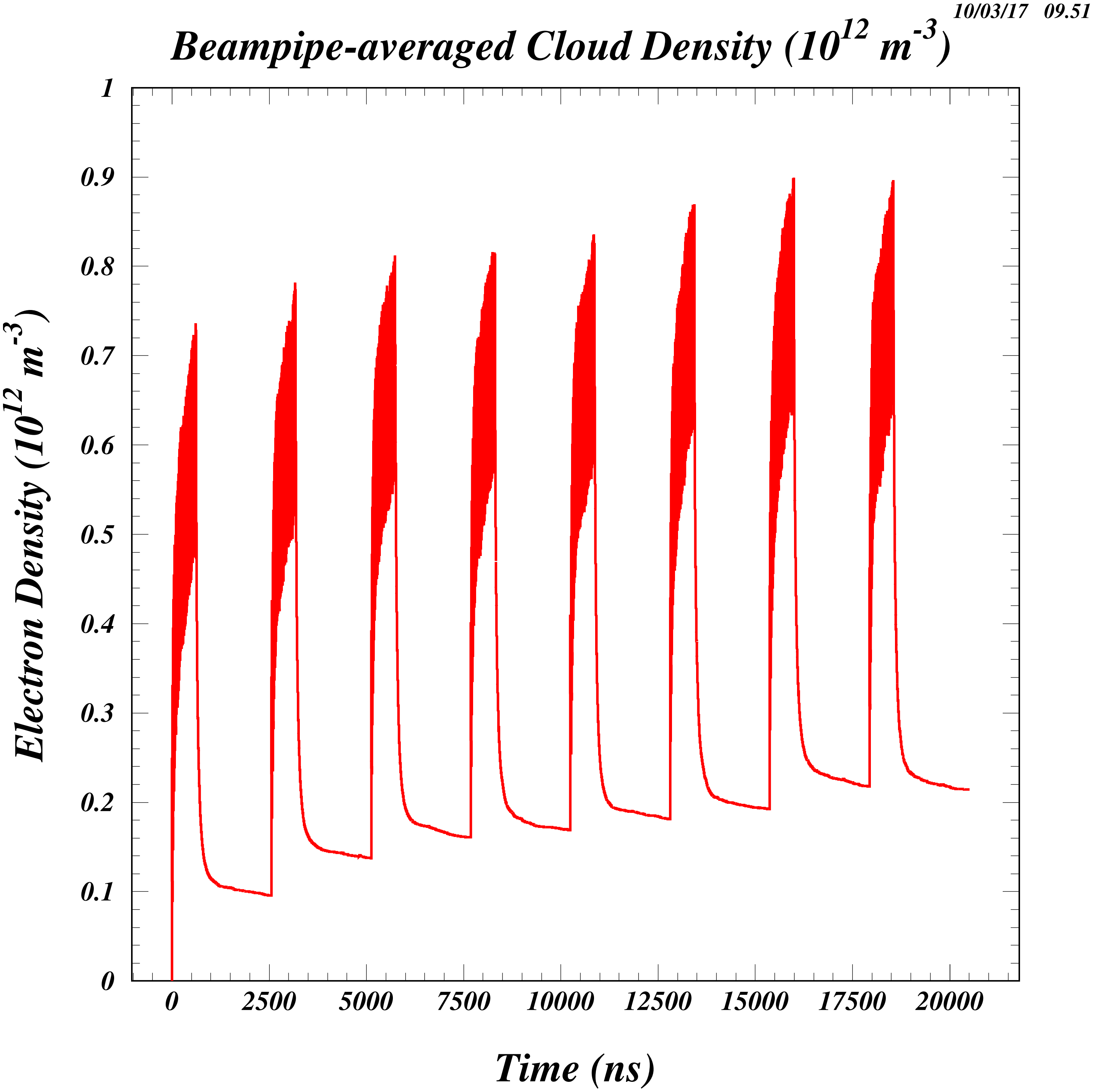
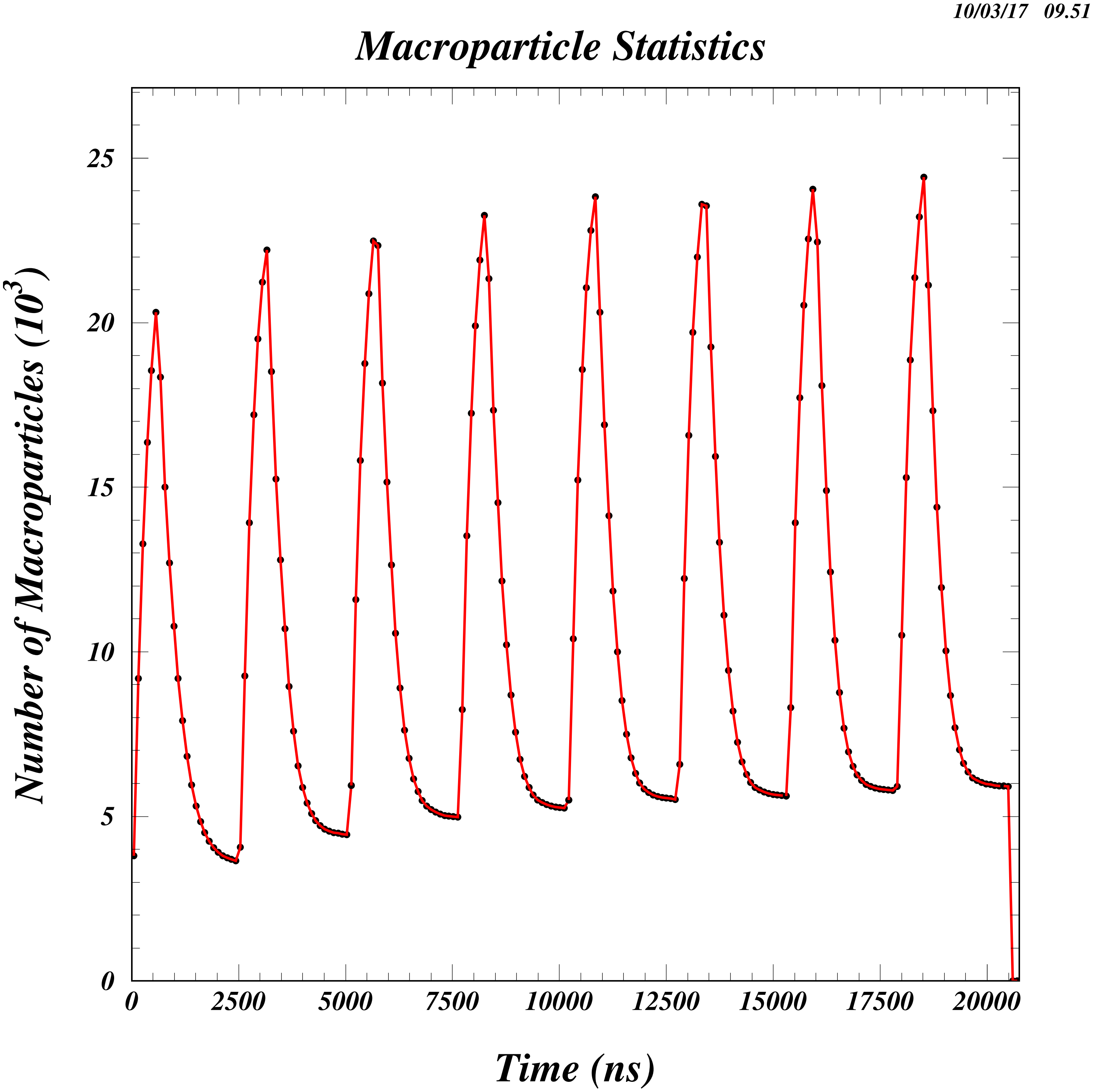
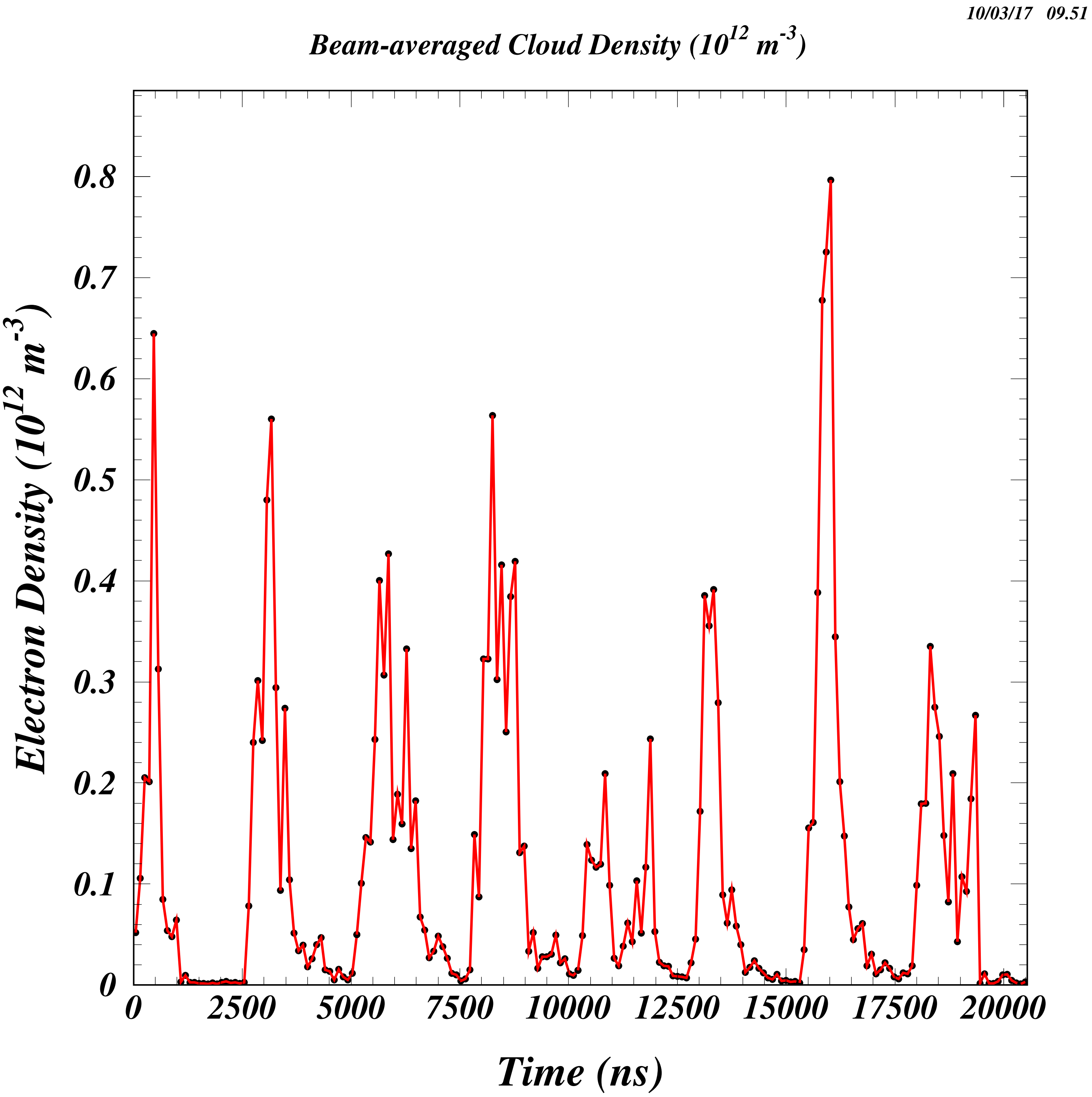
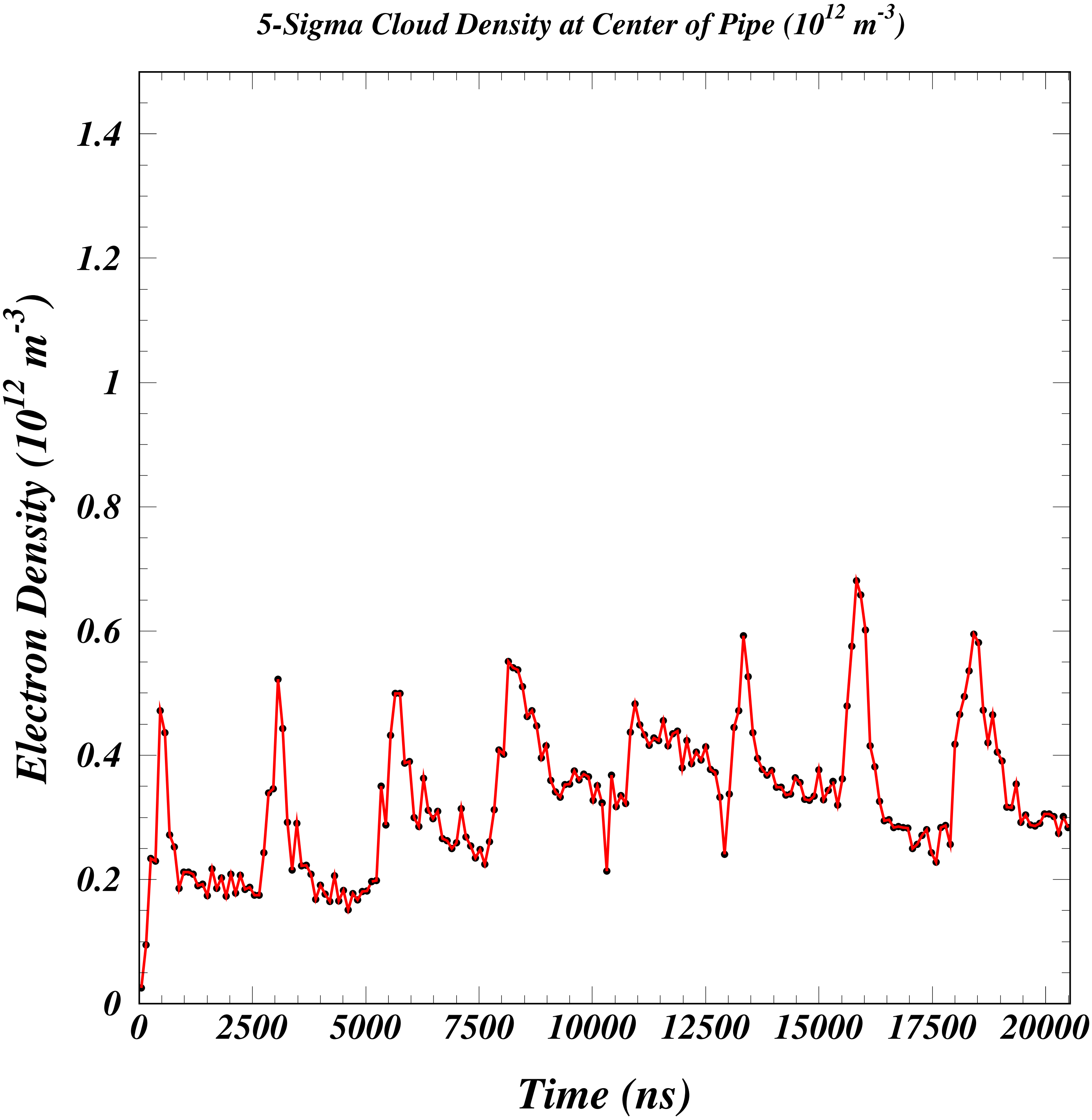

10/03/17 09.51
Beampipe-averaged Cloud Density (10^{12} m^{-3})
Electron Density (10^{12} m^{-3})
Time (ns)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
0
2500
5000
7500
10000
12500
15000
17500
20000



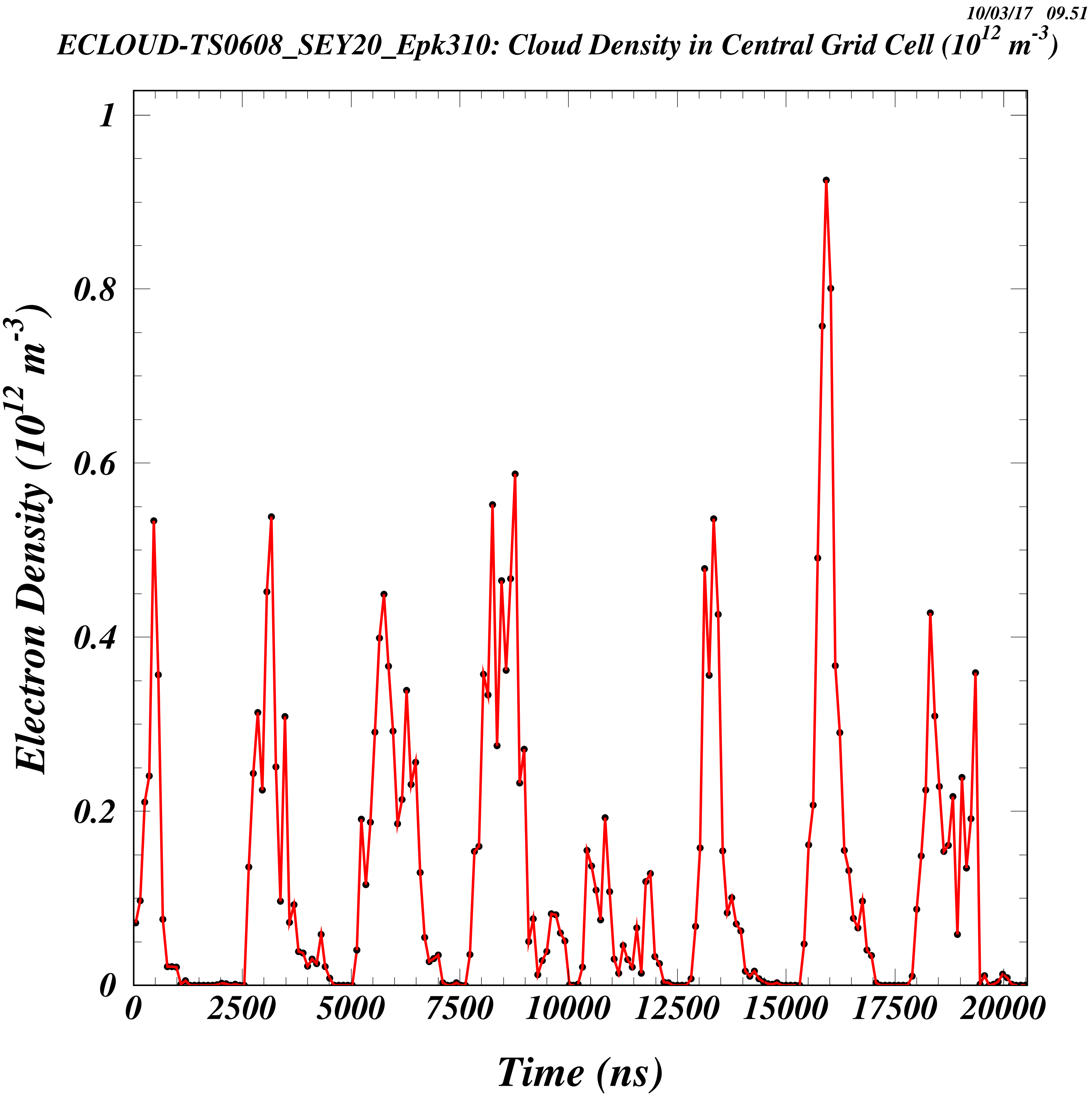
10/03/17 09.51
Macroparticle Statistics
Number of Macroparticles (10^3)
Time (ns)
0
5
10
15
20
25
0
2500
5000
7500
10000
12500
15000
17500
20000

