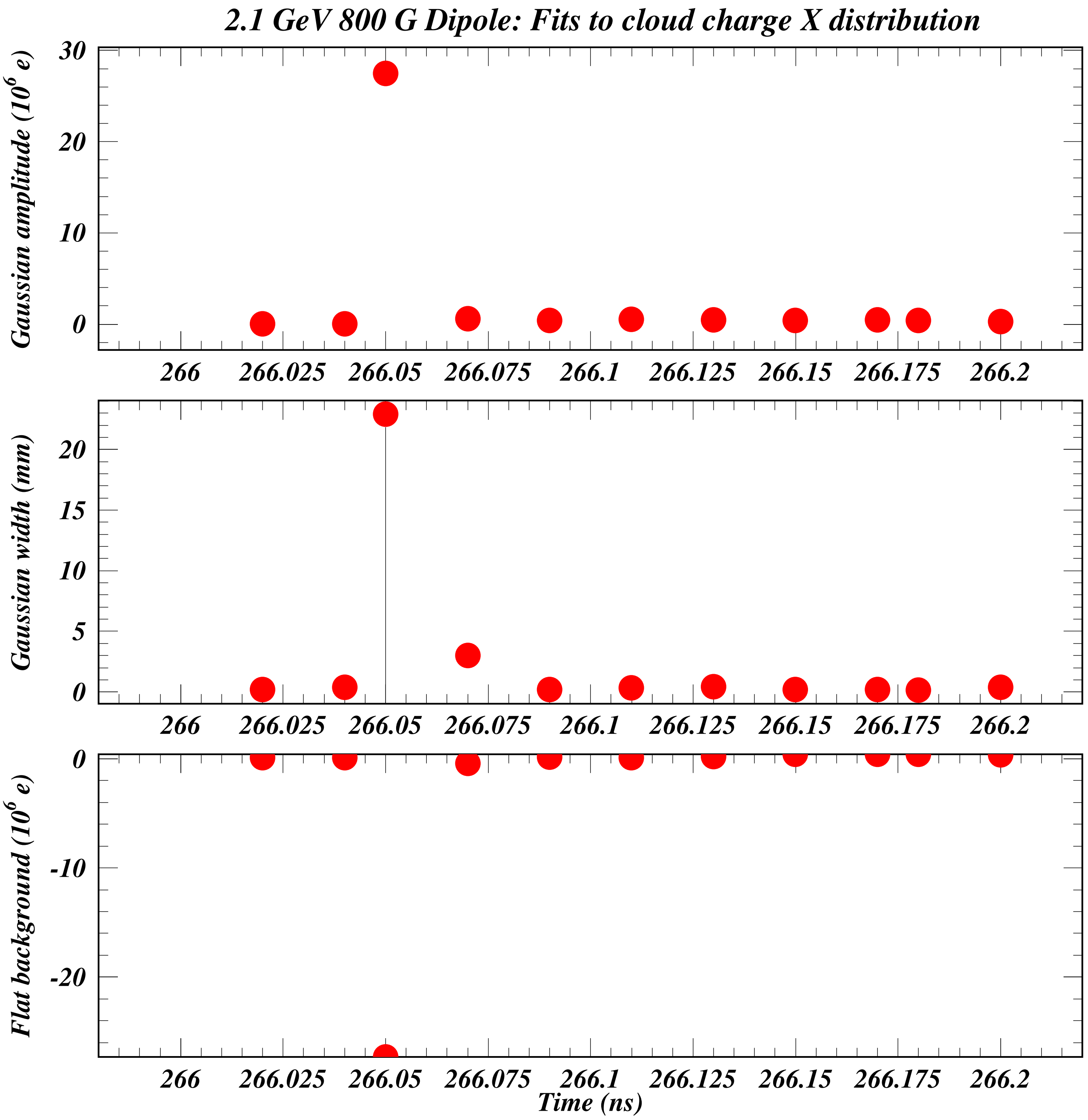
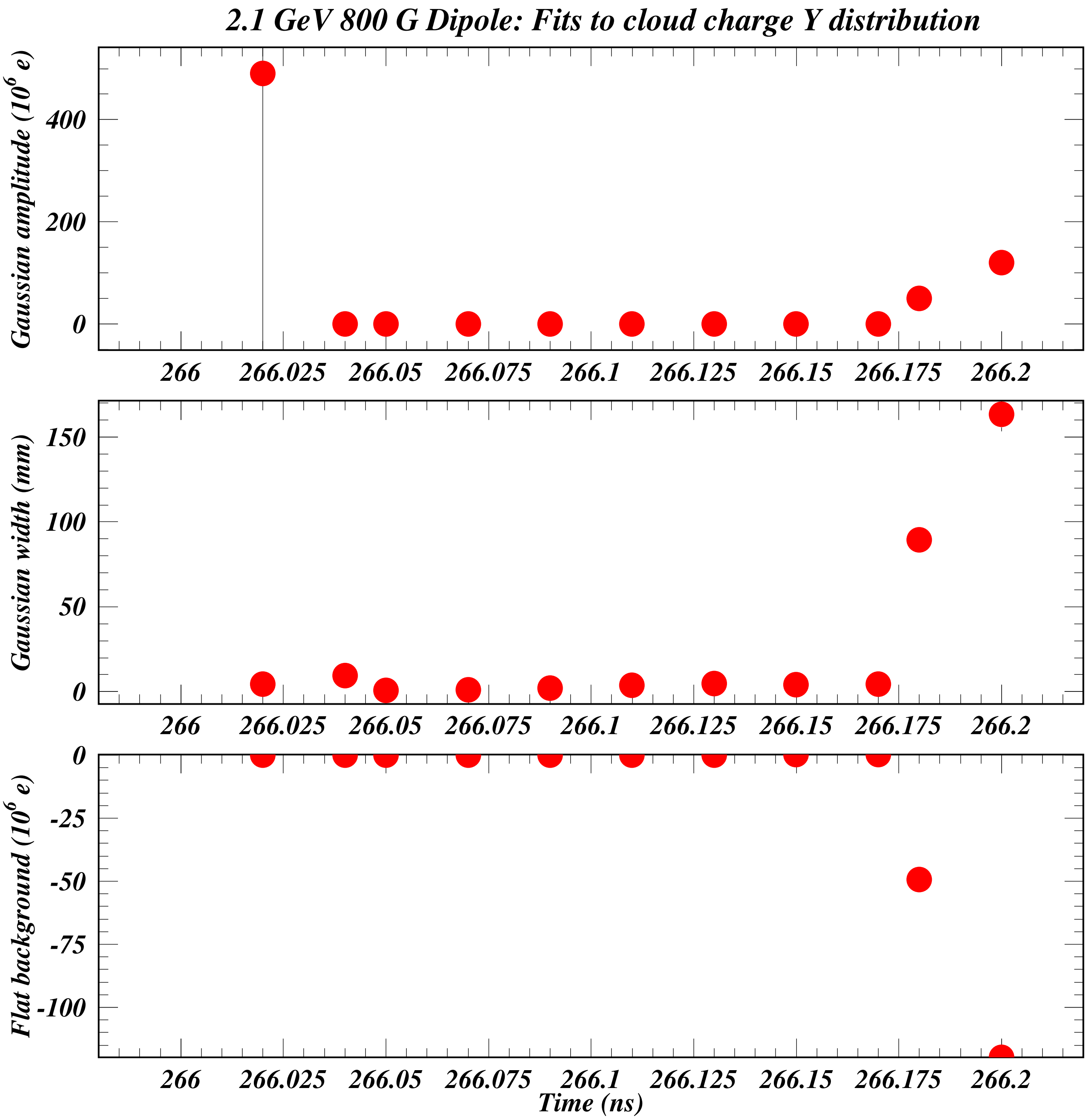
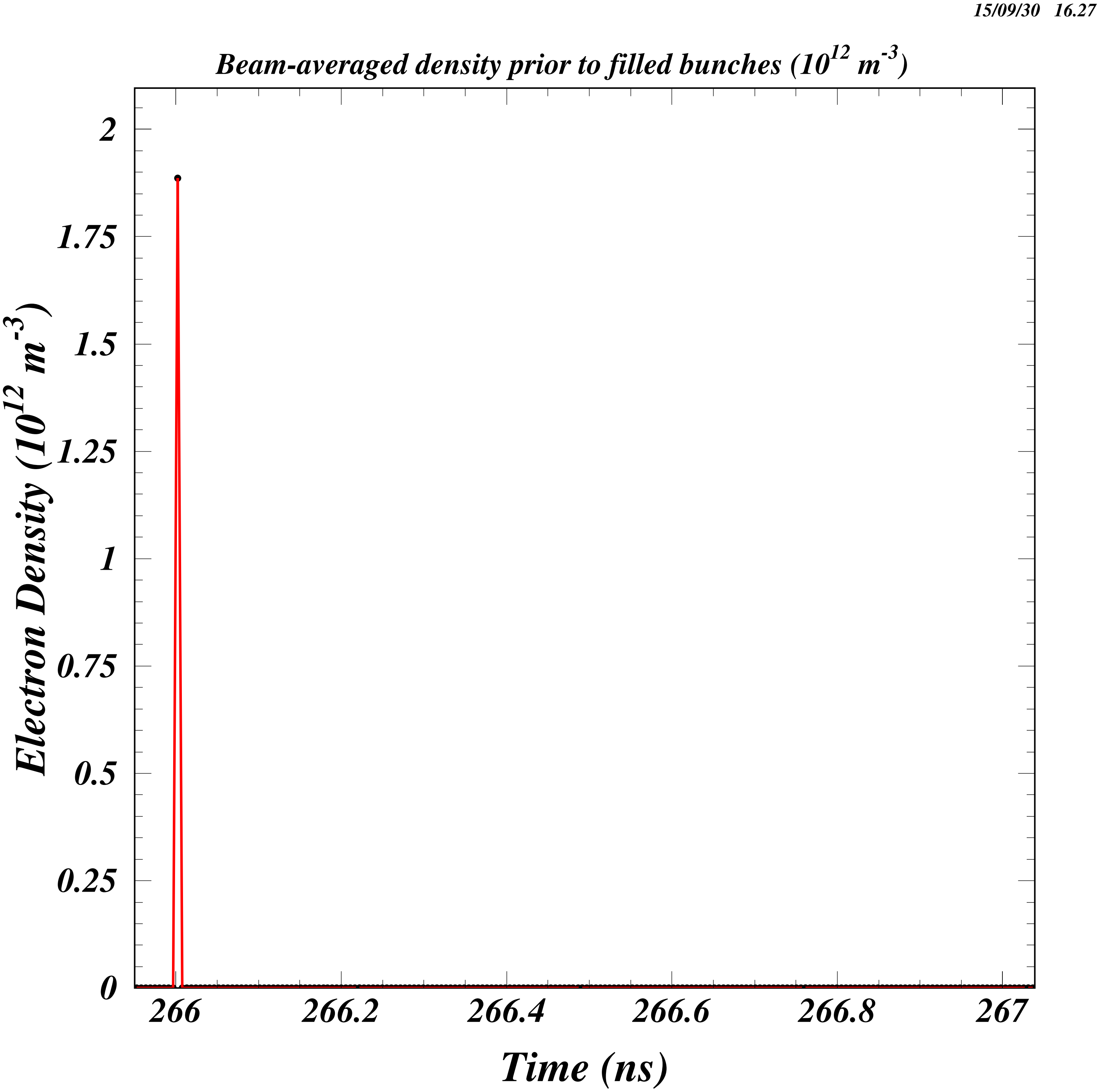
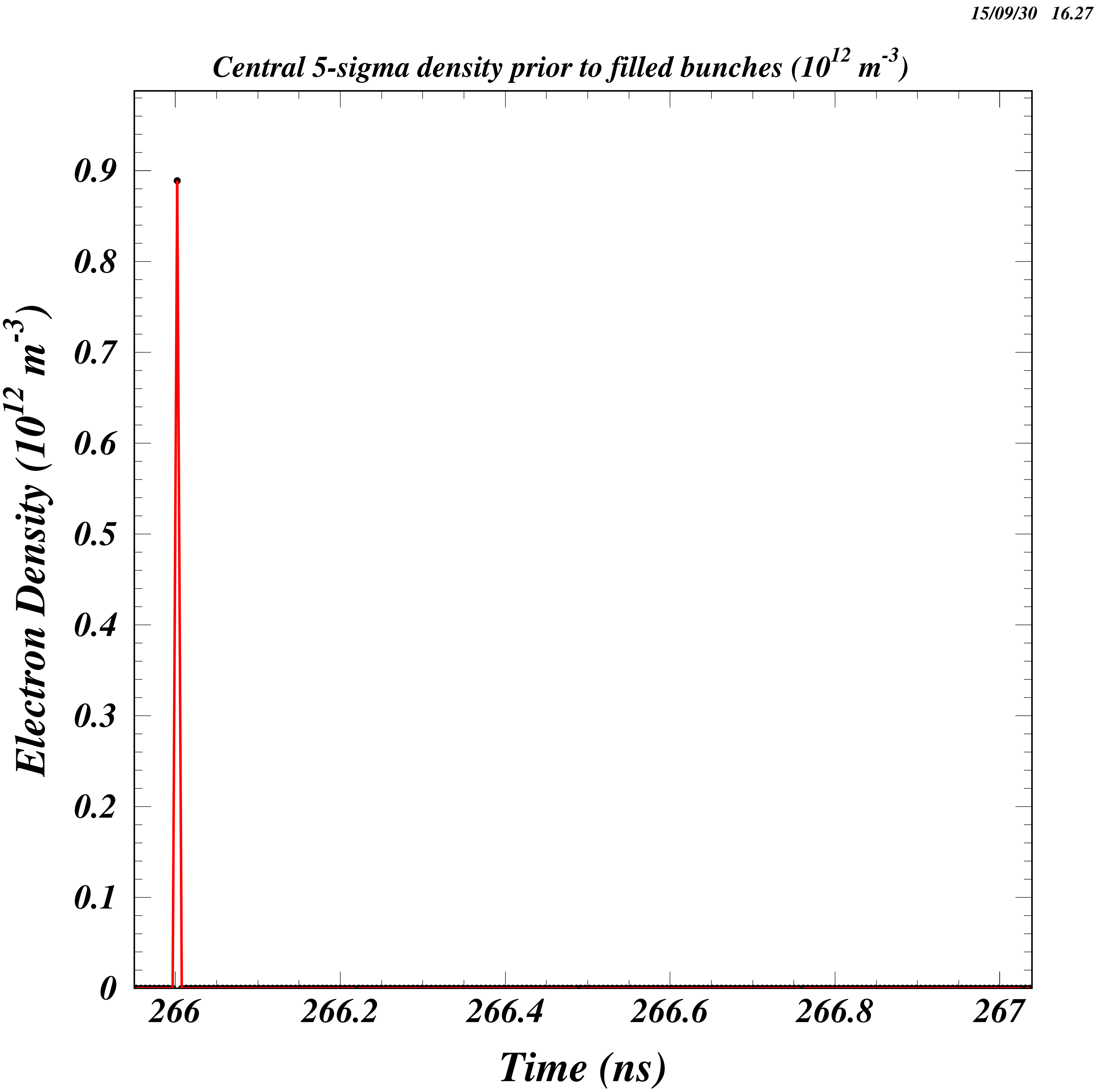
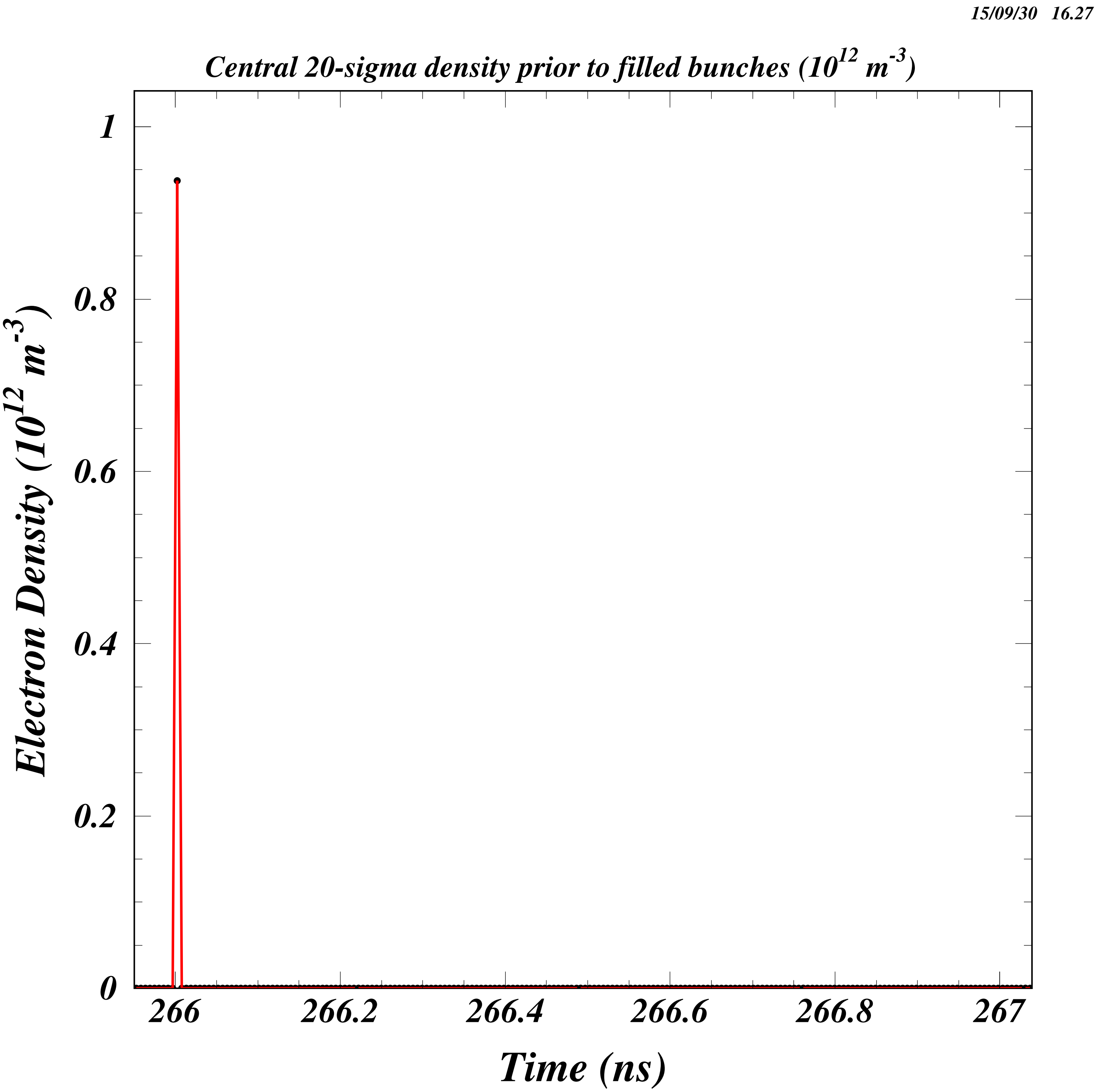