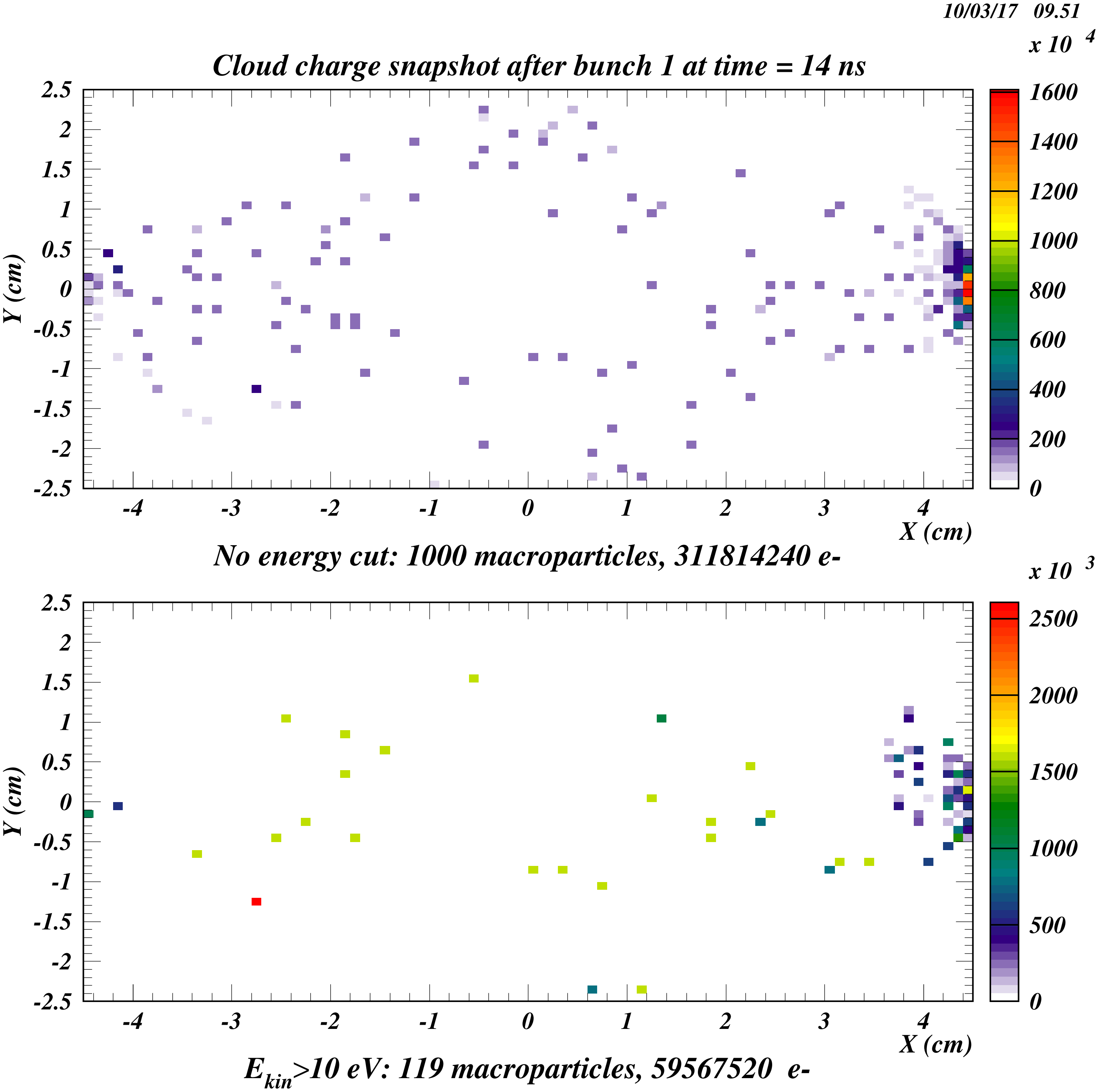

10/03/17 09.51
Beam-averaged Cloud Density (10^{12} m^{-3})
Electron Density (10^{12} m^{-3})
Time (ns)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0
2500
5000
7500
10000
12500
15000
17500
20000

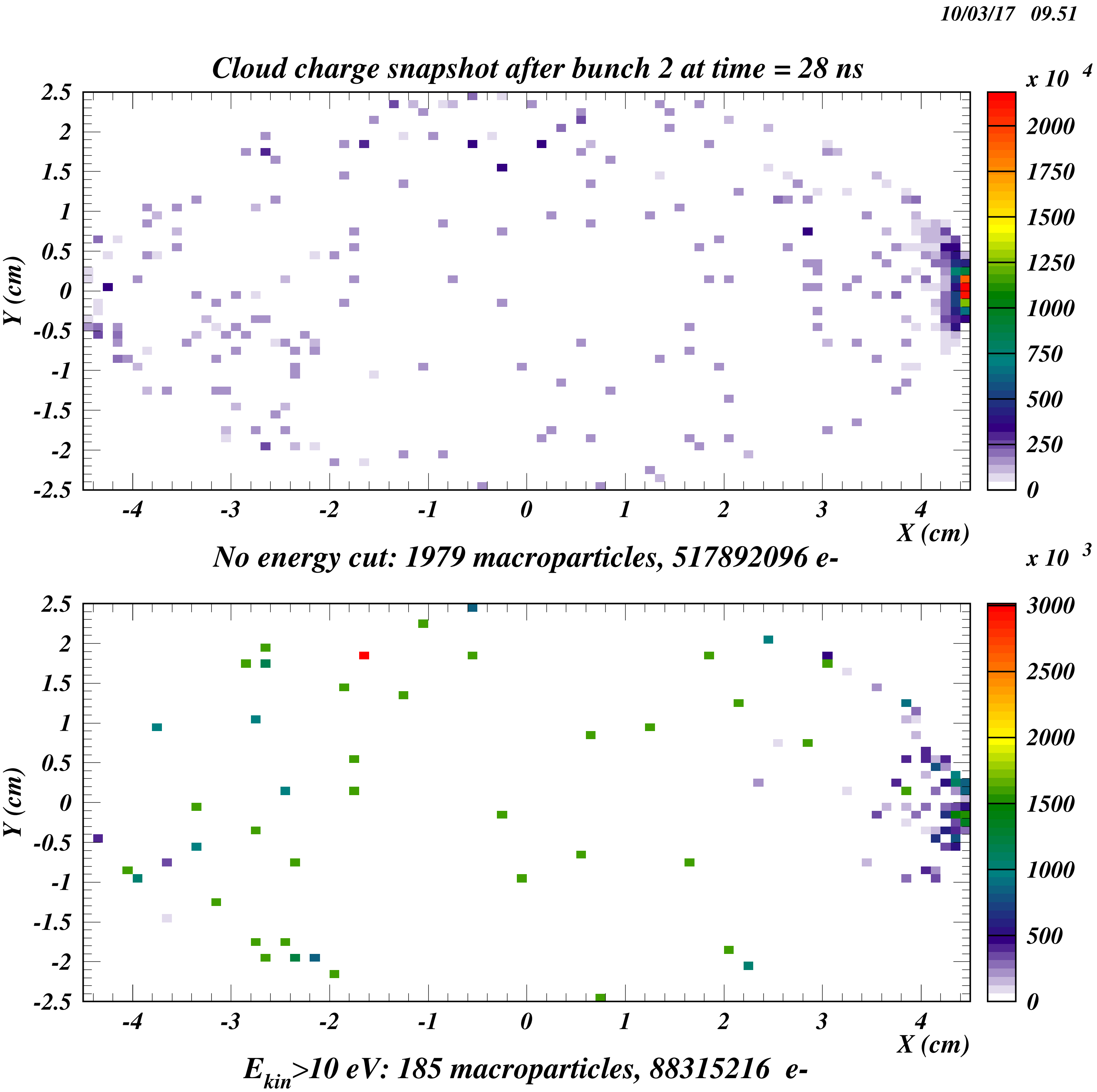
10/03/17 09.51



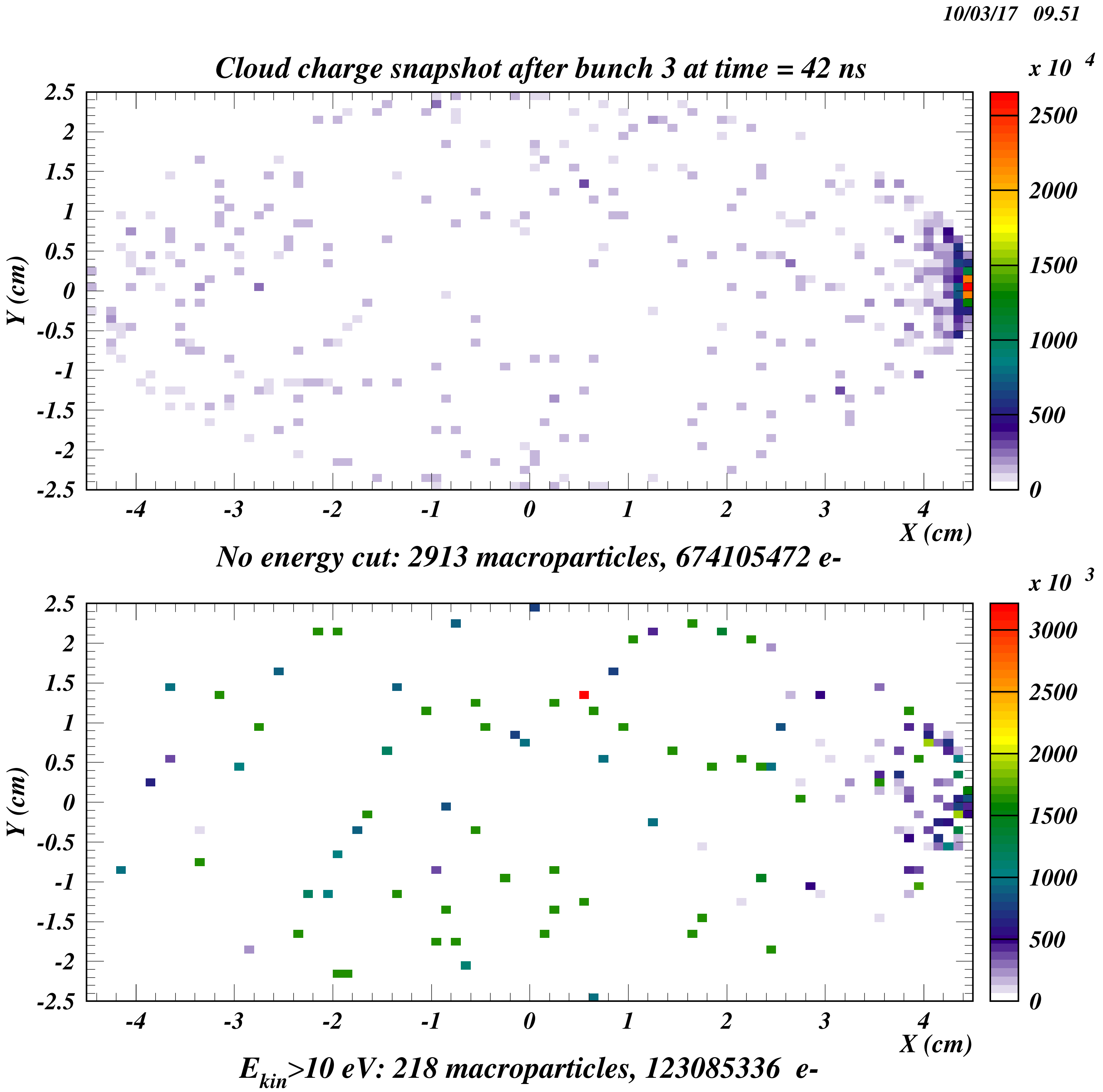
5-Sigma Cloud Density at Center of Pipe (10^{12} m^{-3})
Electron Density (10^{12} m^{-3})
Time (ns)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
0
2500
5000
7500
10000
12500
15000
17500
20000

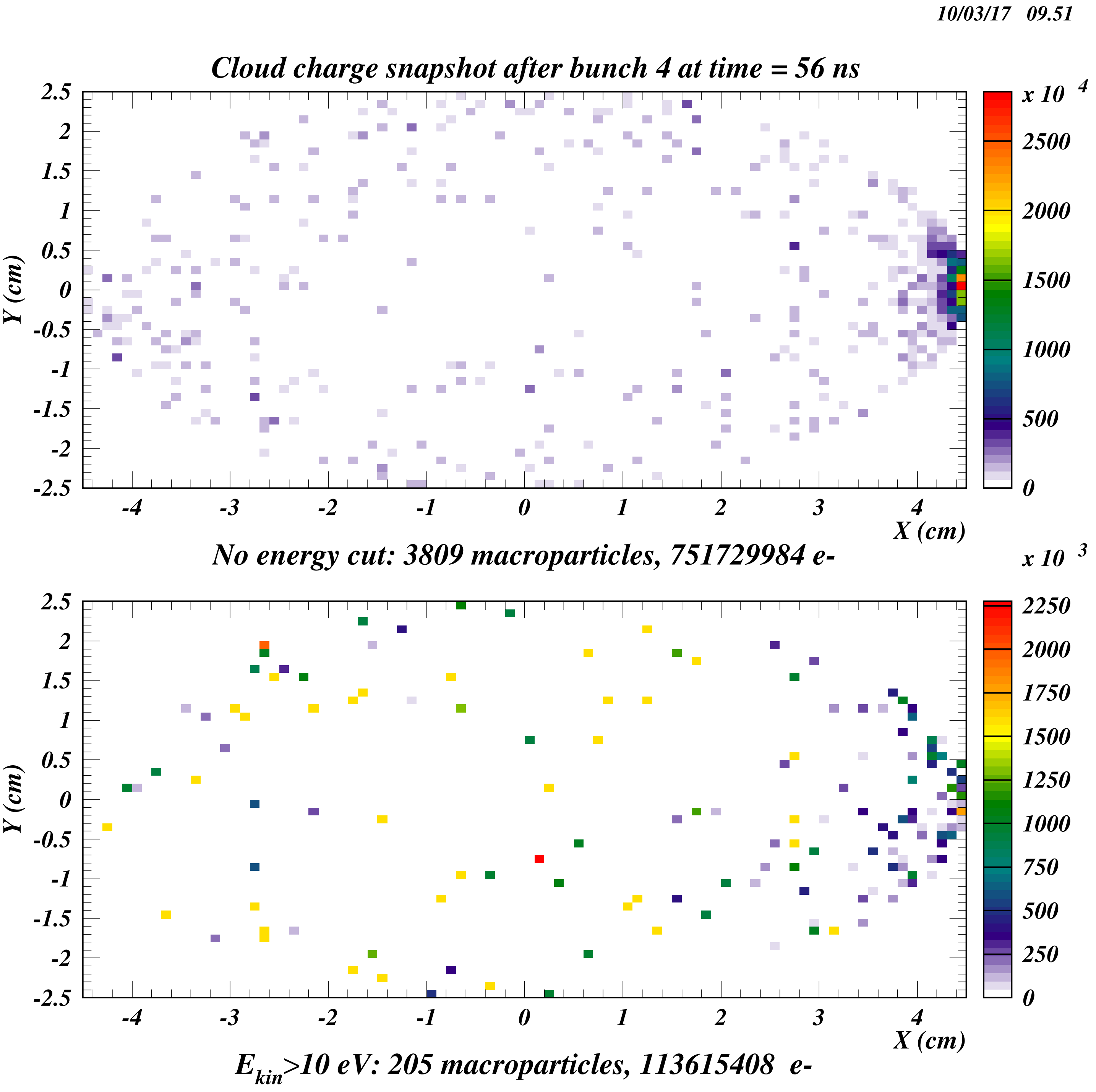

10/03/17 09.51
ECLOUD-TS0608_SEY20_Epk310: Cloud Density in Central Grid Cell (10^{12} m^{-3})
Electron Density (10^{12} m^{-3})
Time (ns)
0
0.2
0.4
0.6
0.8
1
0
2500
5000
7500
10000
12500
15000
17500
20000


10/03/17 09.51
Cloud charge snapshot after bunch 1 at time = 14 ns
x 10^4
1600
1400
1200
1000
800
600
400
200
0
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
Y (cm)
-4
-3
-2
-1
0
1
2
3
4
X (cm)
No energy cut: 1000 macroparticles, 311814240 e-
x 10^3
2500
2000
1500
1000
500
0
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
Y (cm)
-4
-3
-2
-1
0
1
2
3
4
X (cm)
E_{kin}>10 eV: 119 macroparticles, 59567520 e-

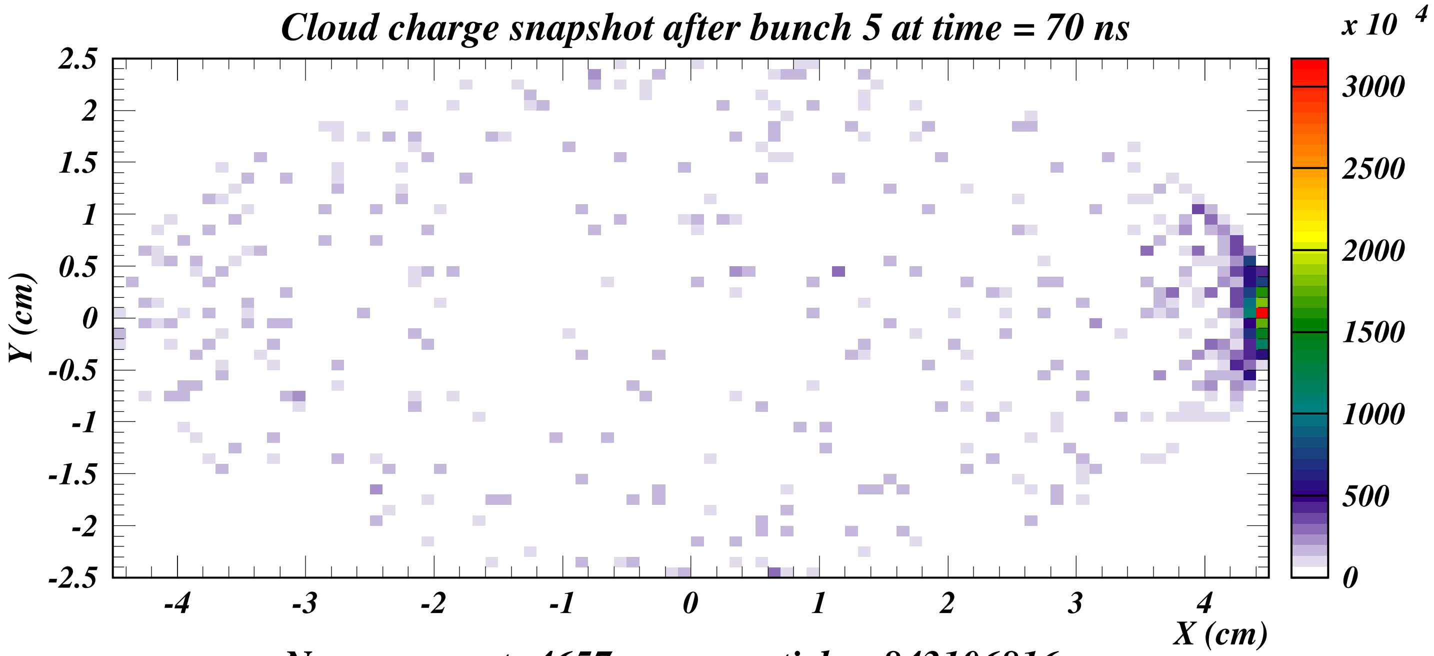


10/03/17 09.51
Cloud charge snapshot after bunch 2 at time = 28 ns
x 10^4
2000
1750
1500
1250
1000
750
500
250
0
Y (cm)
X (cm)
No energy cut: 1979 macroparticles, 517892096 e-
x 10^3
3000
2500
2000
1500
1000
500
0
Y (cm)
X (cm)
E_kin>10 eV: 185 macroparticles, 88315216 e-