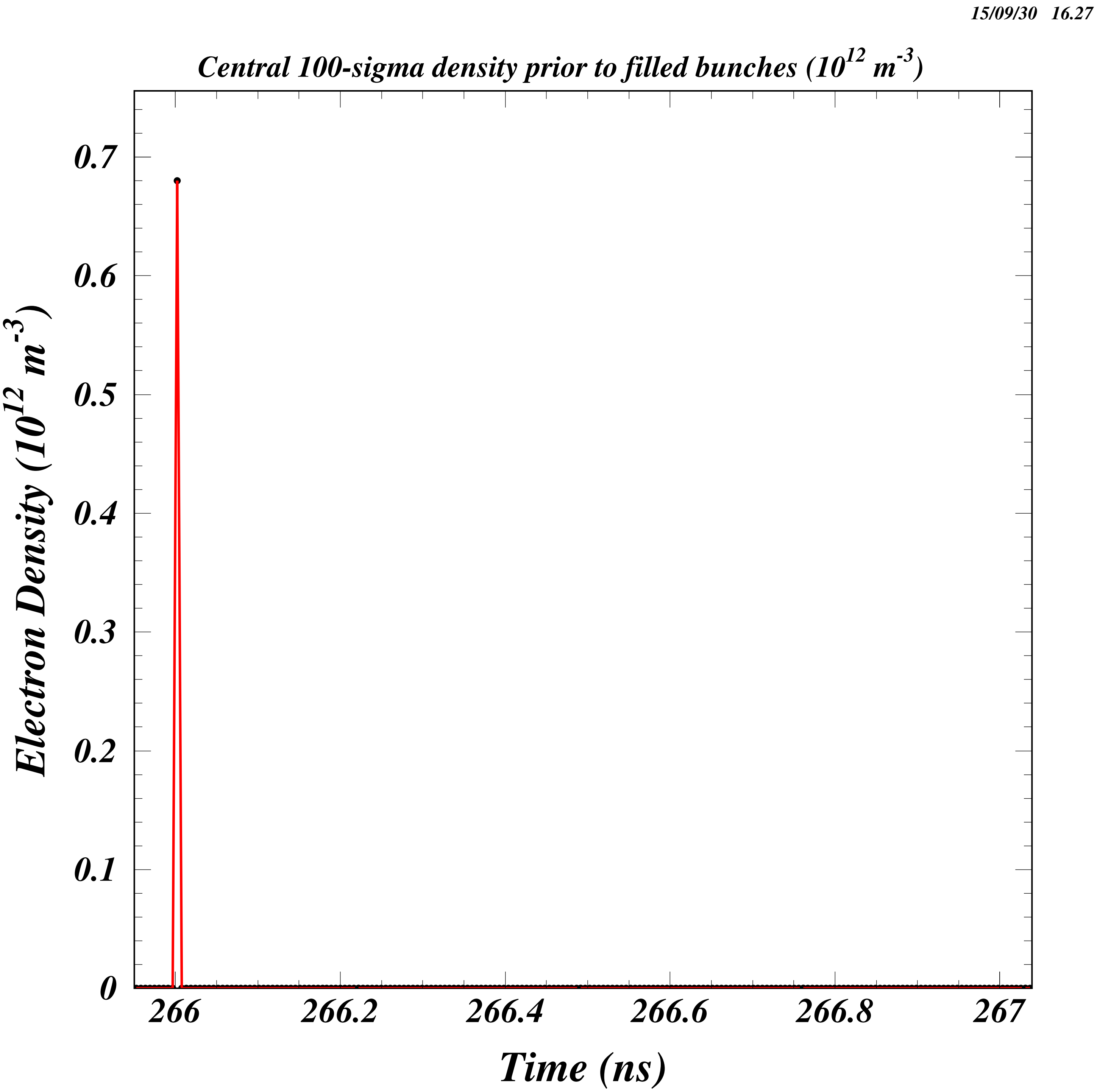
2.1 GeV 800 G Dipole: Fits to cloud charge X distribution
Gaussian amplitude (10^6 e)
Gaussian width (mm)
Flat background (10^6 e)
Time (ns)
30
20
10
0
5
15
-10
-20
266
266.025
266.05
266.075
266.1
266.125
266.15
266.175
266.2


2.1 GeV 800 G Dipole: Fits to cloud charge Y distribution
Gaussian amplitude (10^6 e)
400
200
0
266
266.025
266.05
266.075
266.1
266.125
266.15
266.175
266.2
Gaussian width (mm)
150
100
50
0
Flat background (10^6 e)
0
-25
-50
-75
-100
Time (ns)


15/09/30 16.27
Beam-averaged density prior to filled bunches (10^{12} m^{-3})
Electron Density (10^{12} m^{-3})
2
1.75
1.5
1.25
1
0.75
0.5
0.25
0
266
266.2
266.4
266.6
266.8
267
Time (ns)


15/09/30 16.27
Central 5-sigma density prior to filled bunches (10^{12} m^{-3})
Electron Density (10^{12} m^{-3})
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
266
266.2
266.4
266.6
266.8
267
Time (ns)


15/09/30 16.27
Central 20-sigma density prior to filled bunches (10^{12} m^{-3})
Electron Density (10^{12} m^{-3})
0
0.2
0.4
0.6
0.8
1
266
266.2
266.4
266.6
266.8
267
Time (ns)



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Central 100-sigma density prior to filled bunches (10^{12} m^{-3})
Electron Density (10^{12} m^{-3})
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
266
266.2
266.4
266.6
266.8
267
Time (ns)