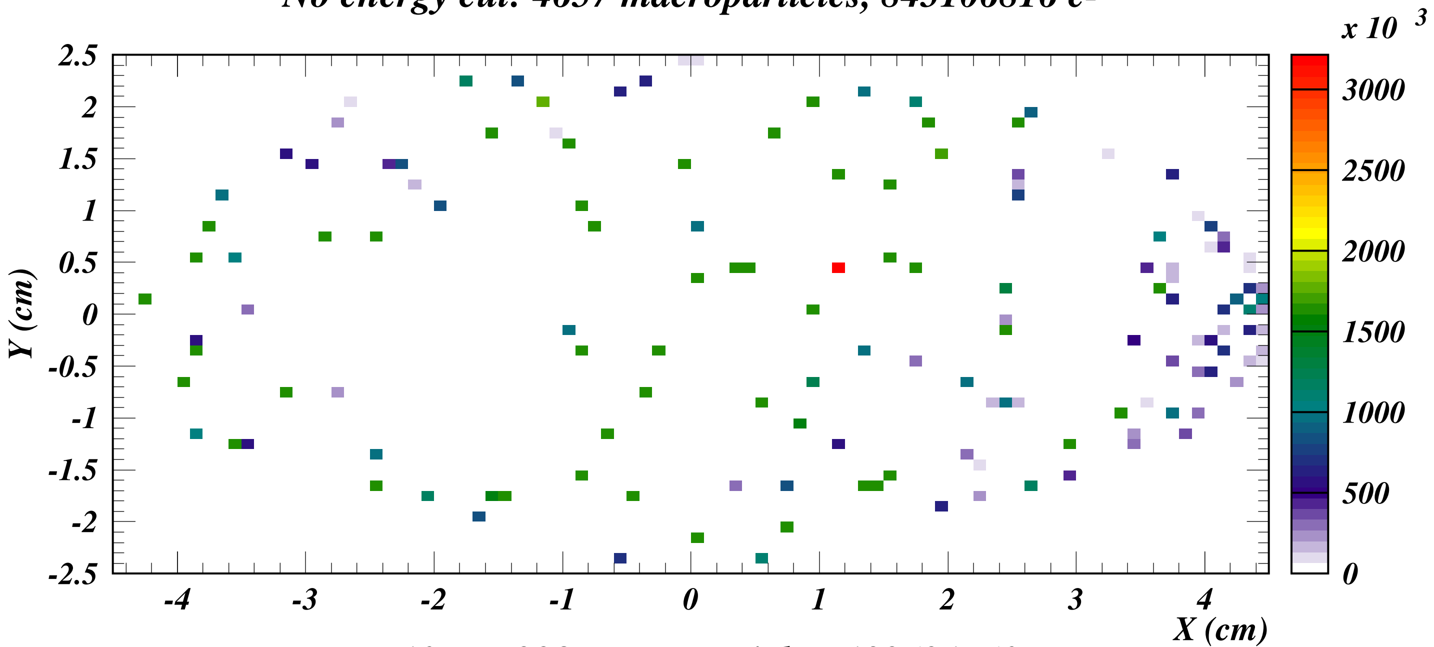

10/03/17 09.51
Cloud charge snapshot after bunch 3 at time = 42 ns
x 10^4
2500
2000
1500
1000
500
0
Y (cm)
X (cm)
No energy cut: 2913 macroparticles, 674105472 e-
x 10^3
3000
2500
2000
1500
1000
500
0
Y (cm)
X (cm)
E_kin>10 eV: 218 macroparticles, 123085336 e-


10/03/17 09.51
Cloud charge snapshot after bunch 4 at time = 56 ns
Y (cm)
X (cm)
x 10 4
No energy cut: 3809 macroparticles, 751729984 e-
x 10 3
Y (cm)
X (cm)
E_kin>10 eV: 205 macroparticles, 113615408 e-

10/03/17 09.51



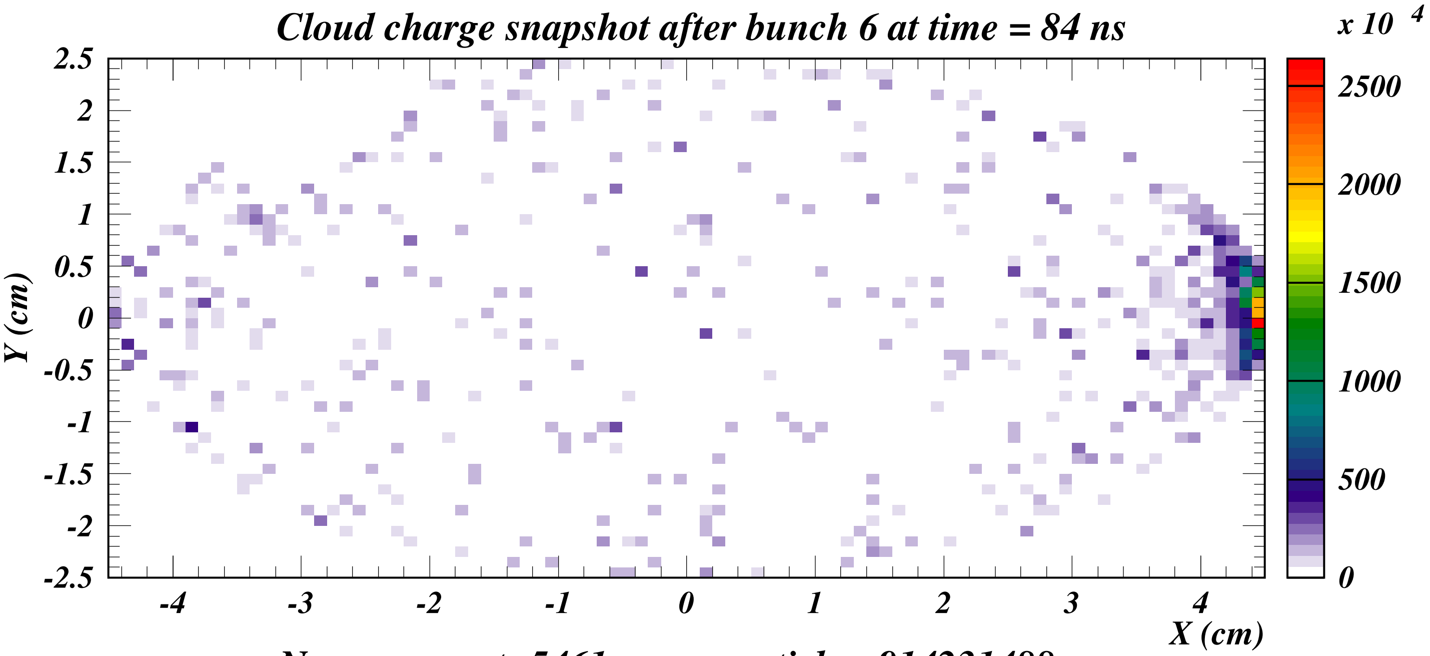
No energy cut: 4657 macroparticles, 843106816 e-



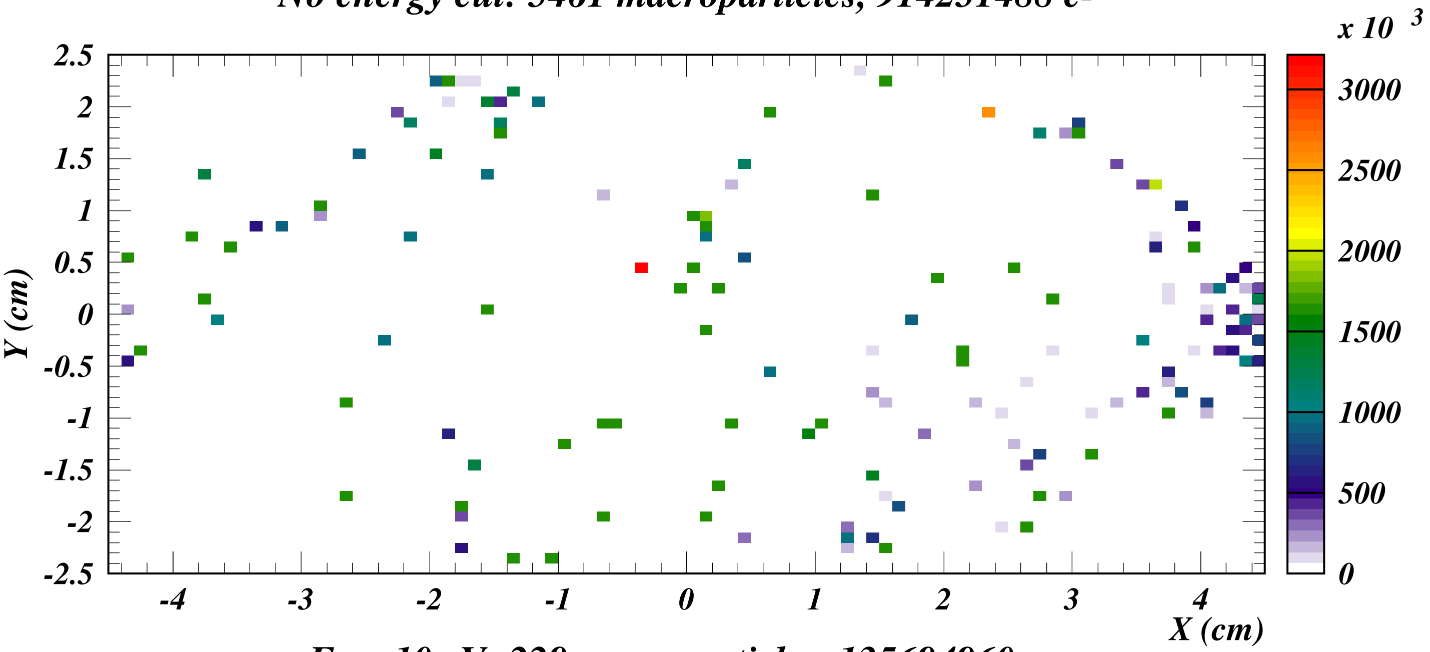
E_{kin}>10 eV: 229 macroparticles, 132621760 e-

10/03/17 09.51

Cloud charge snapshot after bunch 6 at time = 84 ns



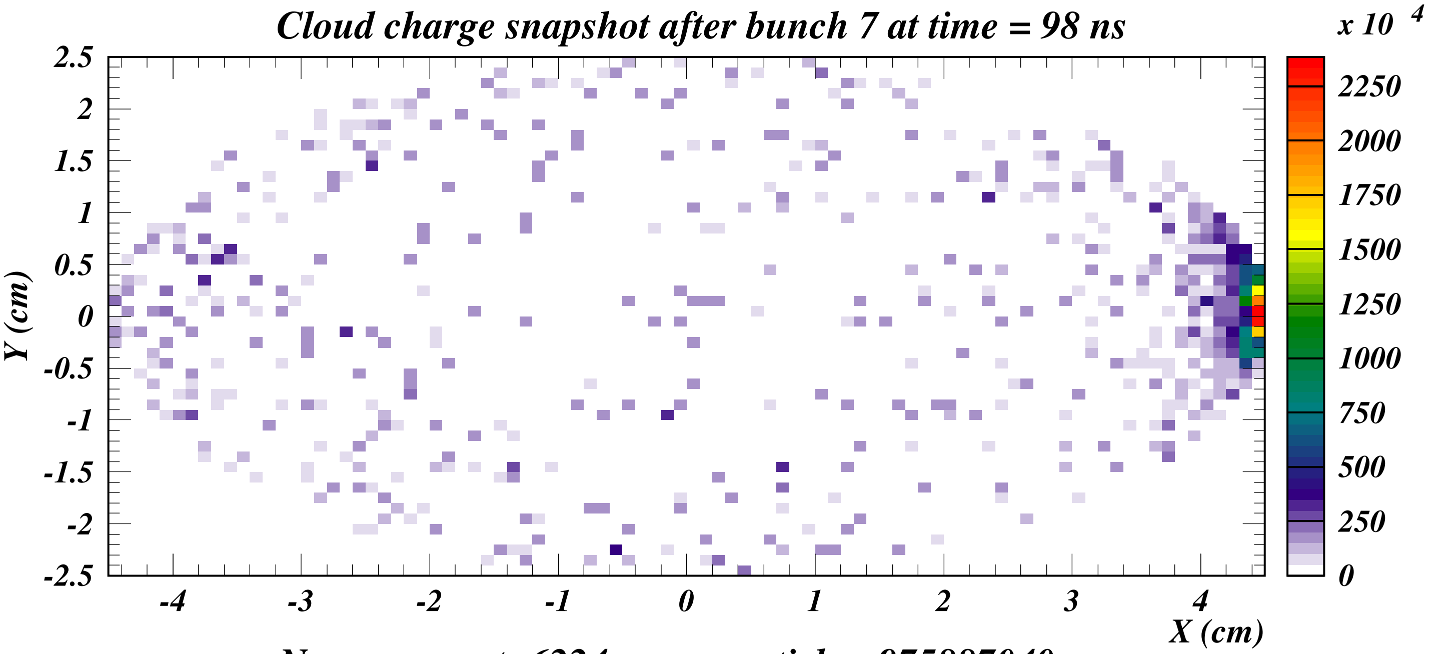
No energy cut: 5461 macroparticles, 914231488 e-



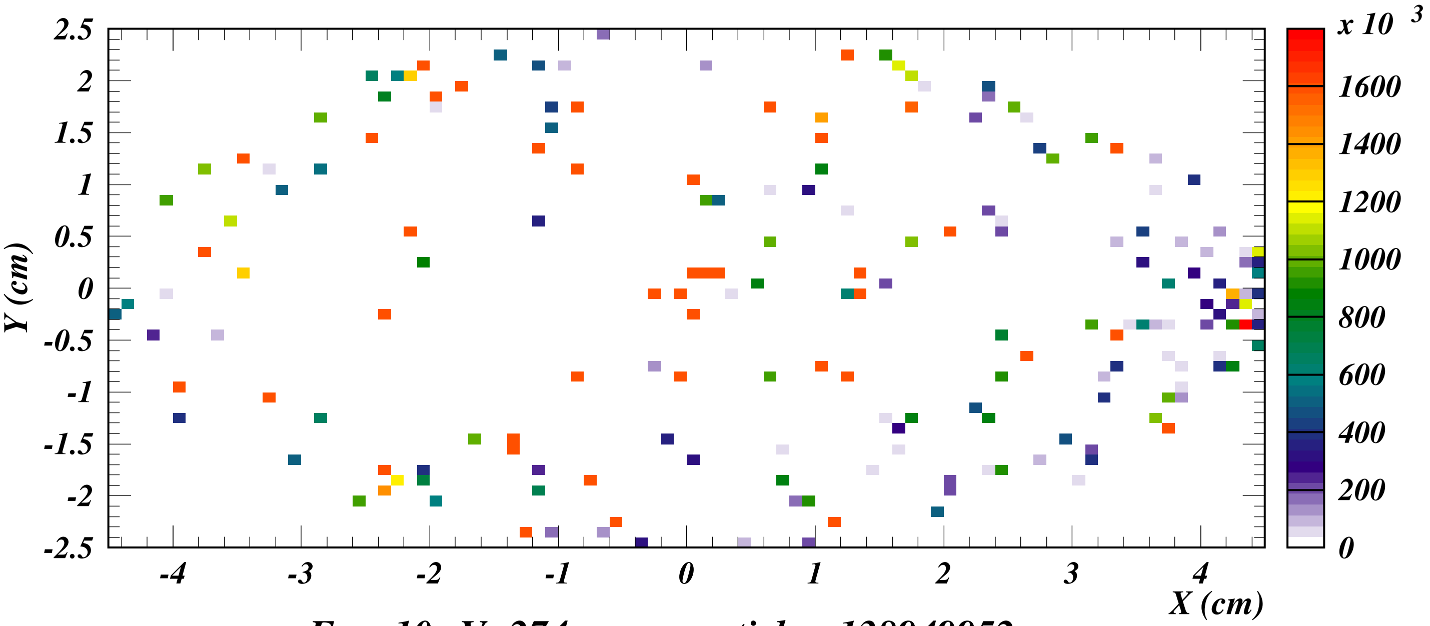
E_{kin}>10 eV: 229 macroparticles, 135694960 e-

10/03/17 09.51

Cloud charge snapshot after bunch 7 at time = 98 ns



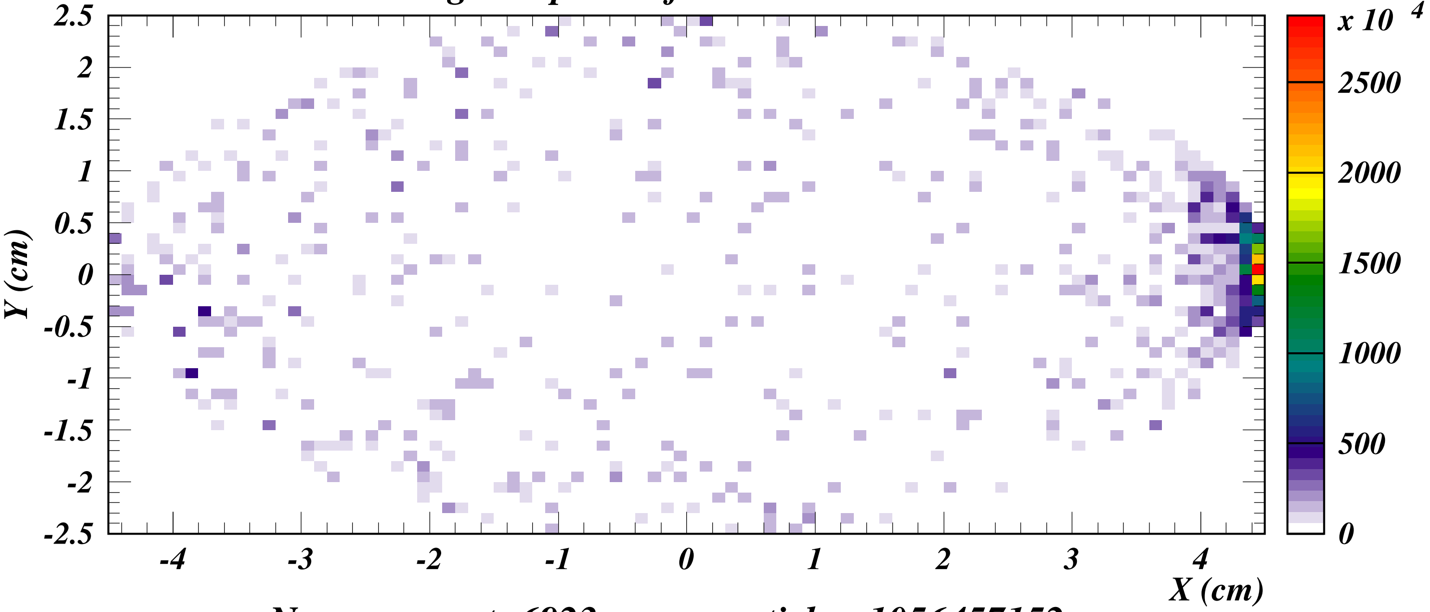
No energy cut: 6224 macroparticles, 975887040 e-