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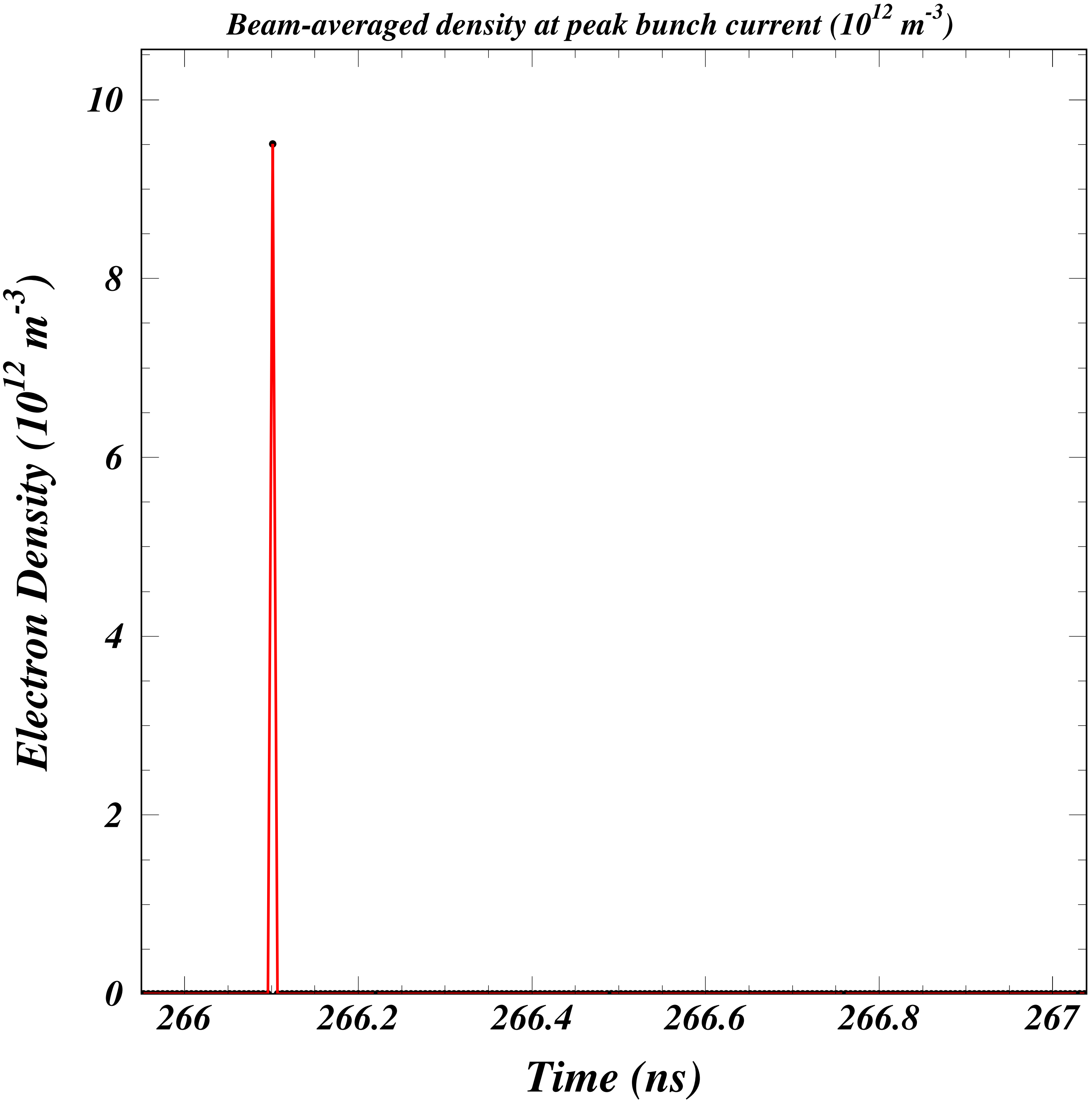
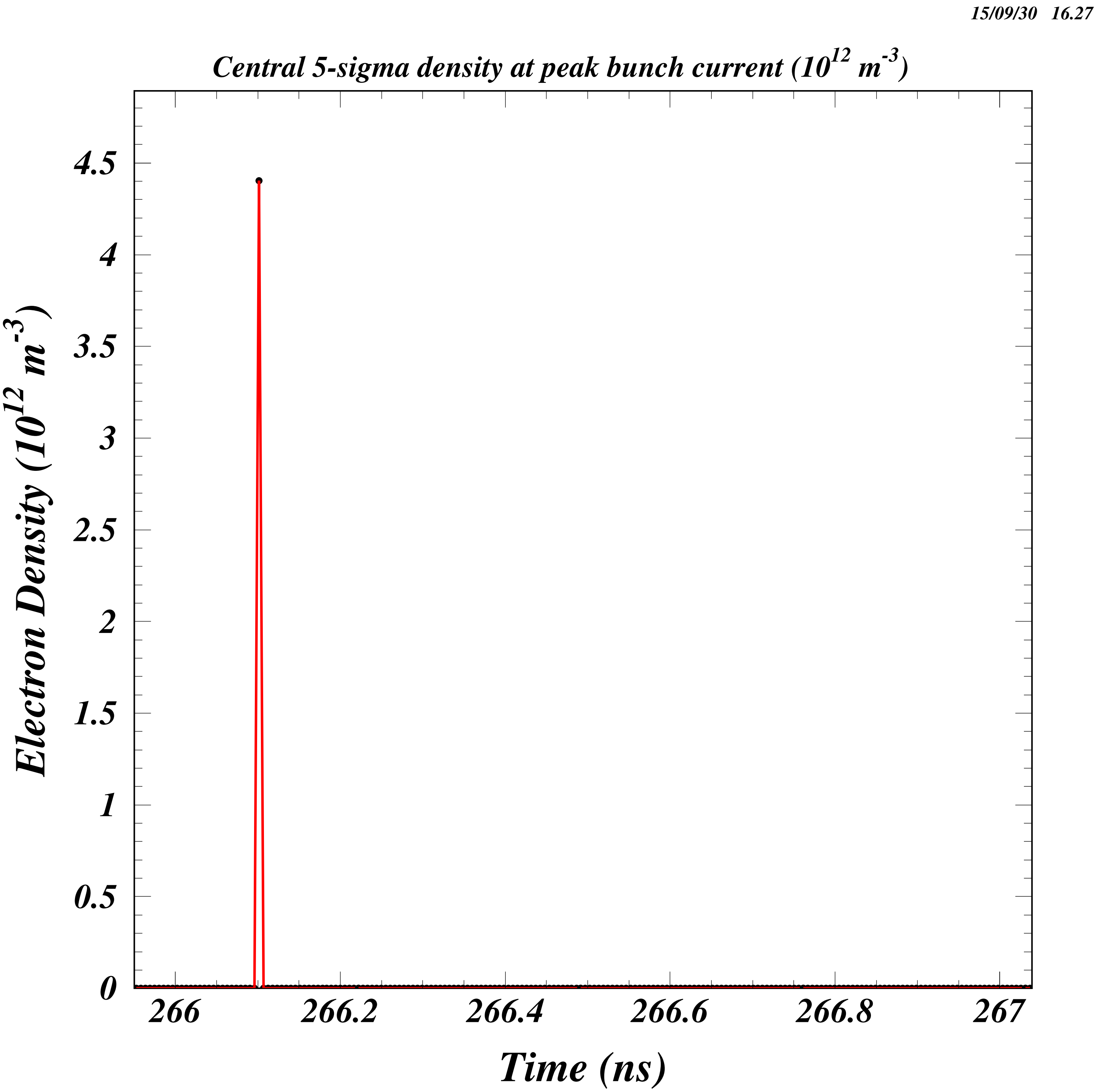
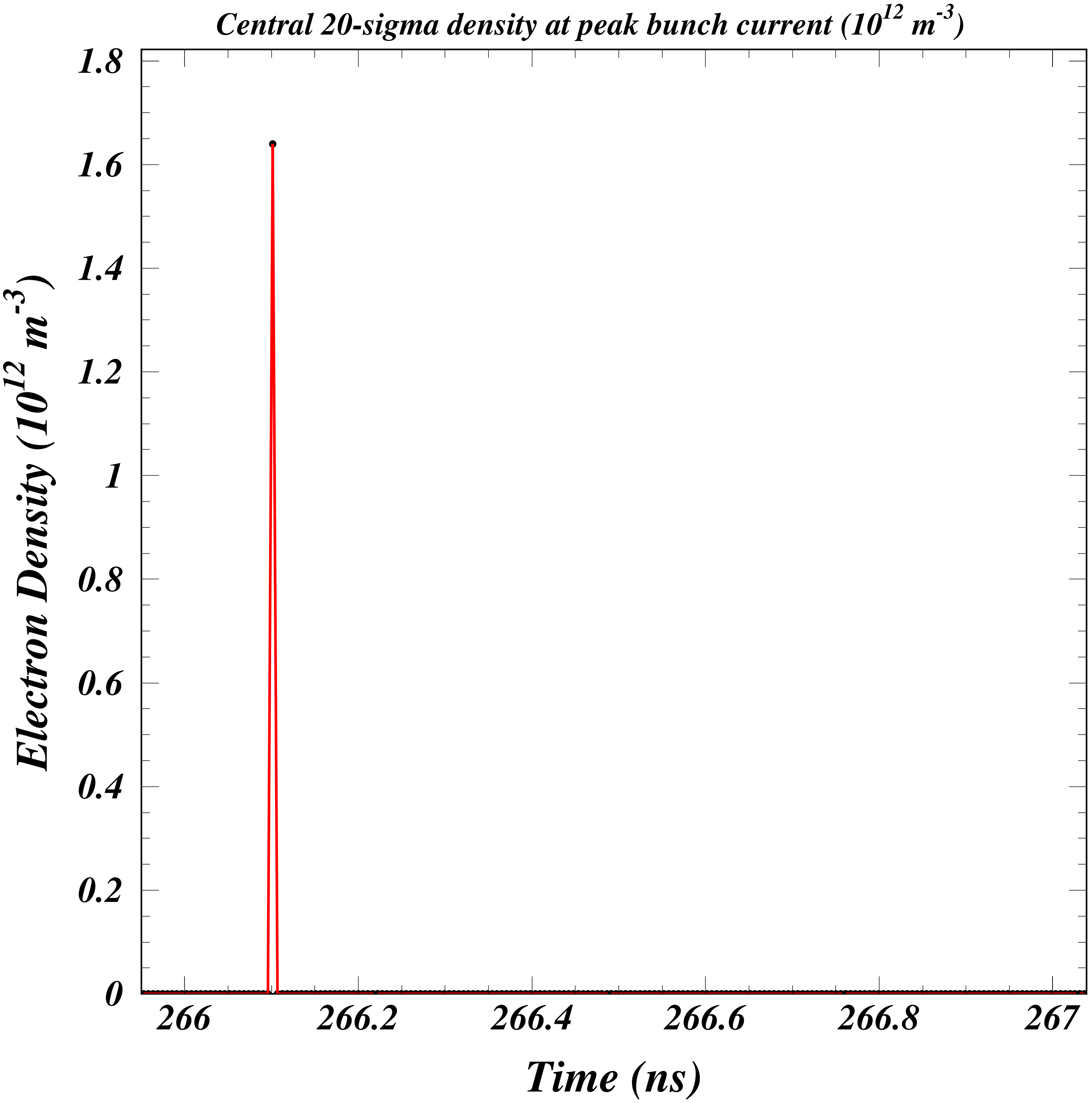
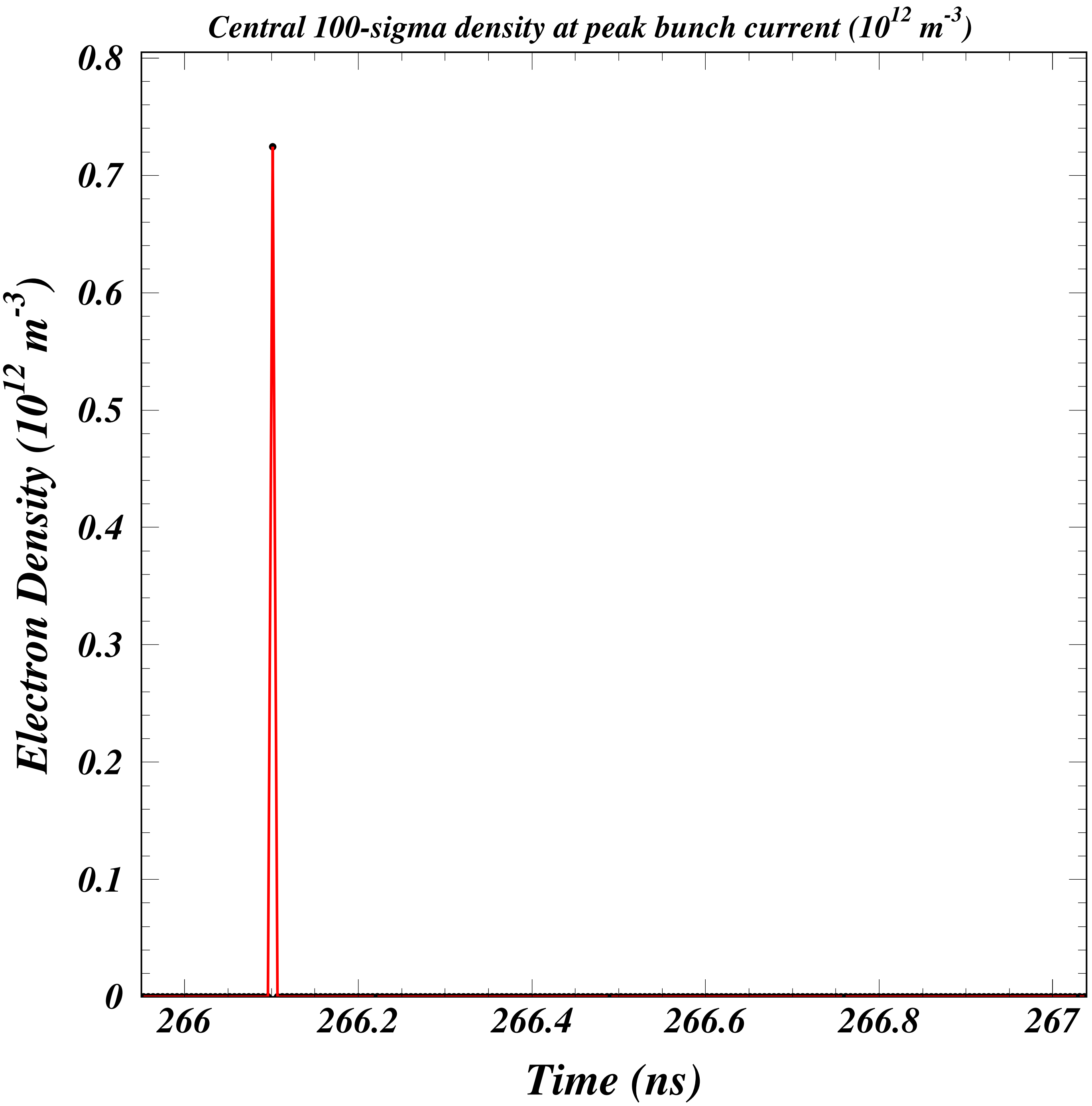

Beam-averaged density at peak bunch current (10^{12} m^{-3})
Electron Density (10^{12} m^{-3})
Time (ns)
0
2
4
6
8
10
266
266.2
266.4
266.6
266.8
267

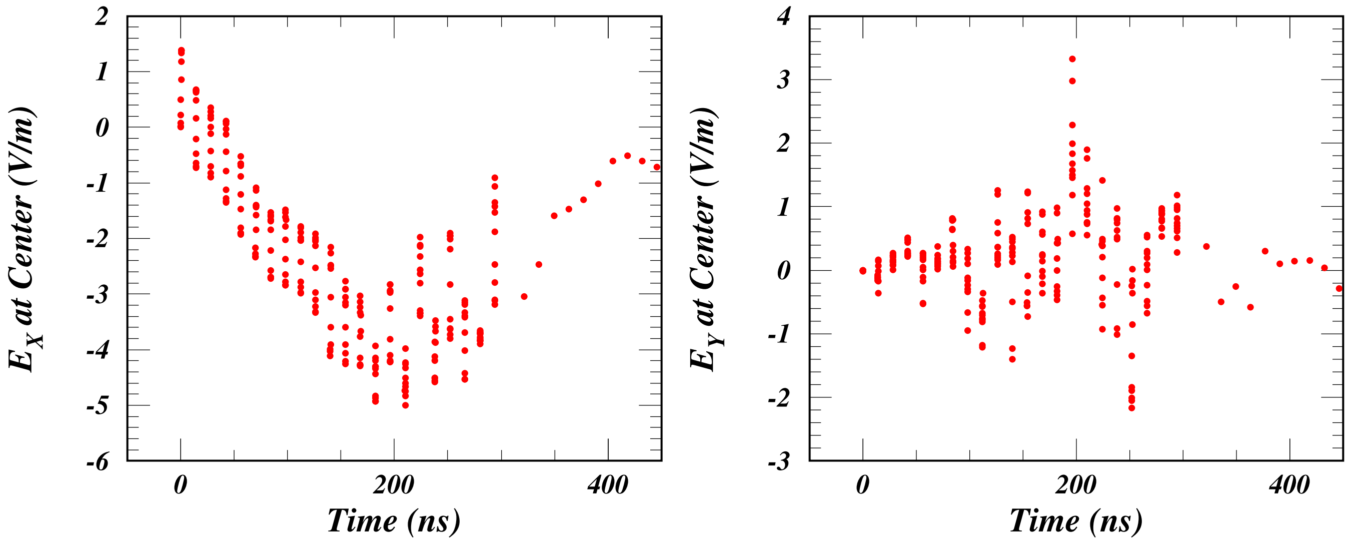

15/09/30 16.27
Central 5-sigma density at peak bunch current (10^{12} m^{-3})
Electron Density (10^{12} m^{-3})
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
266
266.2
266.4
266.6
266.8
267
Time (ns)