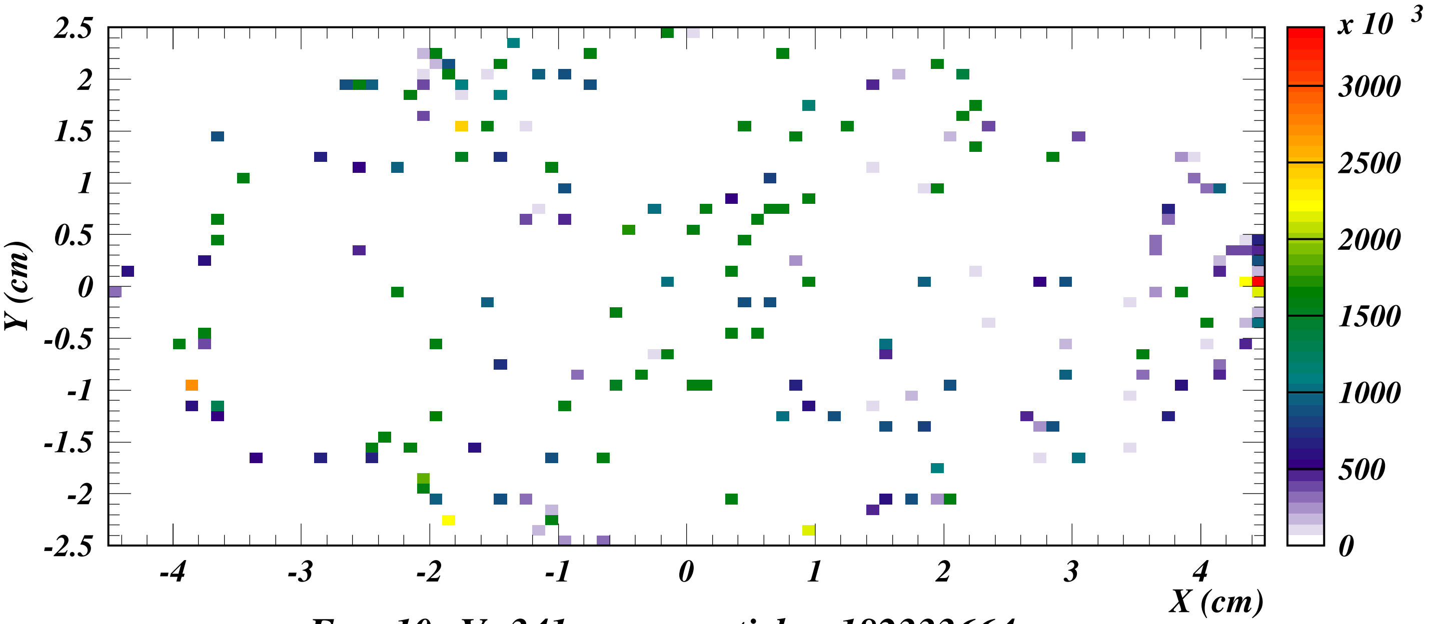
E_{kin}>10 eV: 274 macroparticles, 138949952 e-

10/03/17 09.51

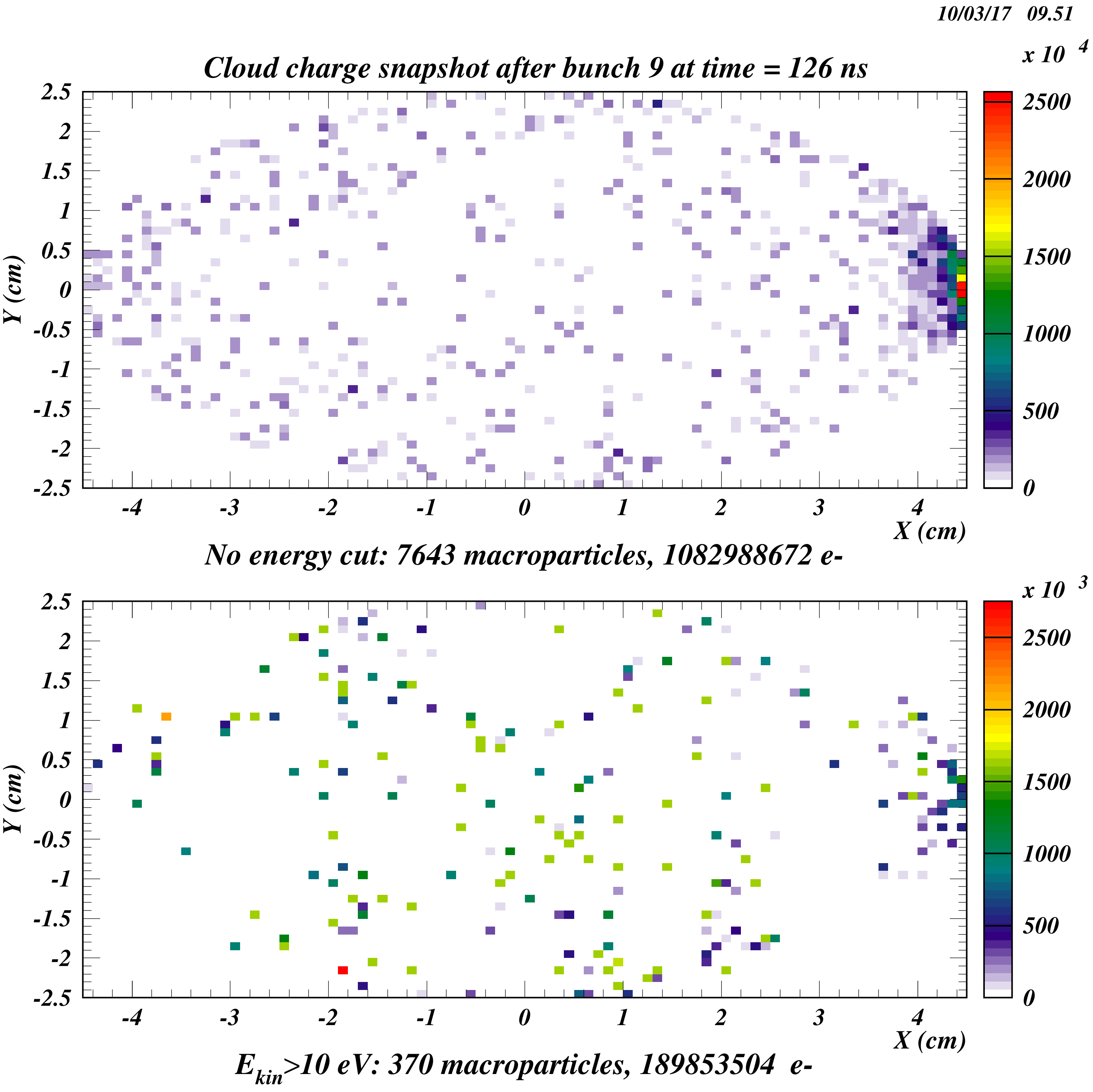
Cloud charge snapshot after bunch 8 at time = 112 ns

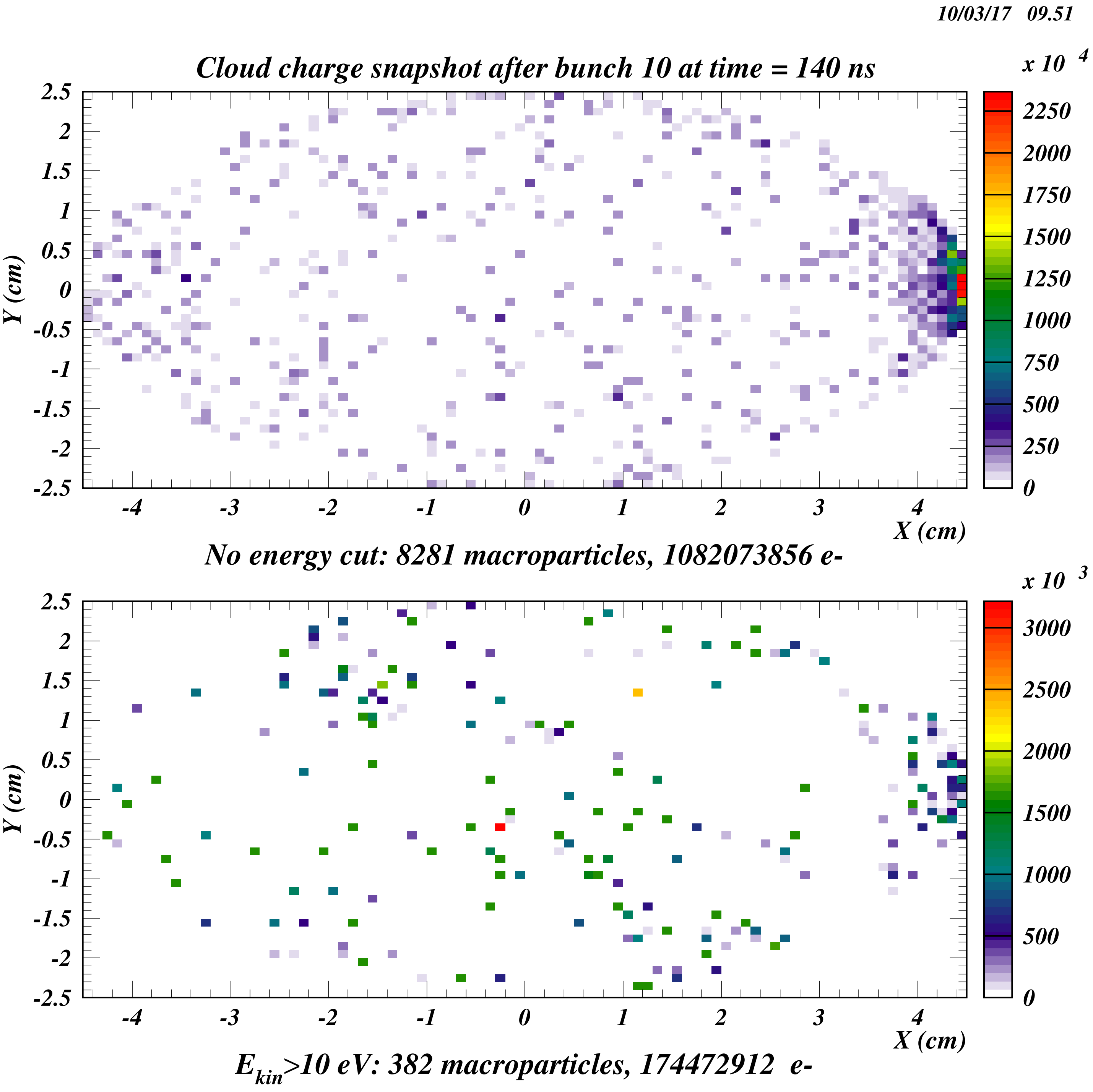


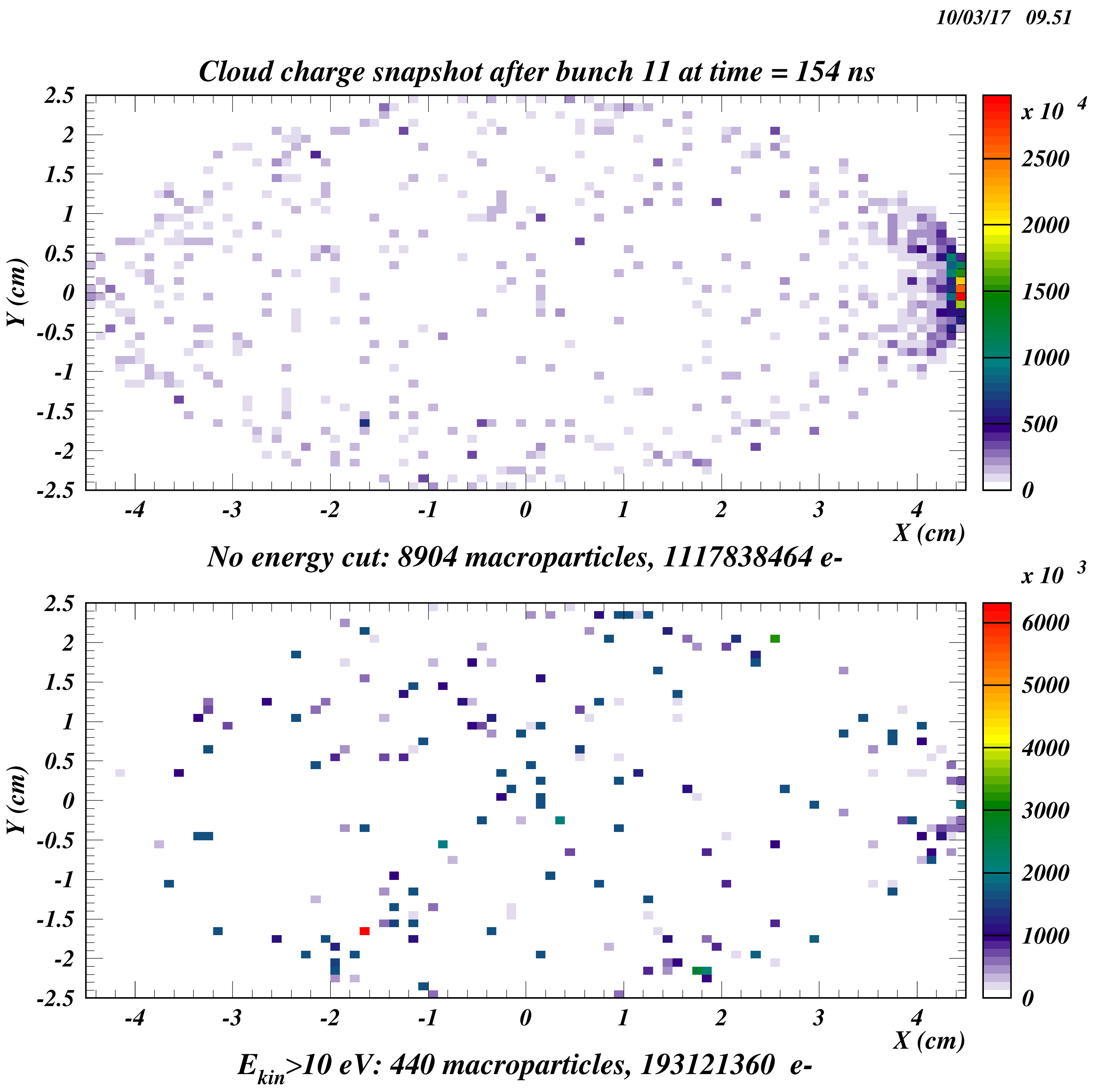
No energy cut: 6923 macroparticles, 1056457152 e-



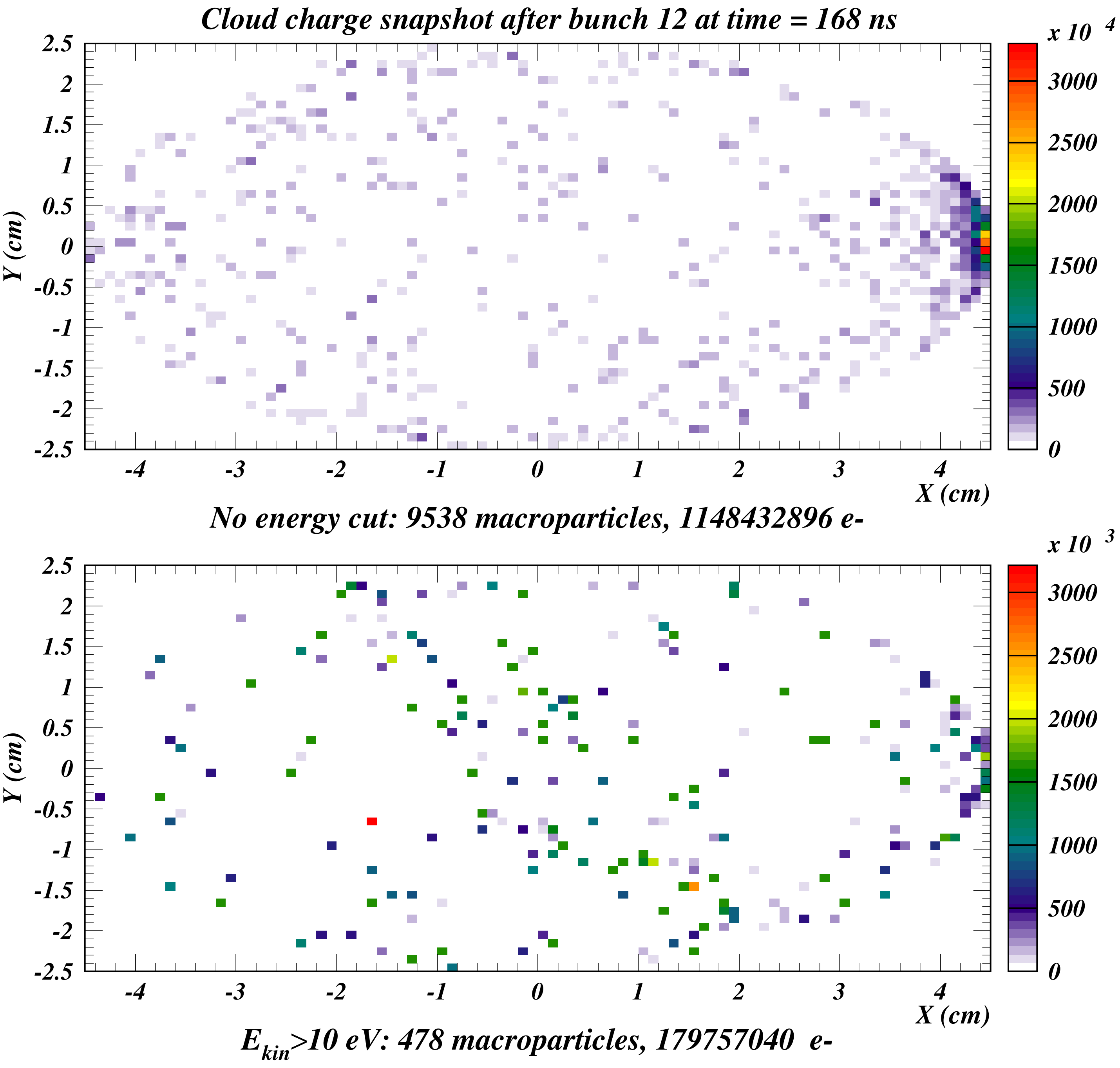
E_{kin}>10 eV: 341 macroparticles, 182333664 e-


10/03/17 09.51
Cloud charge snapshot after bunch 9 at time = 126 ns
x 10^4
Y (cm)
X (cm)
No energy cut: 7643 macroparticles, 1082988672 e-
x 10^3
Y (cm)
X (cm)
E_kin>10 eV: 370 macroparticles, 189853504 e-