15/09/30 16.27

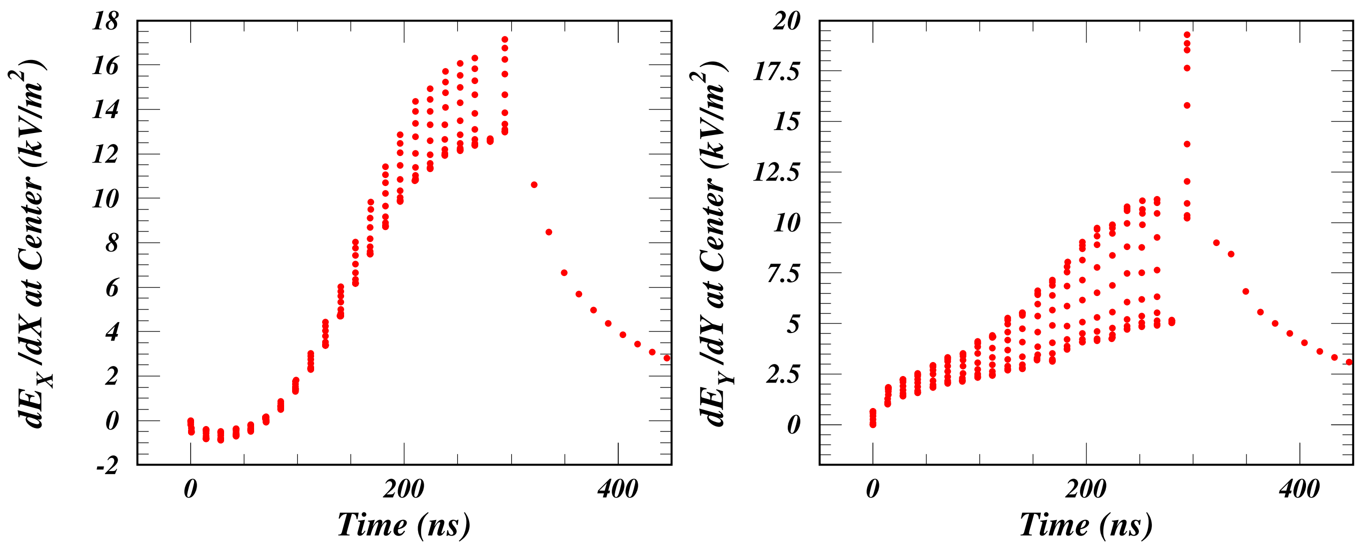


Central 20-sigma density at peak bunch current (10^{12} m^{-3})
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Electron Density (10^{12} m^{-3})
266
266.2
266.4
266.6
266.8
267
Time (ns)


Central 100-sigma density at peak bunch current (10^{12} m^{-3})
Electron Density (10^{12} m^{-3})
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
266
266.2
266.4
266.6
266.8
267
Time (ns)

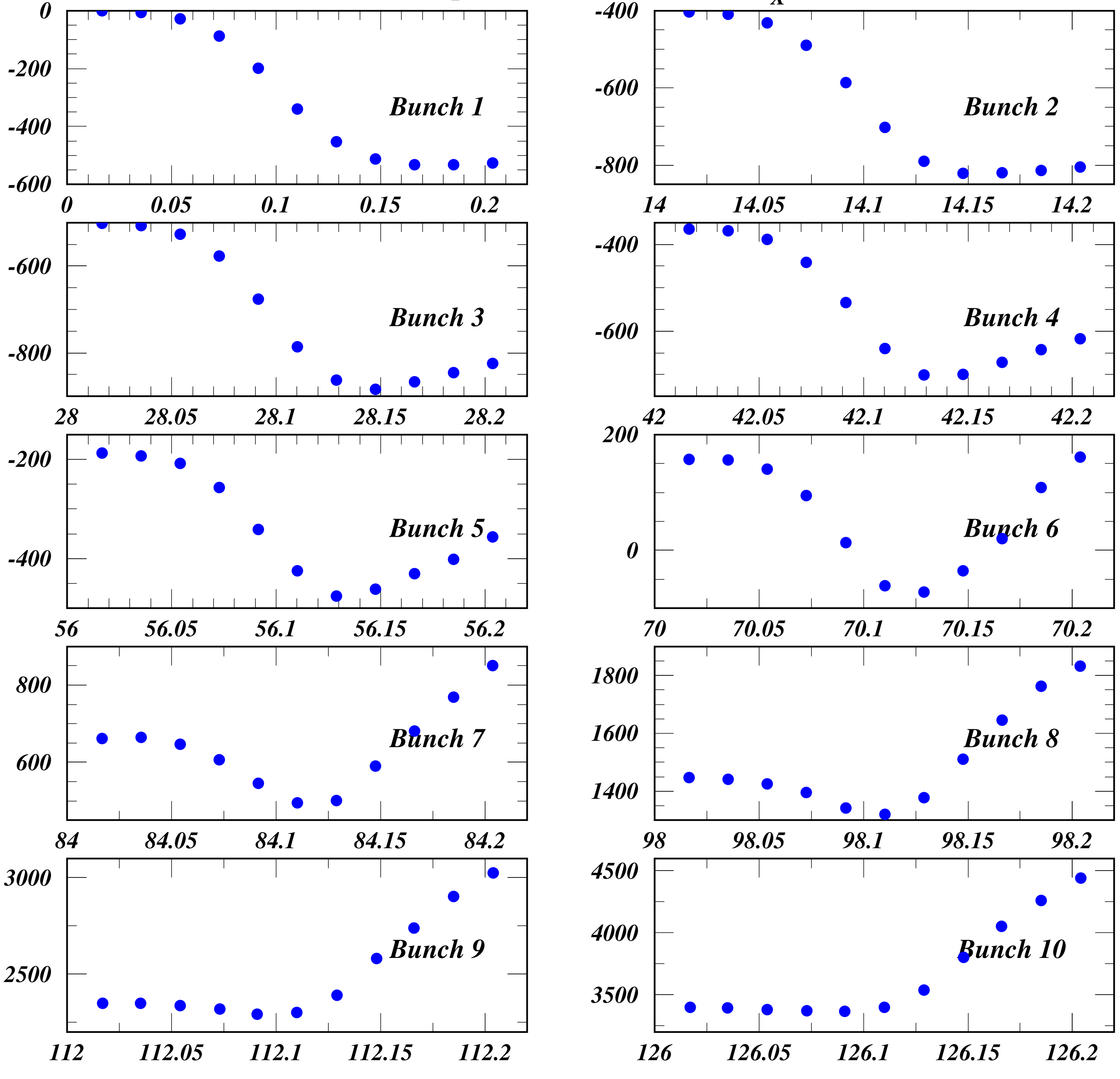


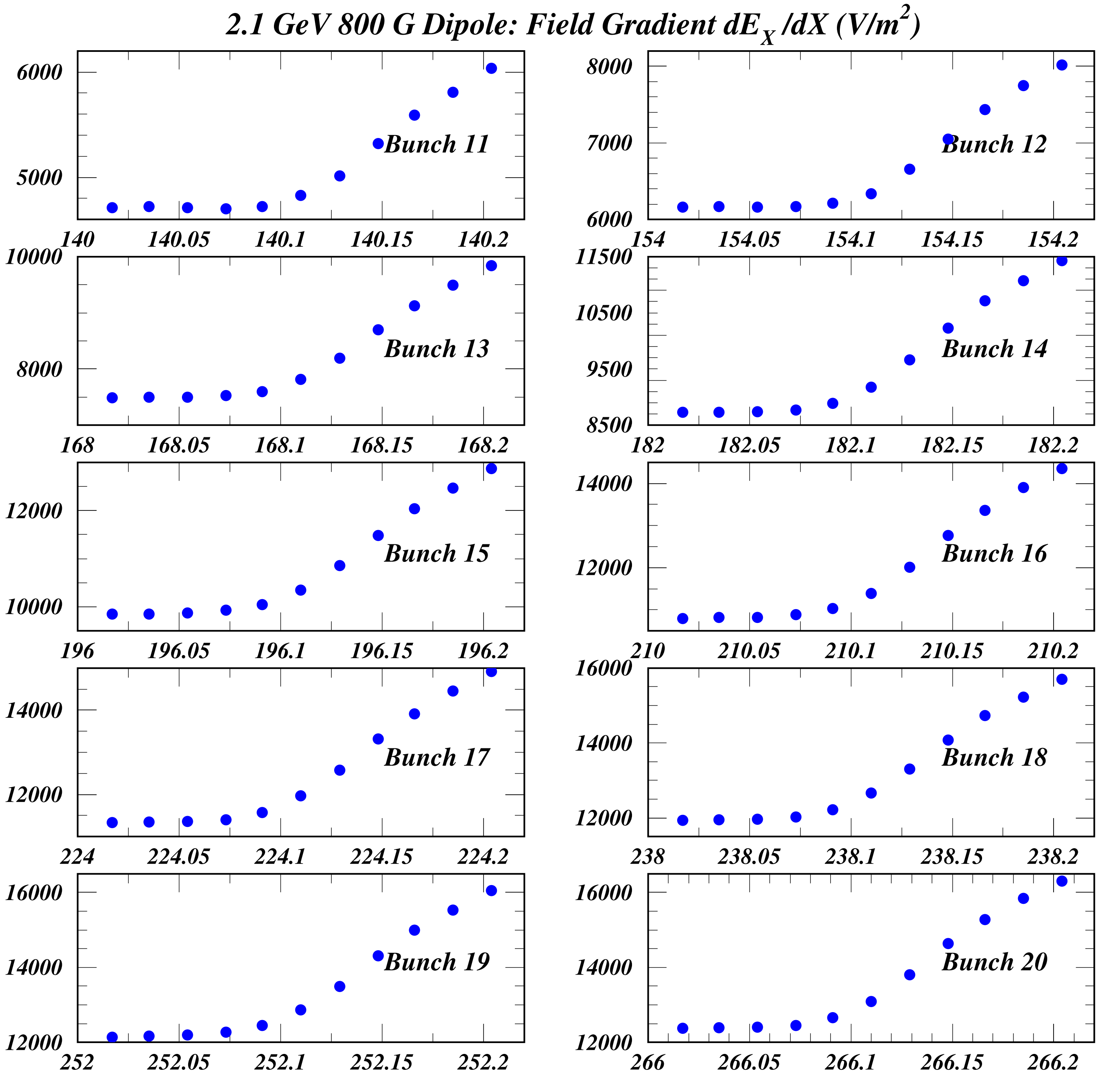
2
1
0
-1
-2
-3
-4
-5
-6
E_X at Center (V/m)
0
200
400
Time (ns)
4
3
2
1
0
-1
-2
-3
E_Y at Center (V/m)
0
200
400
Time (ns)



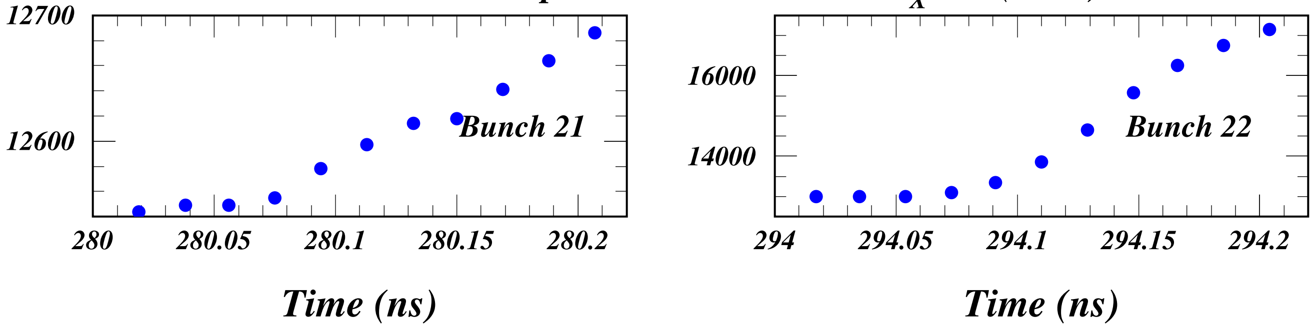
18
16
14
12
10
8
6
4
2
0
-2
0
200
400
Time (ns)
dE_X /dX at Center (kV/m^2)
20
17.5
15
12.5
10
7.5
5
2.5
0
0
200
400
Time (ns)
dE_Y /dY at Center (kV/m^2)

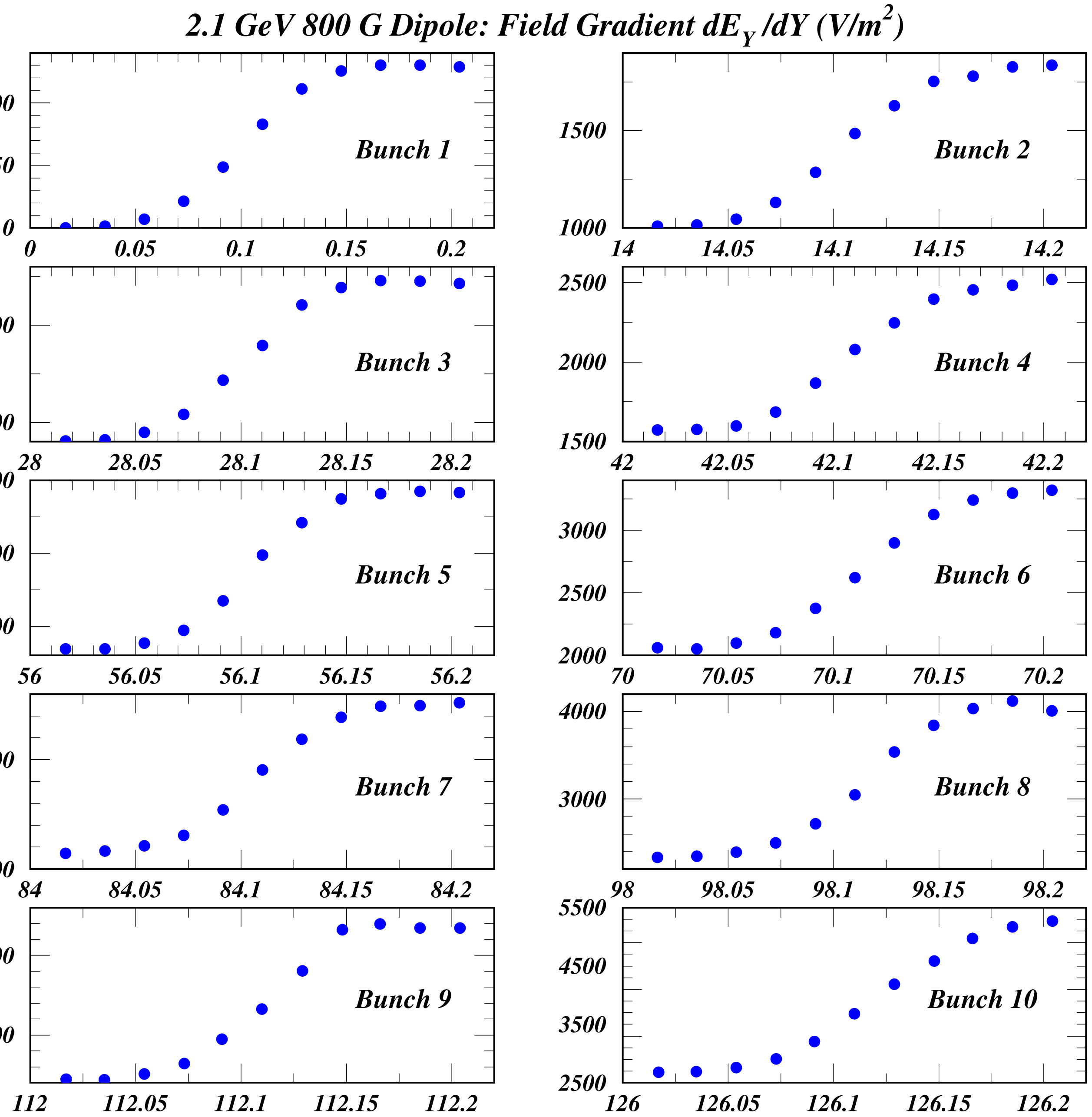
2.1 GeV 800 G Dipole: Field Gradient dE_X/dX (V/m^2)



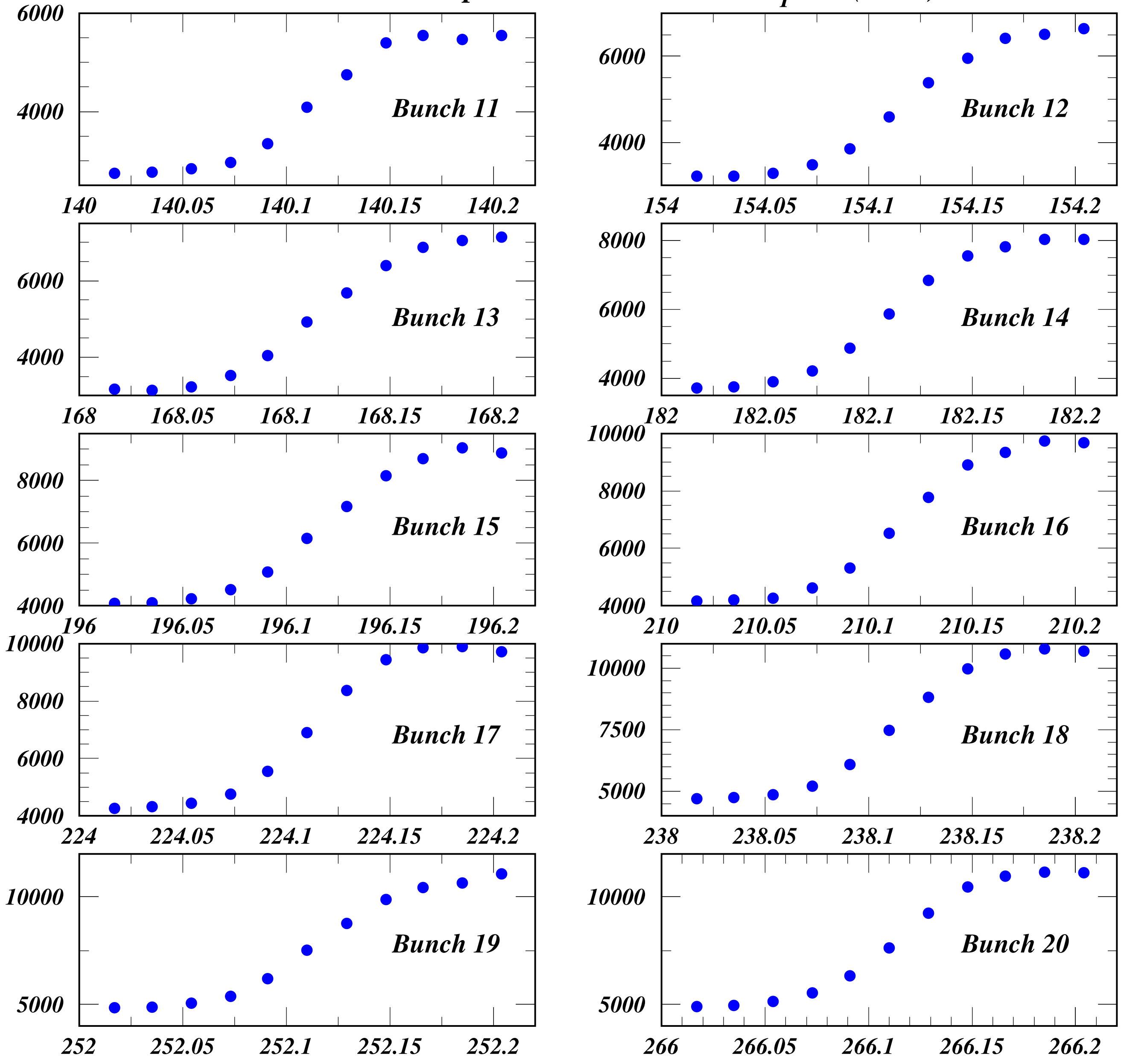

2.1 GeV 800 G Dipole: Field Gradient dE$_X$ /dX (V/m^2)
Bunch 11
Bunch 12
Bunch 13
Bunch 14
Bunch 15
Bunch 16
Bunch 17
Bunch 18
Bunch 19
Bunch 20