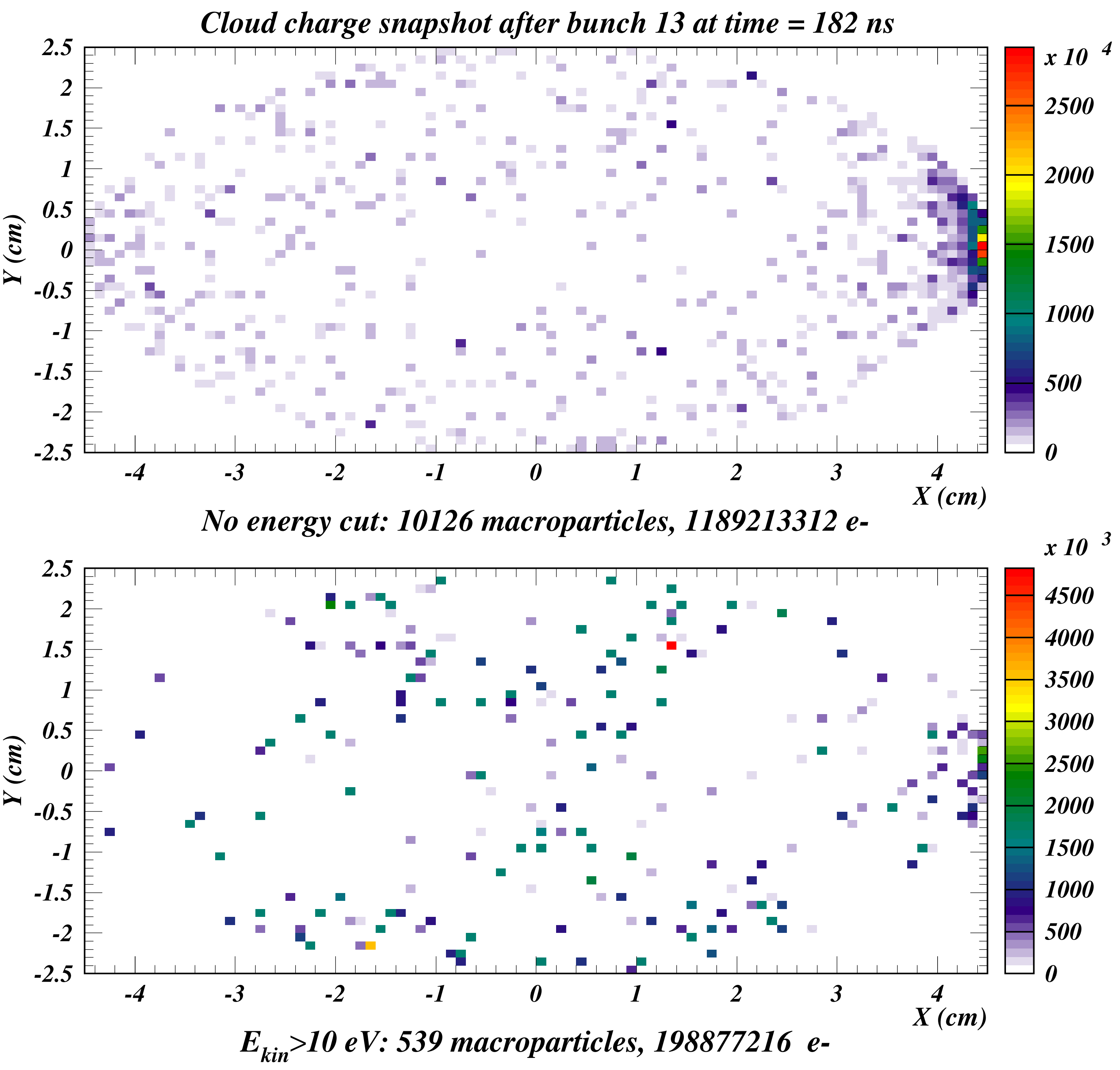

10/03/17 09.51
Cloud charge snapshot after bunch 10 at time = 140 ns
x 10 4
2250
2000
1750
1500
1250
1000
750
500
250
0
Y (cm)
X (cm)
No energy cut: 8281 macroparticles, 1082073856 e-
x 10 3
3000
2500
2000
1500
1000
500
0
Y (cm)
X (cm)
E_kin>10 eV: 382 macroparticles, 174472912 e-

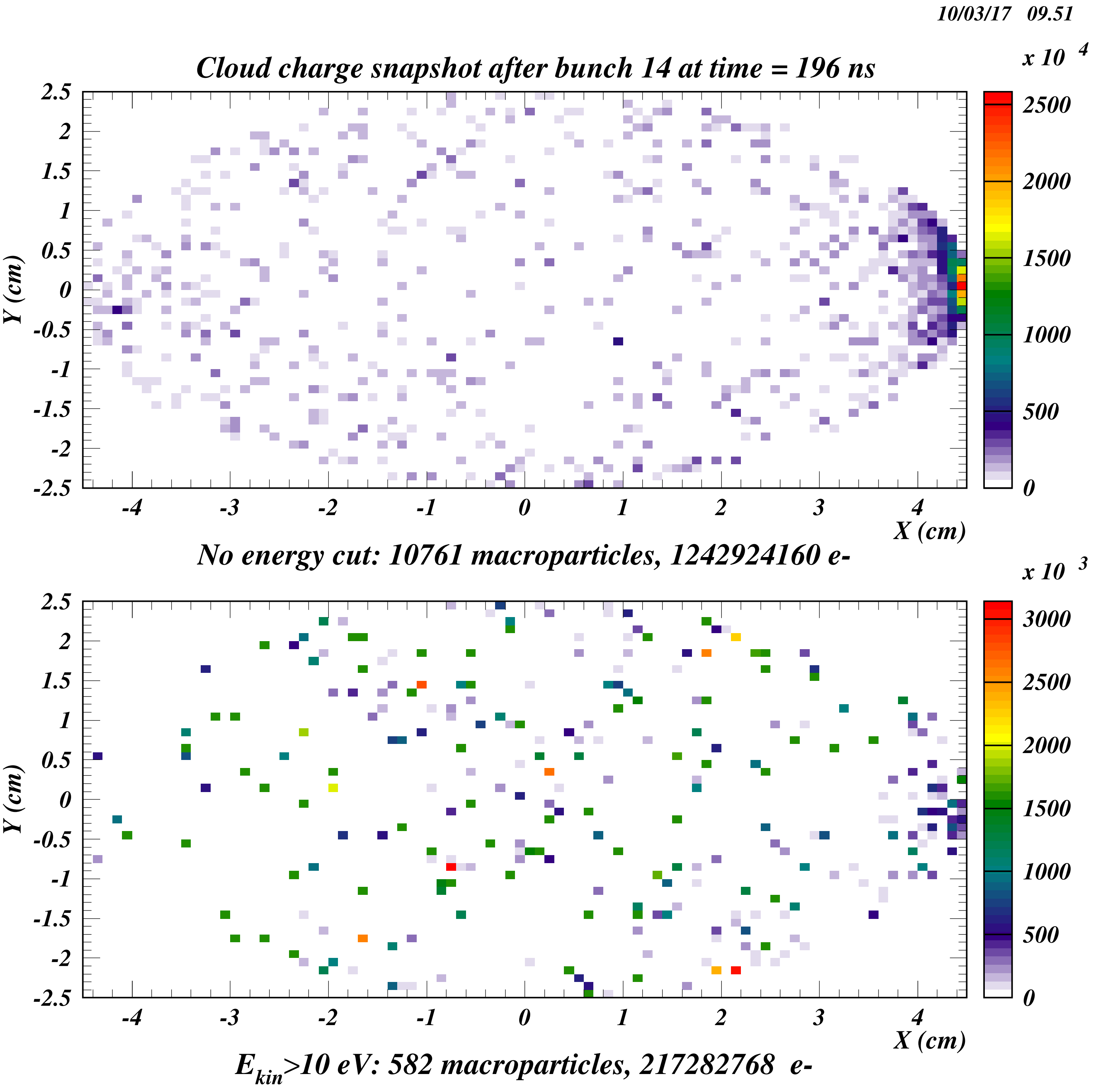

10/03/17 09.51
Cloud charge snapshot after bunch 11 at time = 154 ns
Y (cm)
X (cm)
x 10 4
2500
2000
1500
1000
500
0
No energy cut: 8904 macroparticles, 1117838464 e-
x 10 3
6000
5000
4000
3000
2000
1000
E_kin>10 eV: 440 macroparticles, 193121360 e-

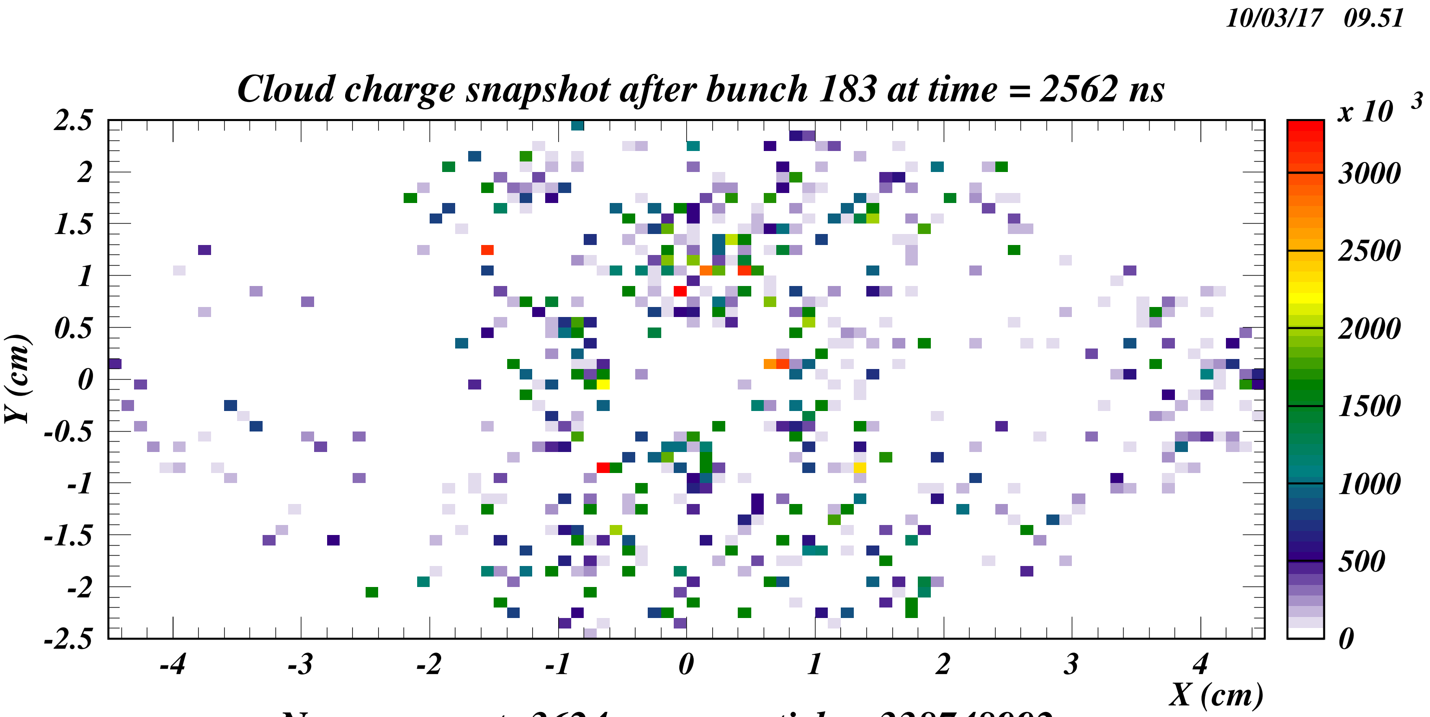
10/03/17 09.51


Cloud charge snapshot after bunch 12 at time = 168 ns
x 10^4
Y (cm)
X (cm)
No energy cut: 9538 macroparticles, 1148432896 e-
x 10^3
Y (cm)
X (cm)
E_kin>10 eV: 478 macroparticles, 179757040 e-

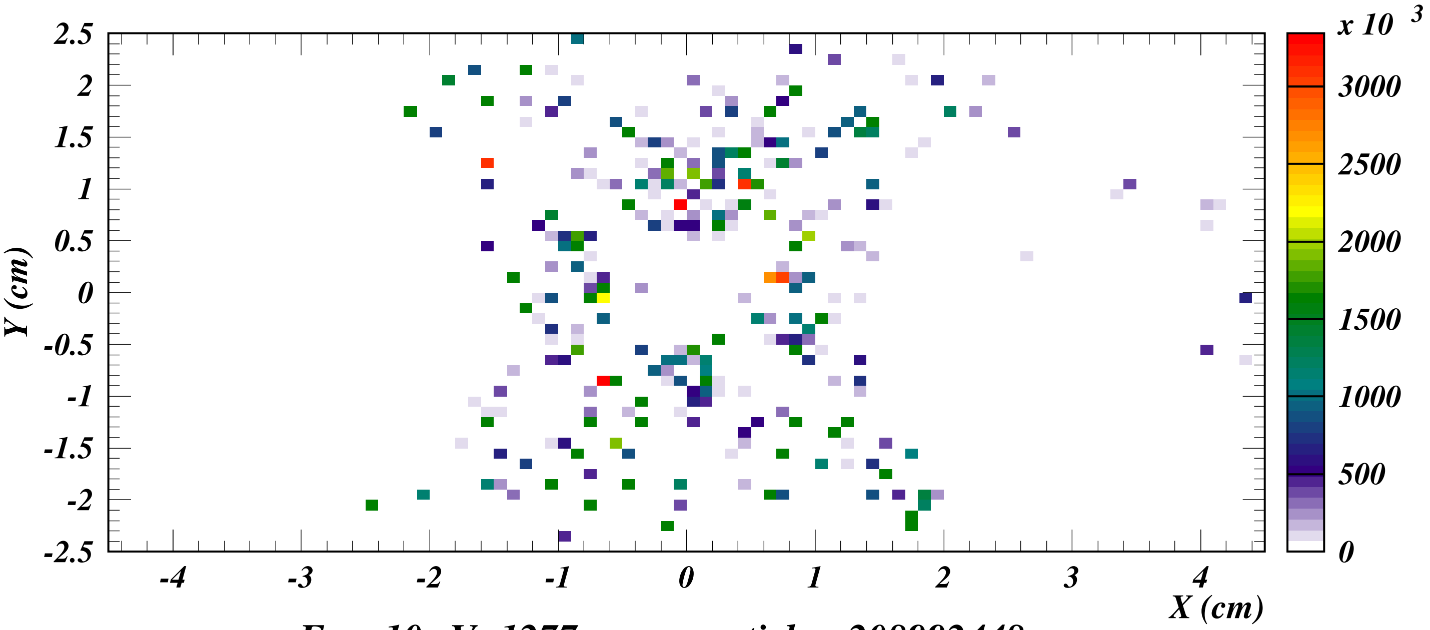
10/03/17 09.51


Cloud charge snapshot after bunch 13 at time = 182 ns
Y (cm)
X (cm)
x 10^4
No energy cut: 10126 macroparticles, 1189213312 e-
Y (cm)
X (cm)
x 10^3
E_kin>10 eV: 539 macroparticles, 198877216 e-

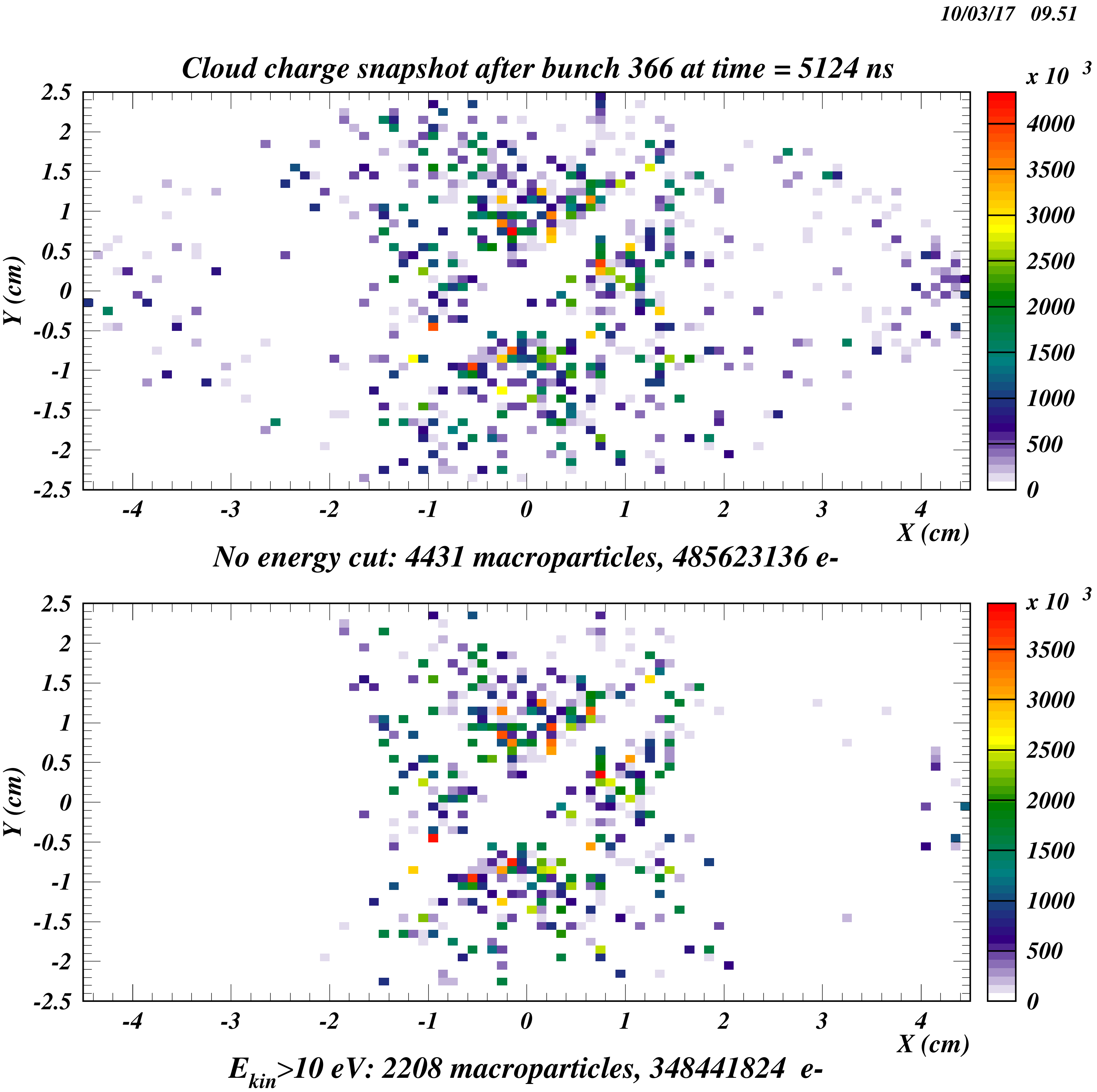

10/03/17 09.51
Cloud charge snapshot after bunch 14 at time = 196 ns
x 10^4
Y (cm)
X (cm)
No energy cut: 10761 macroparticles, 1242924160 e-
x 10^3
Y (cm)
X (cm)
E_kin>10 eV: 582 macroparticles, 217282768 e-