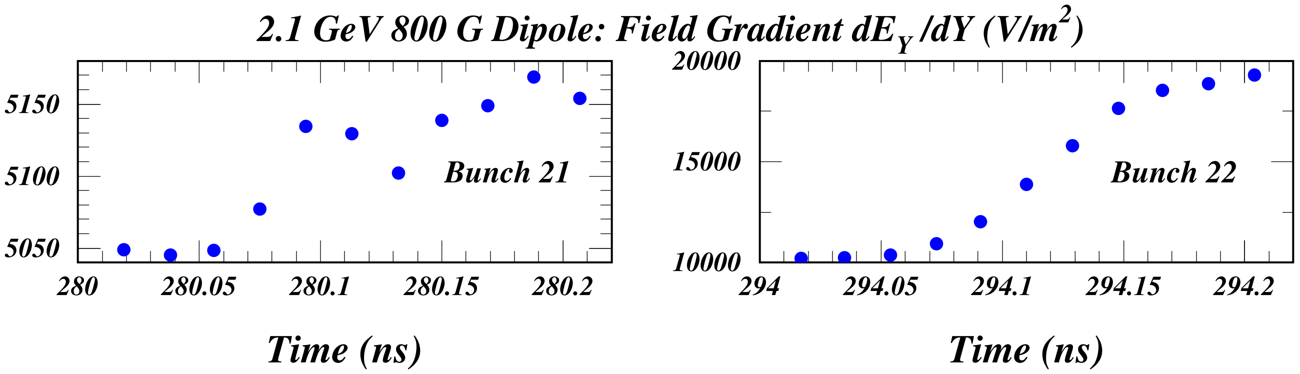
2.1 GeV 800 G Dipole: Field Gradient dE_X/dX (V/m^2)



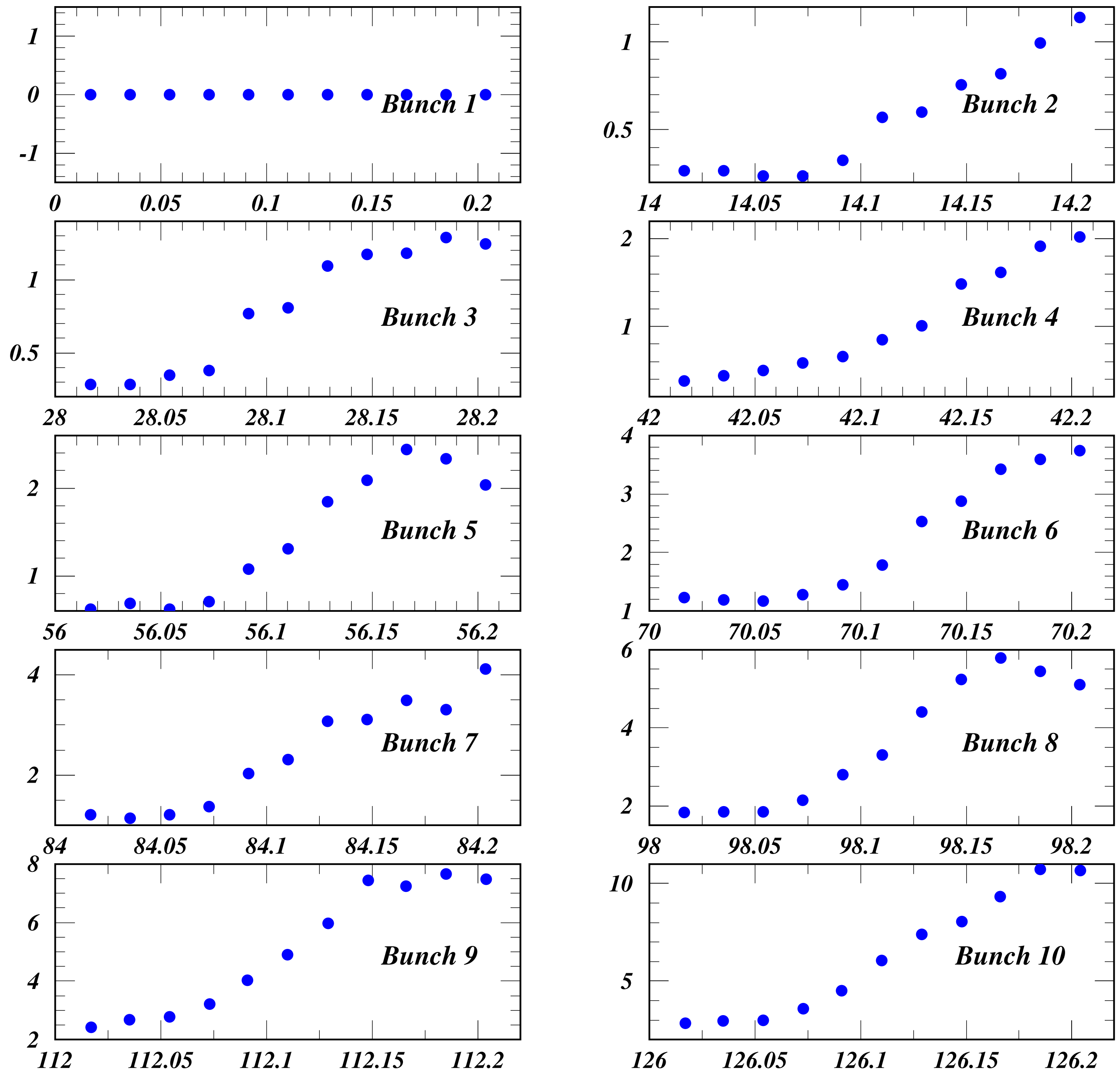

2.1 GeV 800 G Dipole: Field Gradient dE_Y/dY (V/m^2)
Bunch 1
Bunch 2
Bunch 3
Bunch 4
Bunch 5
Bunch 6
Bunch 7
Bunch 8
Bunch 9
Bunch 10

2.1 GeV 800 G Dipole: Field Gradient dE_Y/dY (V/m^2)

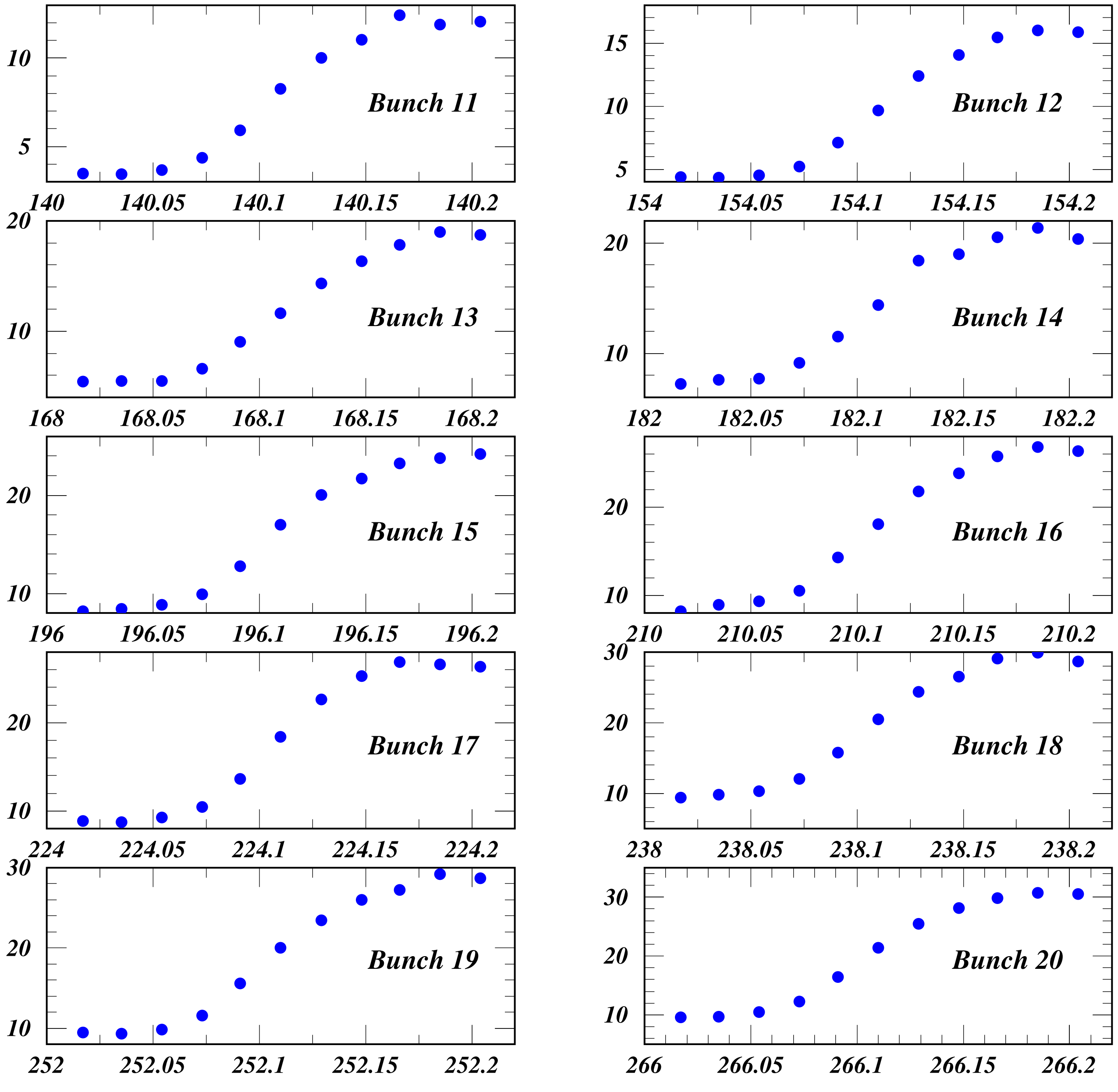


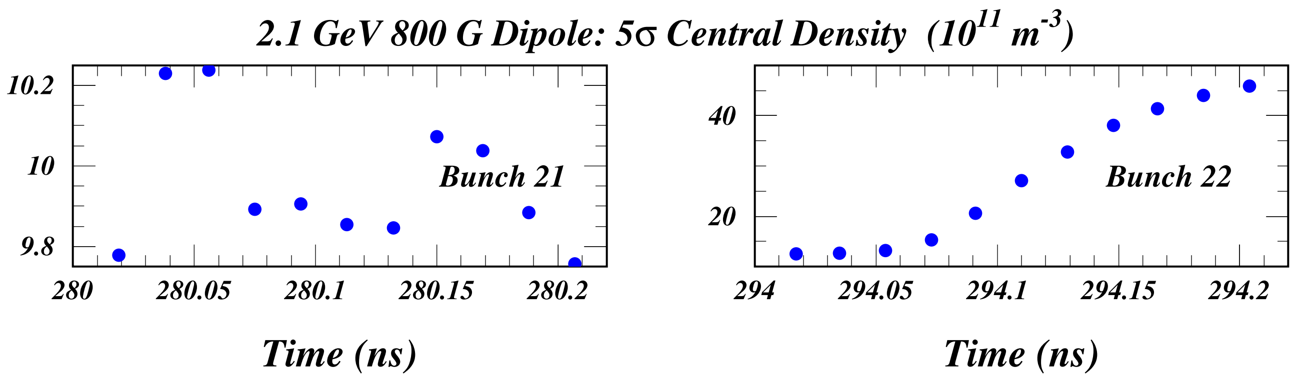

2.1 GeV 800 G Dipole: Field Gradient dE_Y /dY (V/m^2)
Bunch 21
Bunch 22
5050
5100
5150
10000
15000
20000
280
280.05
280.1
280.15
280.2
294
294.05
294.1
294.15
294.2
Time (ns)
Time (ns)

2.1 GeV 800 G Dipole: 5σ Central Density (10^{11} m^{-3})



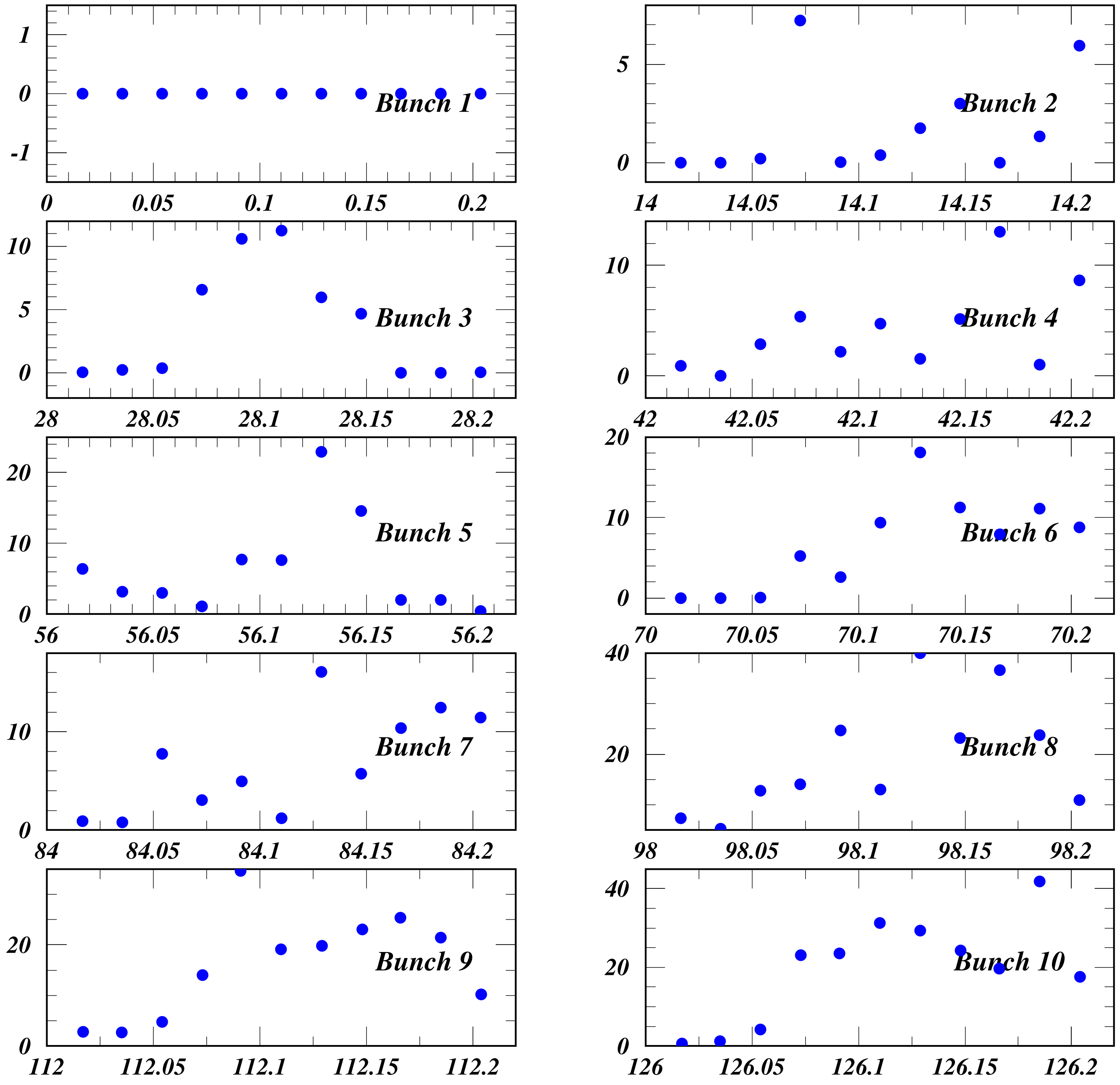
2.1 GeV 800 G Dipole: 5σ Central Density $(10^{11}\ m^{-3})$



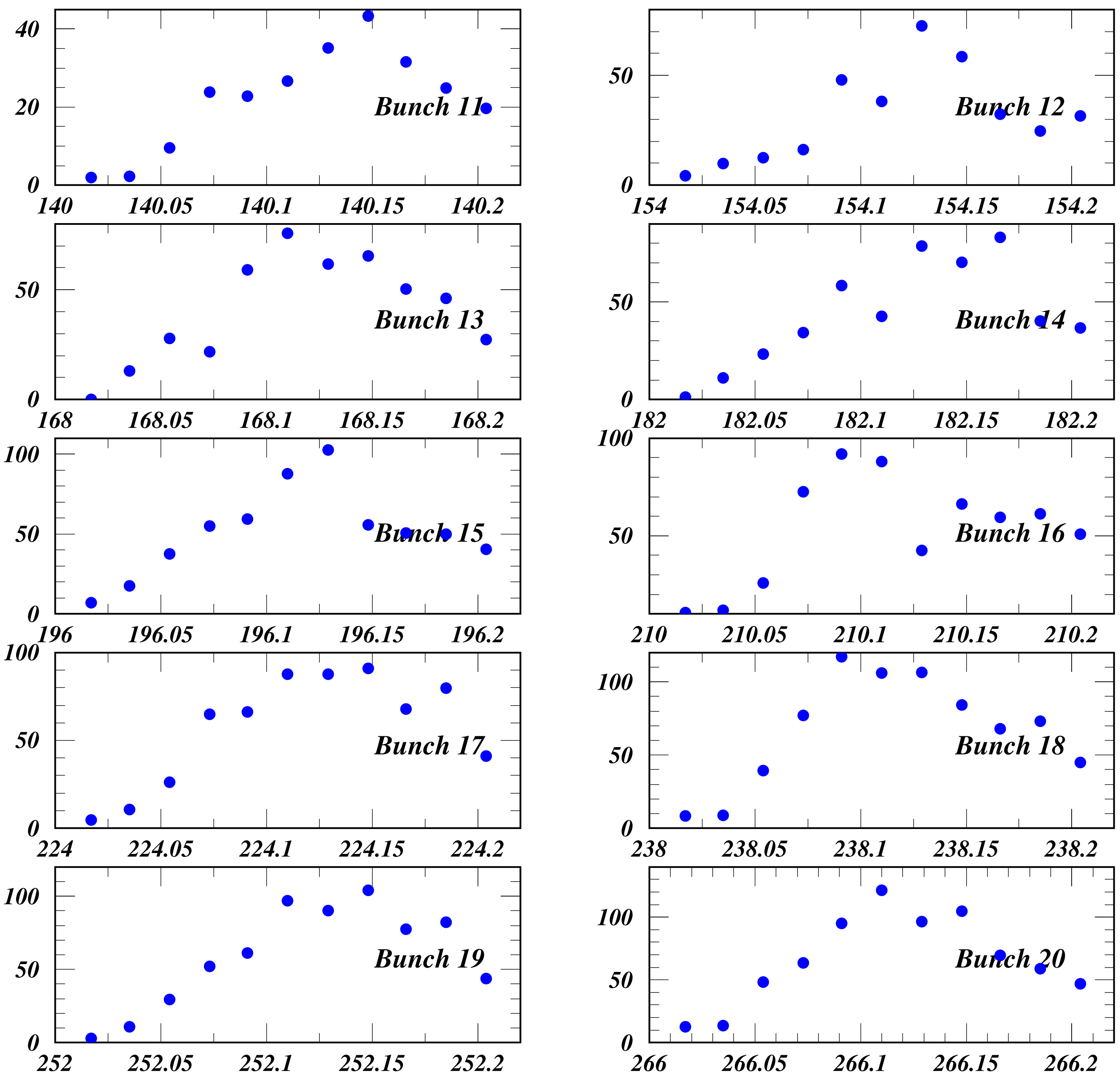


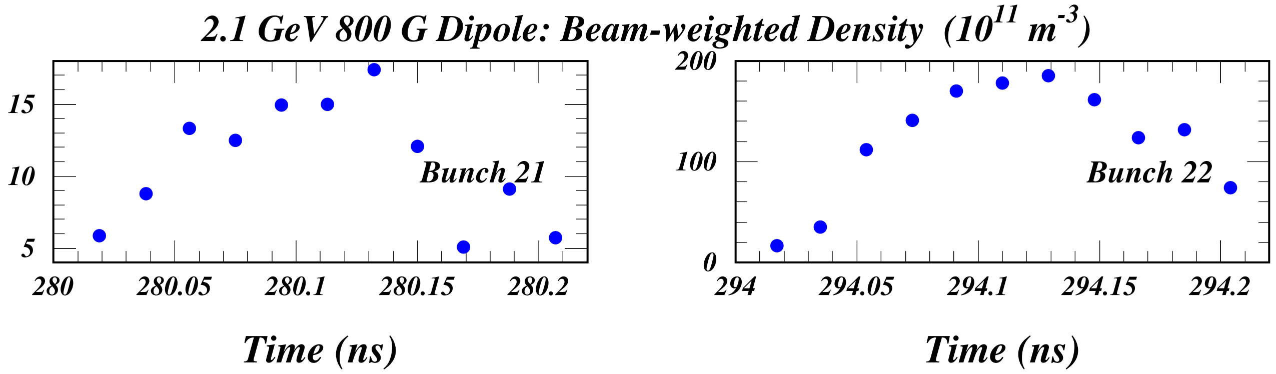
2.1 GeV 800 G Dipole: 5σ Central Density (10^11 m^-3)
10.2
10
9.8
Bunch 21
280
280.05
280.1
280.15
280.2
Time (ns)
40
20
Bunch 22
294
294.05
294.1
294.15
294.2
Time (ns)

2.1 GeV 800 G Dipole: Beam-weighted Density $(10^{11}\ m^{-3})$



2.1 GeV 800 G Dipole: Beam-weighted Density $(10^{11}\ m^{-3})$





2.1 GeV 800 G Dipole: Beam-weighted Density $(10^{11}\ m^{-3})$
15
10
5
Bunch 21
280
280.05
280.1
280.15
280.2
Time (ns)
200
100
0
Bunch 22
294
294.05
294.1
294.15
294.2
Time (ns)