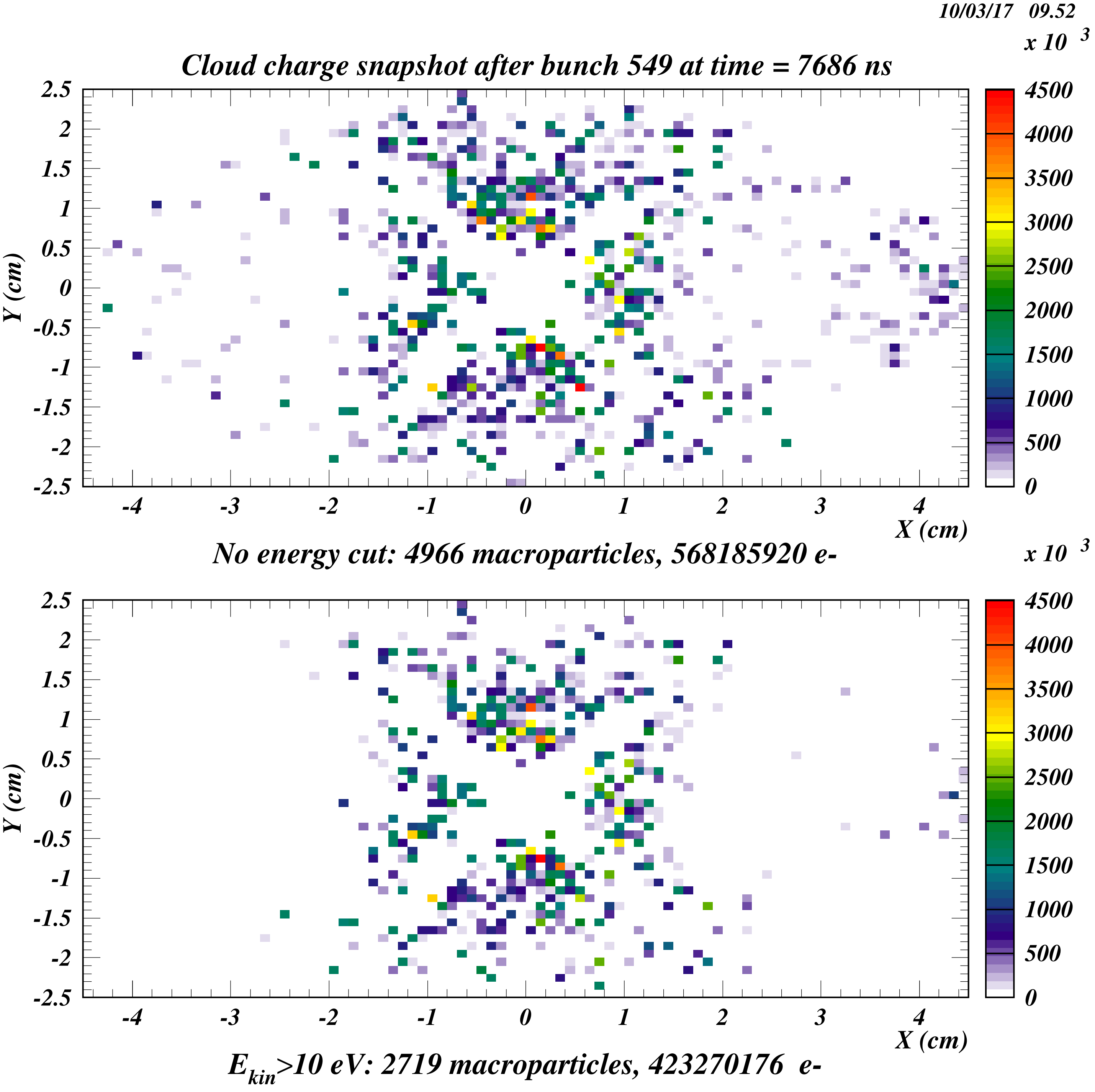


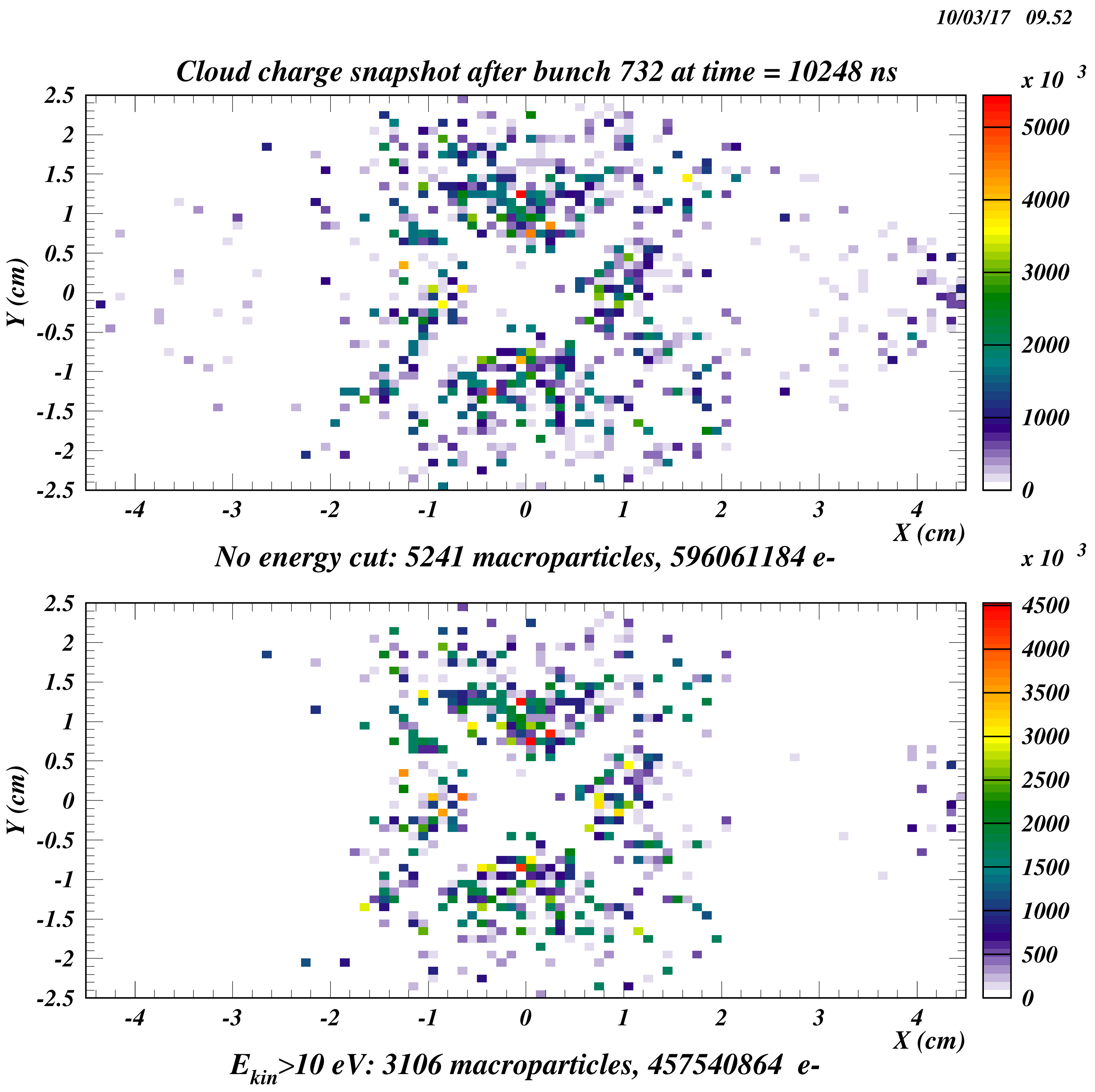
No energy cut: 3624 macroparticles, 338748992 e-



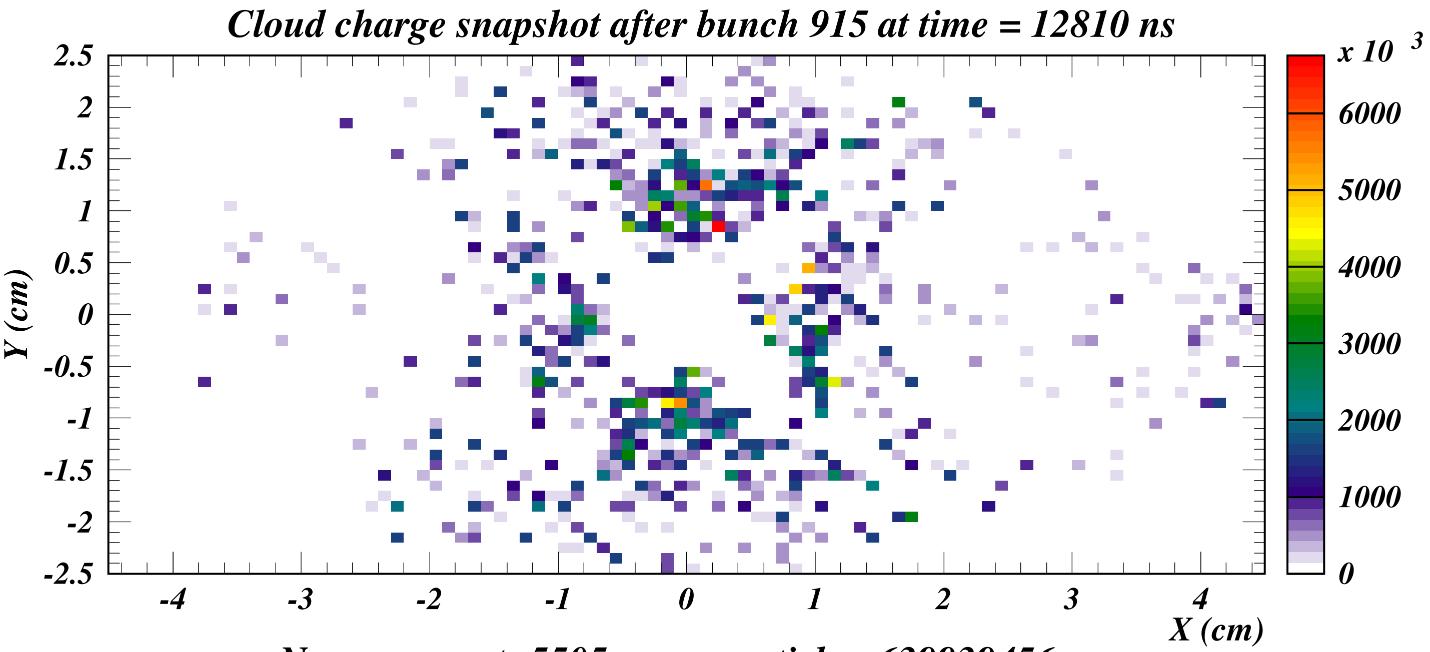
E_{kin}>10 eV: 1277 macroparticles, 208992448 e-


10/03/17 09.51
Cloud charge snapshot after bunch 366 at time = 5124 ns
x 10 3
4000
3500
3000
2500
2000
1500
1000
500
0
Y (cm)
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
-4
-3
-2
-1
0
1
2
3
4
X (cm)
No energy cut: 4431 macroparticles, 485623136 e-
x 10 3
3500
3000
2500
2000
1500
1000
500
0
Y (cm)
X (cm)
E_kin>10 eV: 2208 macroparticles, 348441824 e-

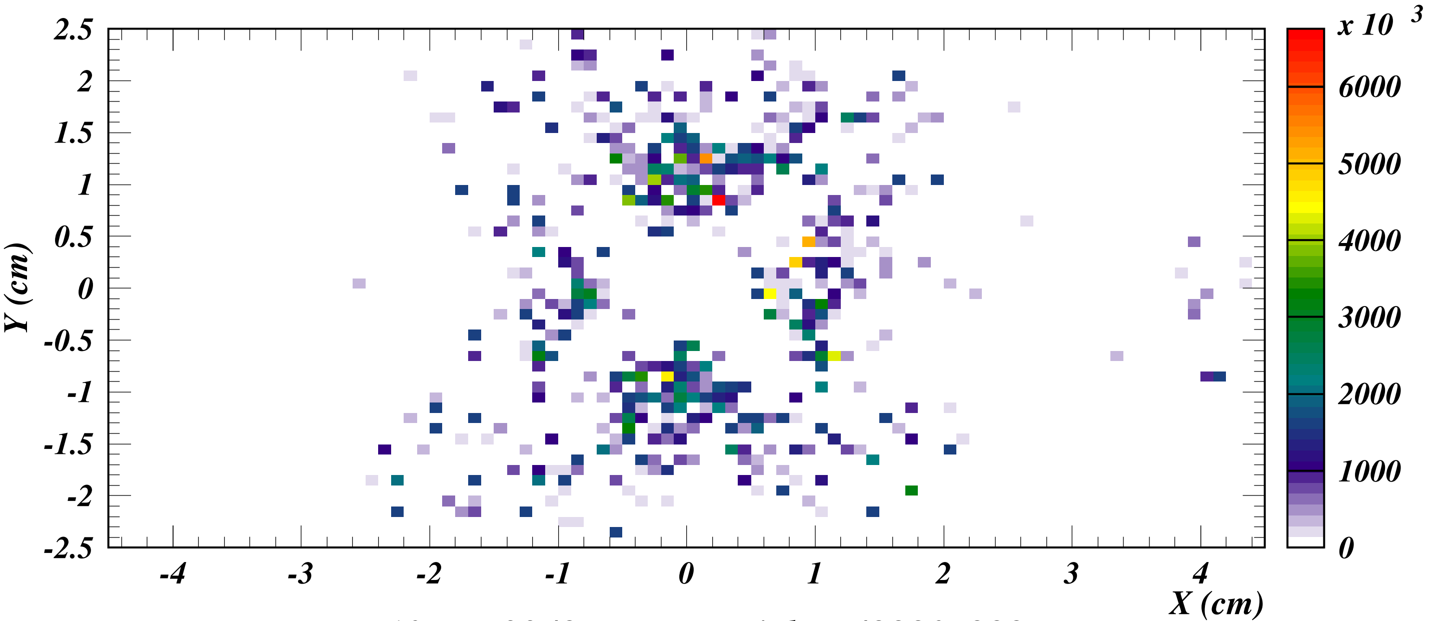

10/03/17 09.52
Cloud charge snapshot after bunch 549 at time = 7686 ns
x 10^3
Y (cm)
X (cm)
No energy cut: 4966 macroparticles, 568185920 e-
x 10^3
Y (cm)
X (cm)
E_kin>10 eV: 2719 macroparticles, 423270176 e-


10/03/17 09.52
Cloud charge snapshot after bunch 732 at time = 10248 ns
x 10^3
Y (cm)
X (cm)
No energy cut: 5241 macroparticles, 596061184 e-
x 10^3
Y (cm)
X (cm)
E_{kin}>10 eV: 3106 macroparticles, 457540864 e-

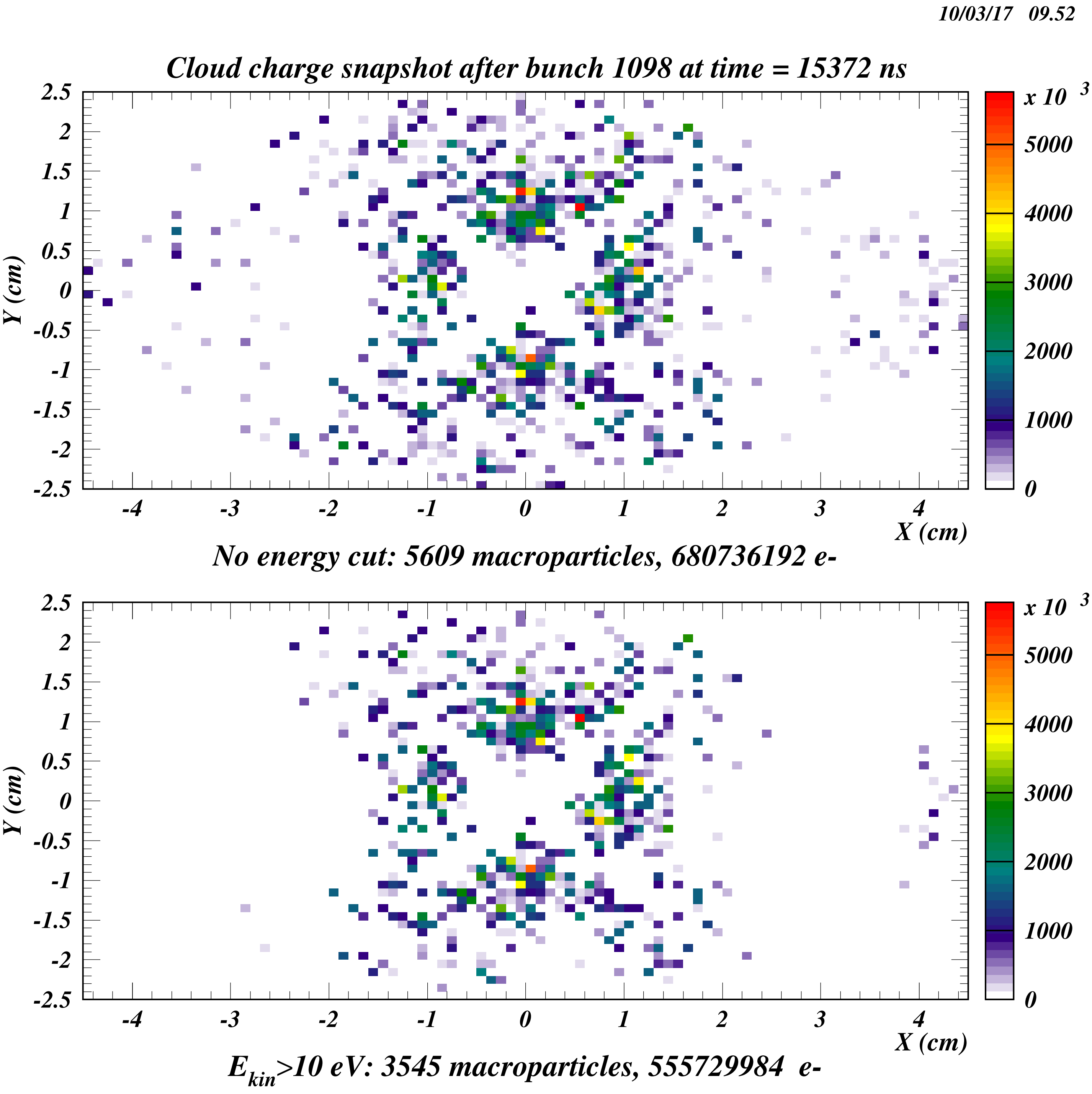
10/03/17 09.52



No energy cut: 5505 macroparticles, 639939456 e-

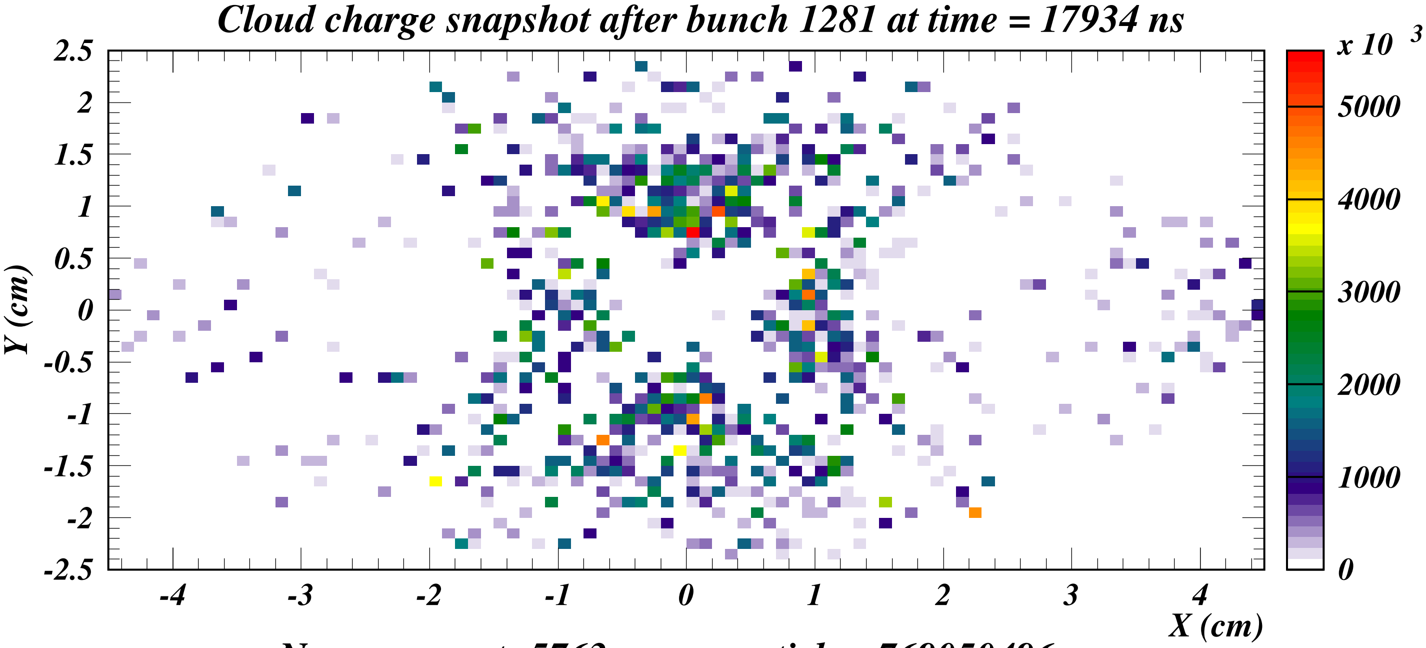


E_{kin}>10 eV: 3348 macroparticles, 498805888 e-

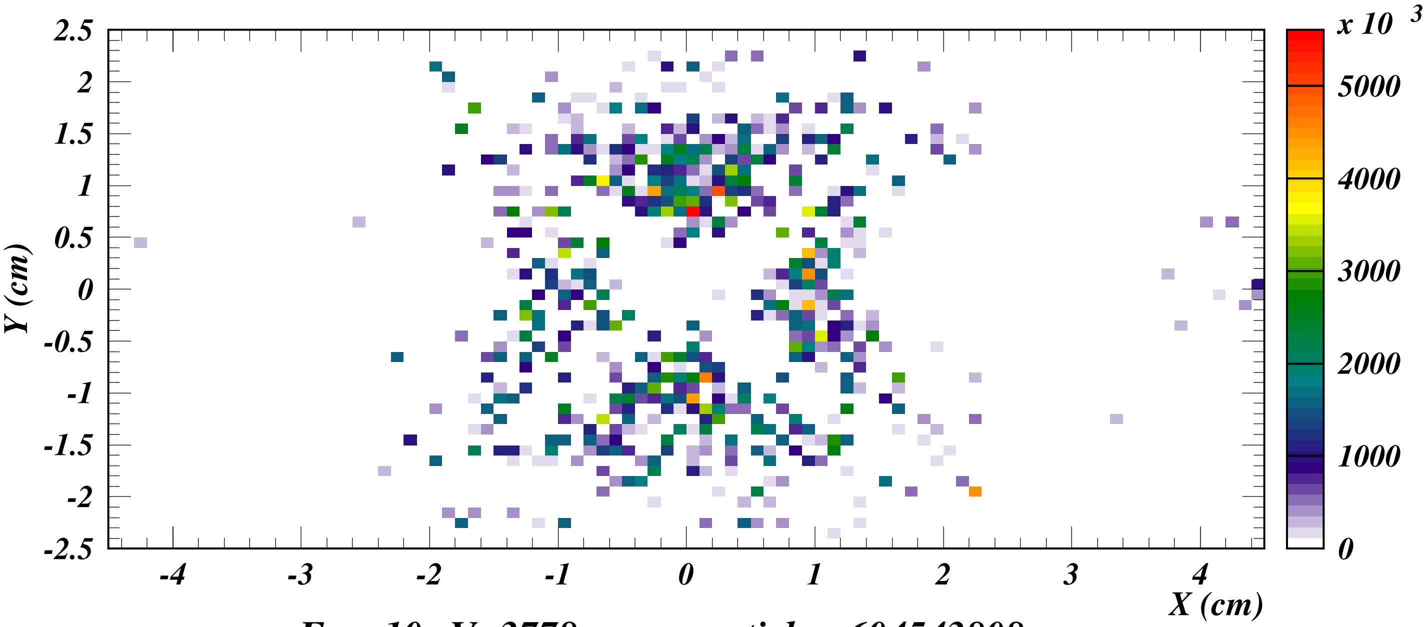

10/03/17 09.52
Cloud charge snapshot after bunch 1098 at time = 15372 ns
Y (cm)
X (cm)
x 10 3
5000
4000
3000
2000
1000
0
No energy cut: 5609 macroparticles, 680736192 e-
Y (cm)
X (cm)
x 10 3
5000
4000
3000
2000
1000
0
E_kin>10 eV: 3545 macroparticles, 555729984 e-

10/03/17   09.52

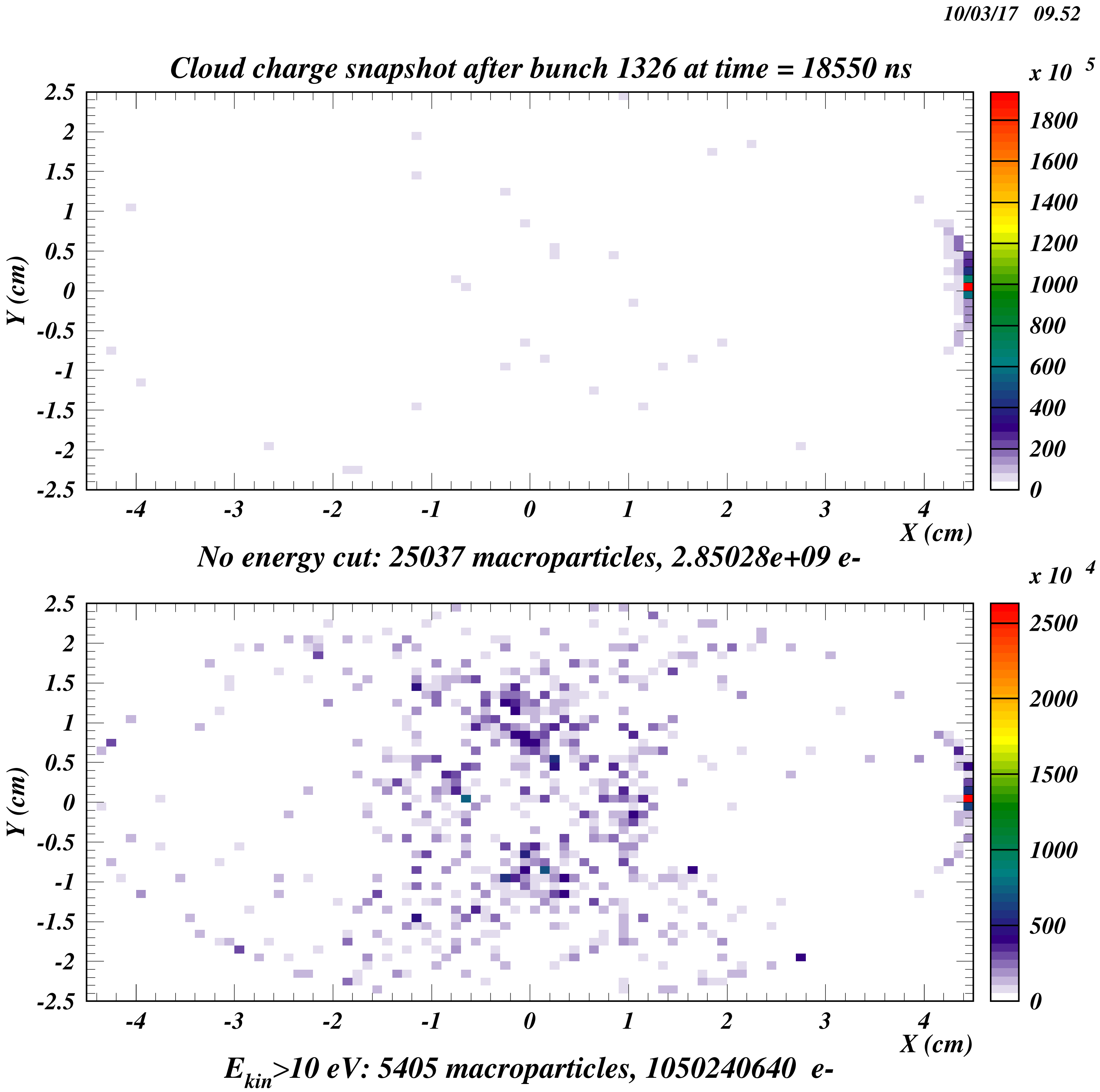
Cloud charge snapshot after bunch 1281 at time = 17934 ns

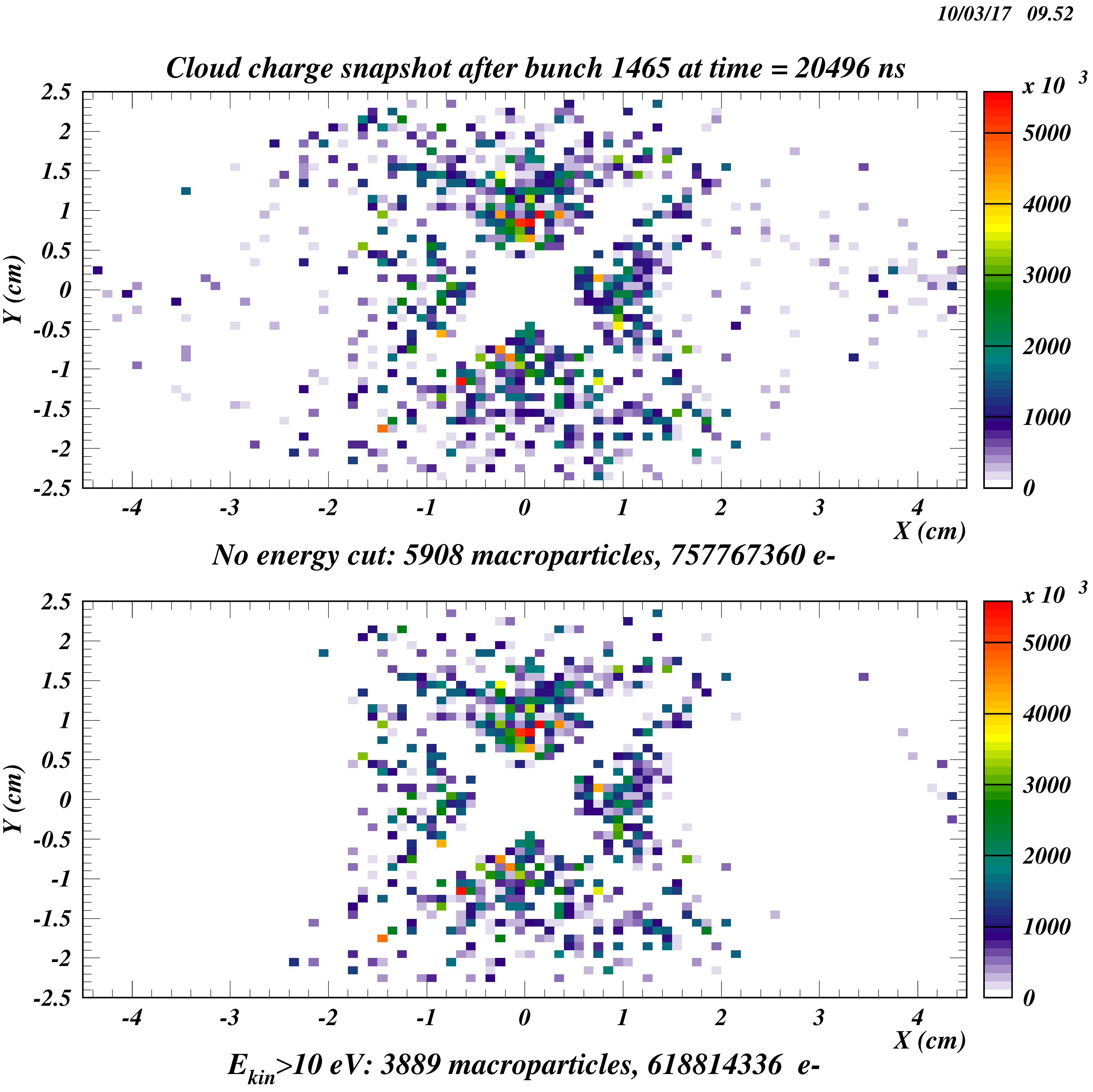


No energy cut: 5763 macroparticles, 769050496 e-

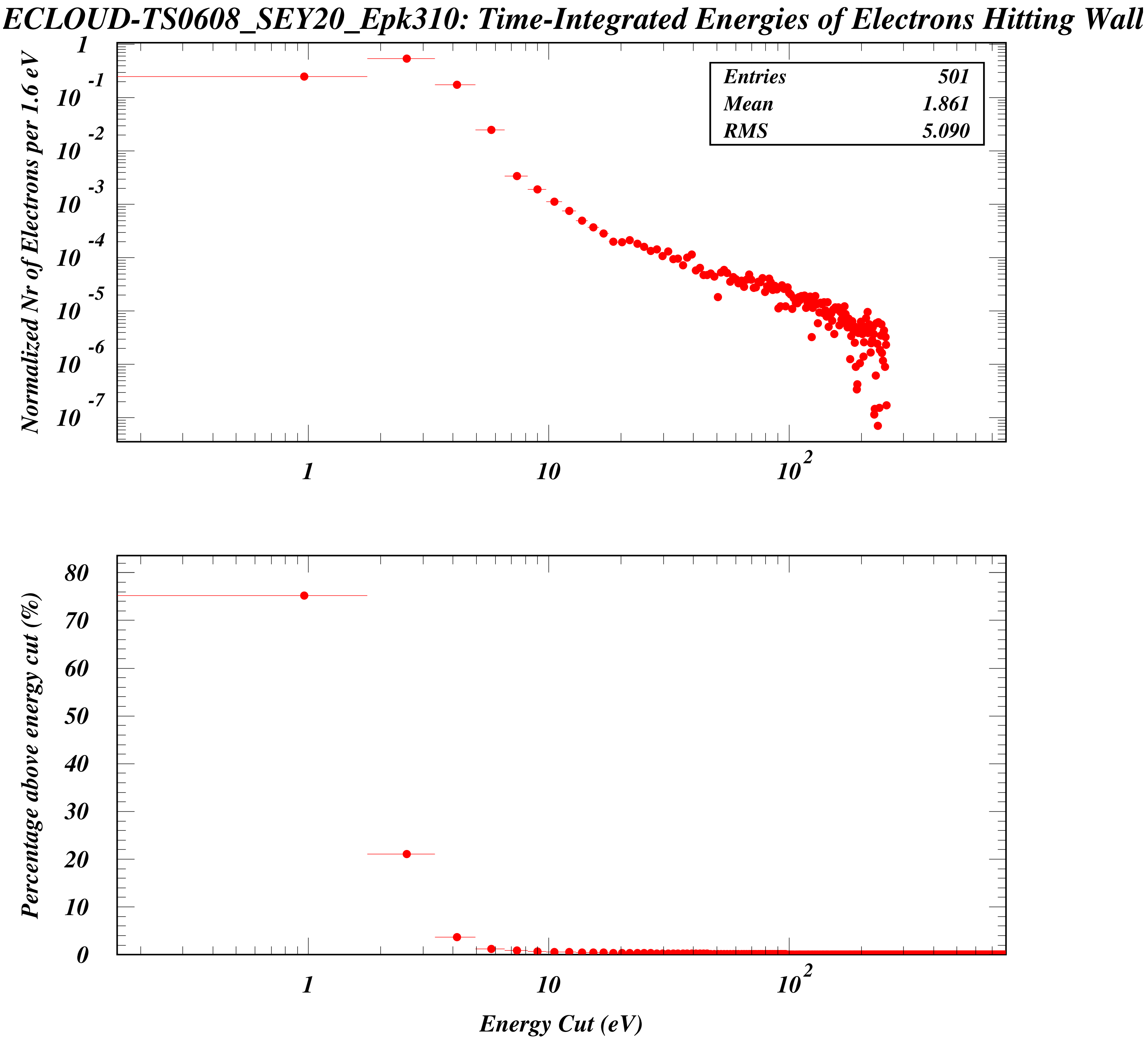


E_{kin}>10 eV: 3778 macroparticles, 604543808 e-


10/03/17 09.52
Cloud charge snapshot after bunch 1326 at time = 18550 ns
x 10 5
Y (cm)
X (cm)
No energy cut: 25037 macroparticles, 2.85028e+09 e-
x 10 4
Y (cm)
X (cm)
E_{kin}>10 eV: 5405 macroparticles, 1050240640 e-

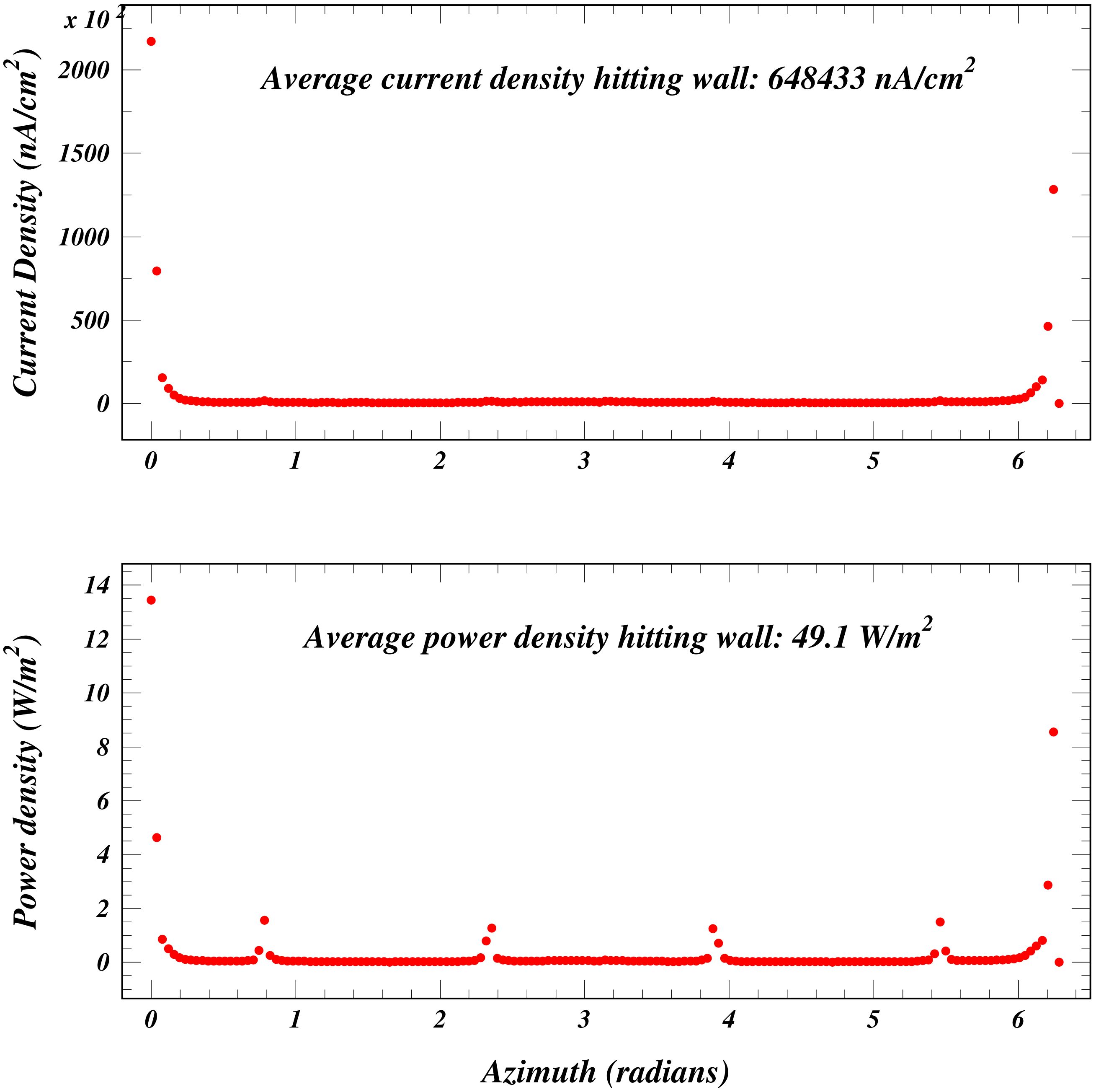

10/03/17 09.52
Cloud charge snapshot after bunch 1465 at time = 20496 ns
Y (cm)
X (cm)
x 10 3
No energy cut: 5908 macroparticles, 757767360 e-
Y (cm)
X (cm)
x 10 3
E_kin>10 eV: 3889 macroparticles, 618814336 e-

10/03/17   09.52


ECLOUD-TS0608_SEY20_Epk310: Time-Integrated Energies of Electrons Hitting Wall
Normalized Nr of Electrons per 1.6 eV
1
10 -1
10 -2
10 -3
10 -4
10 -5
10 -6
10 -7
Entries 501
Mean 1.861
RMS 5.090
1
10
10 2
Percentage above energy cut (%)
80
70
60
50
40
30
20
10
0
Energy Cut (eV)

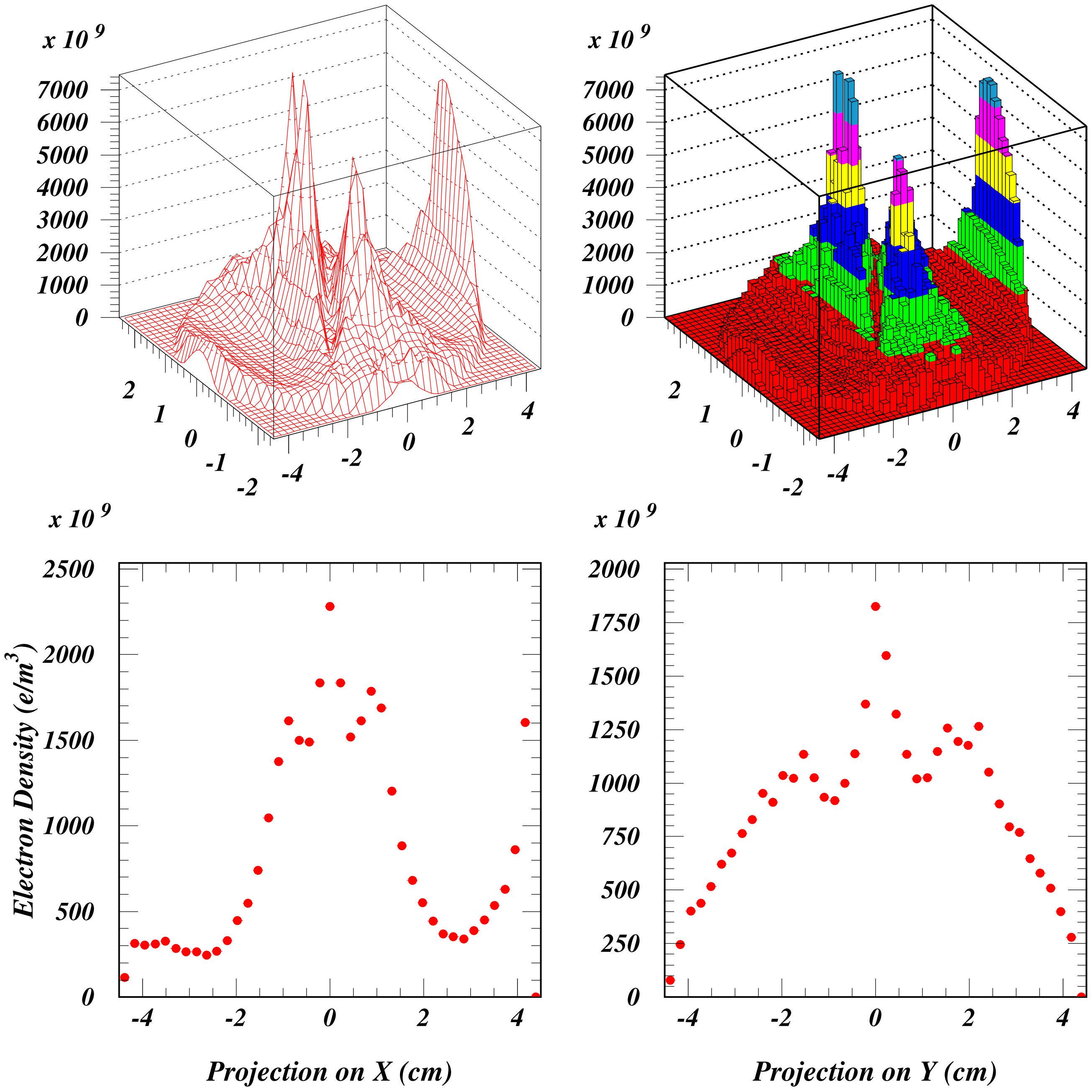
10/03/17 09.52

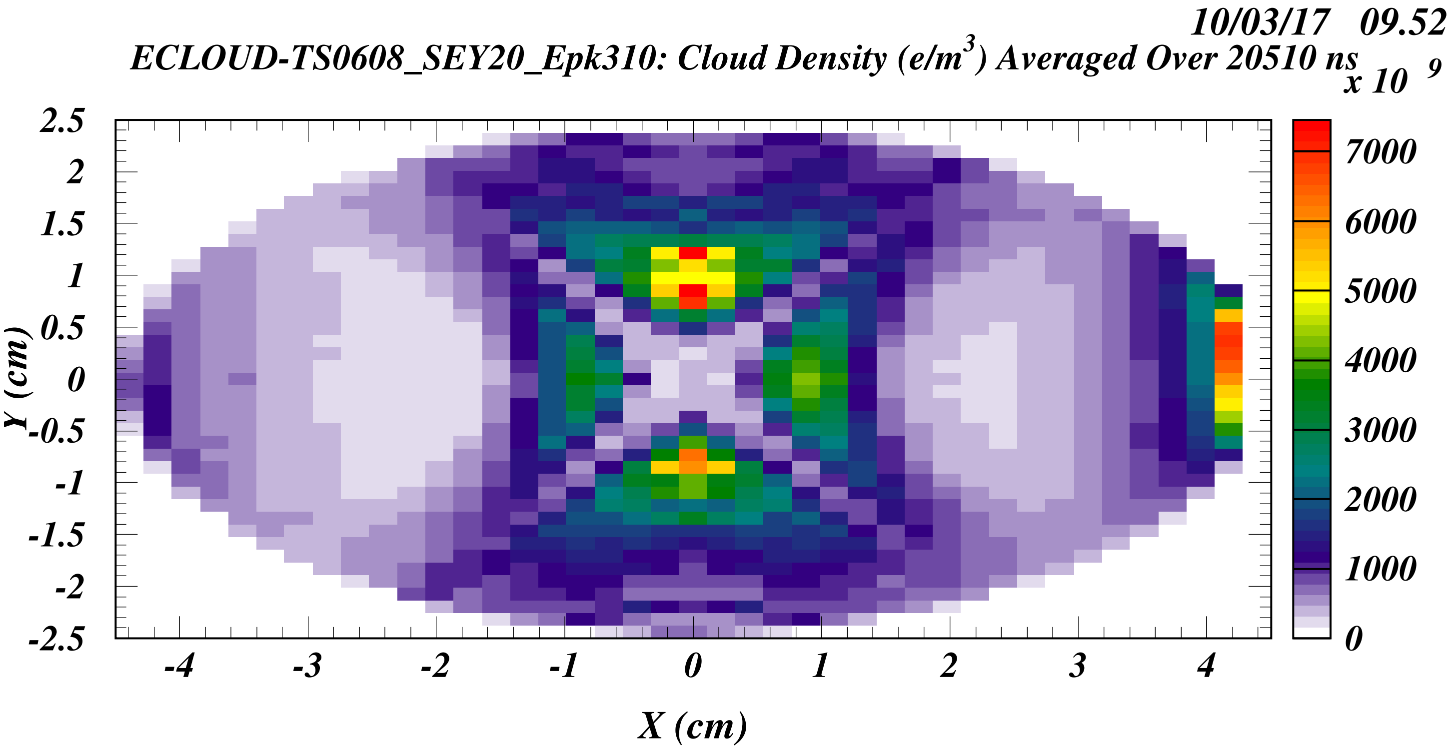
ECLOUD-TS0608_SEY20_Epk310: Time-Integrated Energies of Electrons Hitting Wall

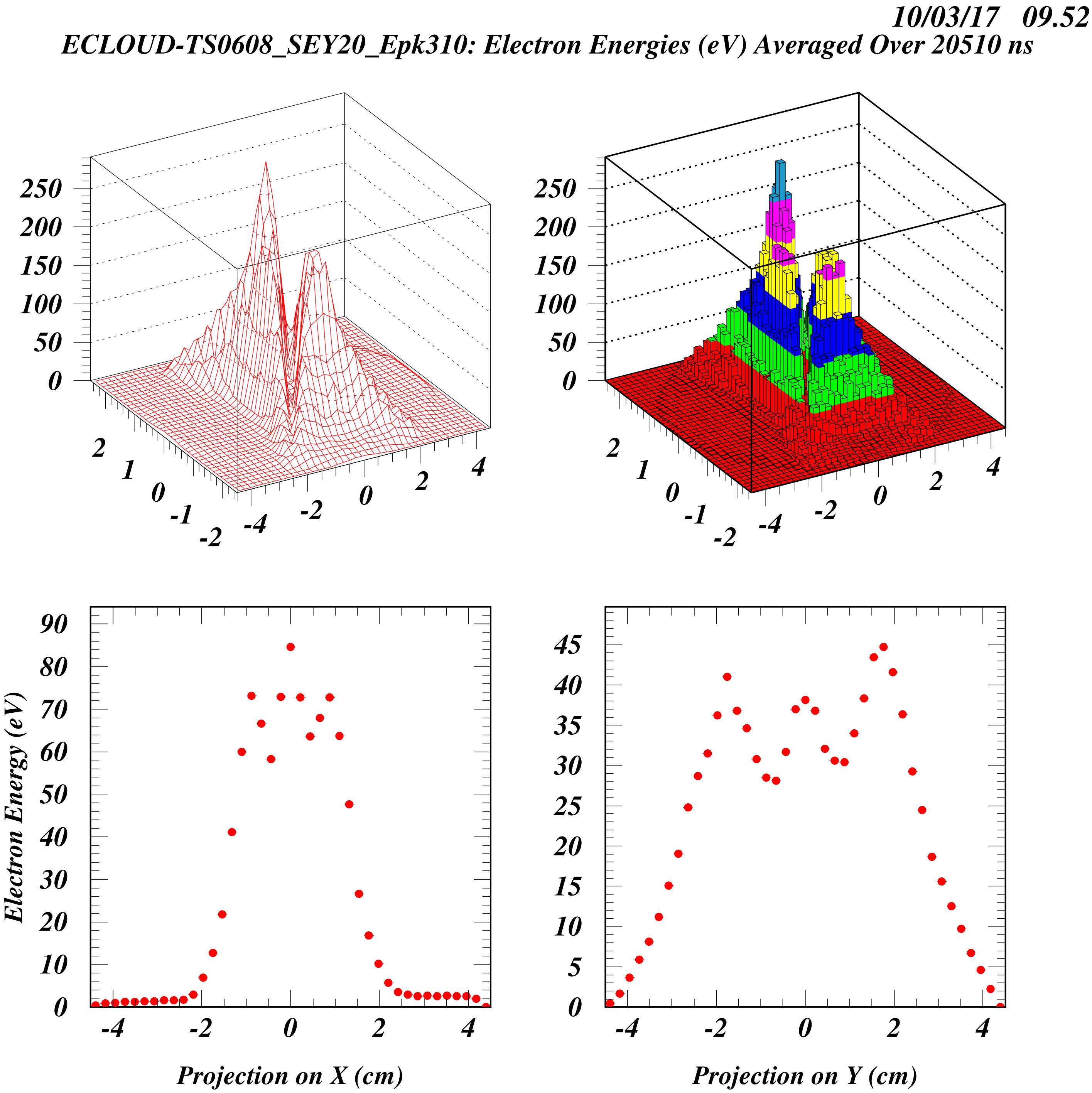


10/03/17 09.52

ECLOUD-TS0608_SEY20_Epk310: Cloud Density (e/m^3) Averaged Over 20510 ns

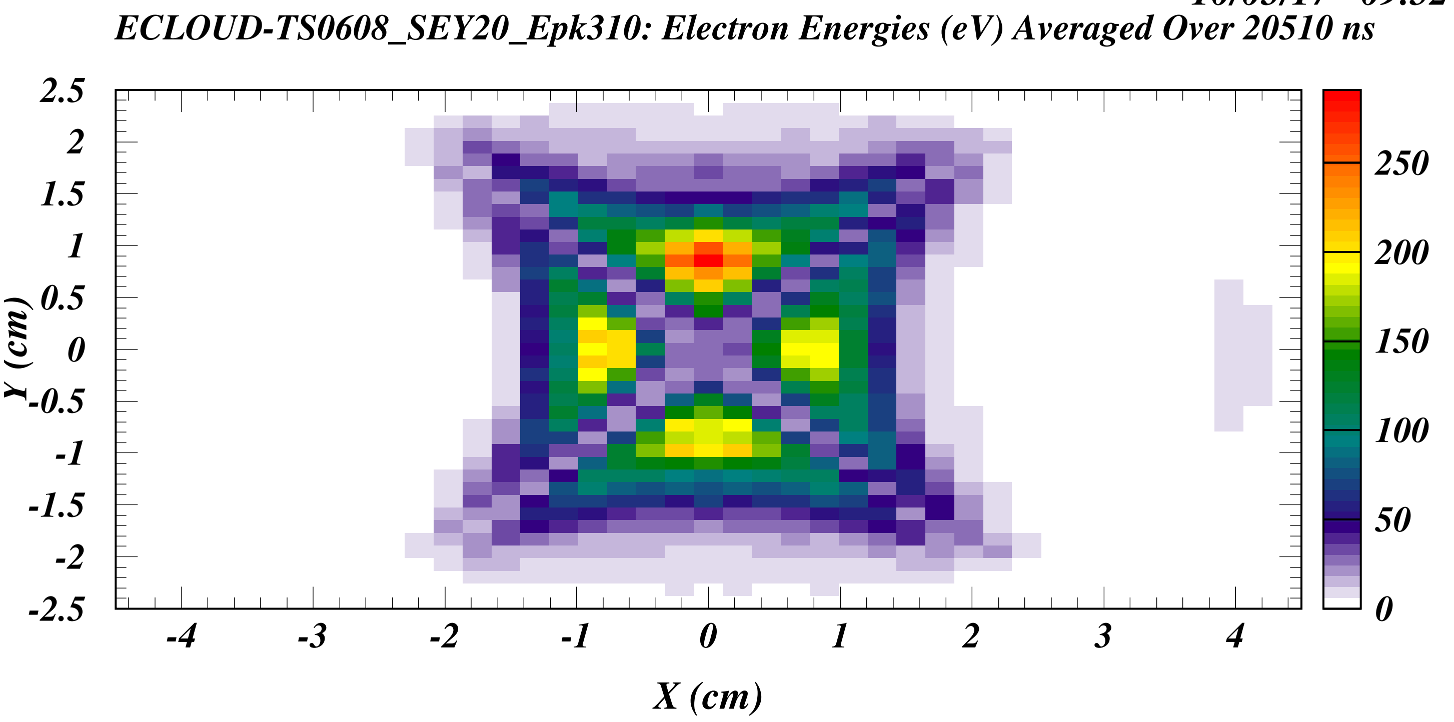



10/03/17 09.52
ECLOUD-TS0608_SEY20_Epk310: Cloud Density (e/m^3) Averaged Over 20510 ns
x 10^9
Y (cm)
X (cm)
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
-4
-3
-2
-1
0
1
2
3
4
7000
6000
5000
4000
3000
2000
1000
0

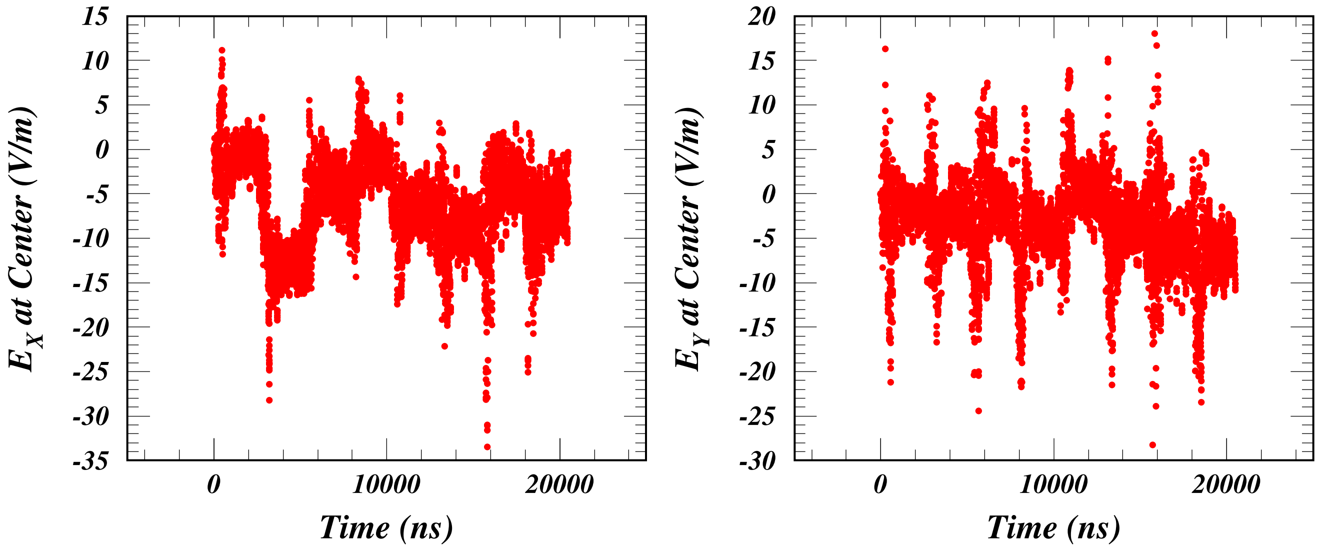


10/03/17 09.52
ECLOUD-TS0608_SEY20_Epk310: Electron Energies (eV) Averaged Over 20510 ns
Electron Energy (eV)
Projection on X (cm)
Projection on Y (cm)

10/03/17 09.52


ECLOUD-TS0608_SEY20_Epk310: Electron Energies (eV) Averaged Over 20510 ns
Y (cm)
X (cm)
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
-4
-3
-2
-1
0
1
2
3
4
250
200
150
100
50
0

ECLOUD-TS0608_SEY20_Epk310: Electric Field at Beam



ECLOUD-TS0608_SEY20_Epk310Electric Field Gradients at Beam