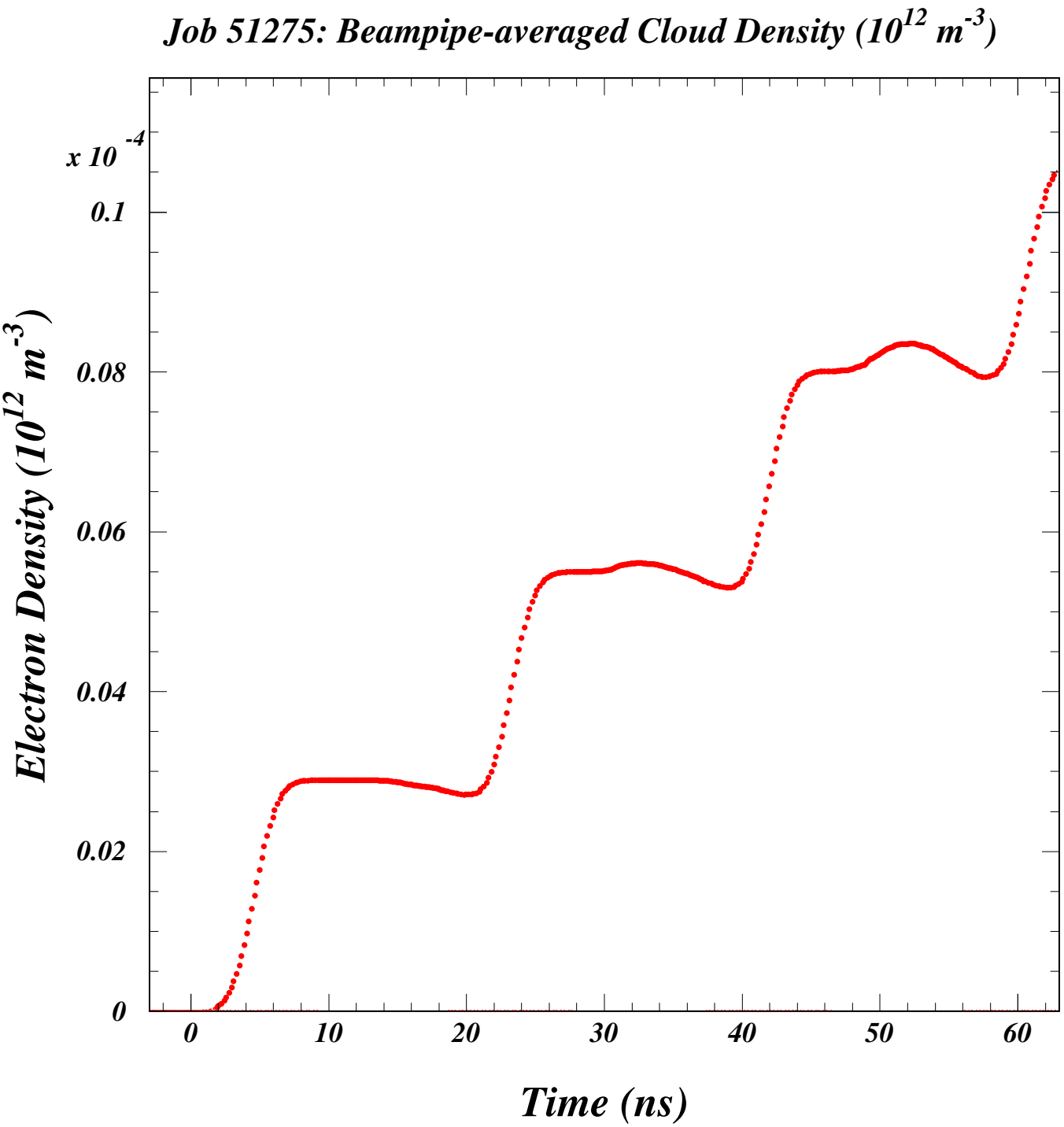
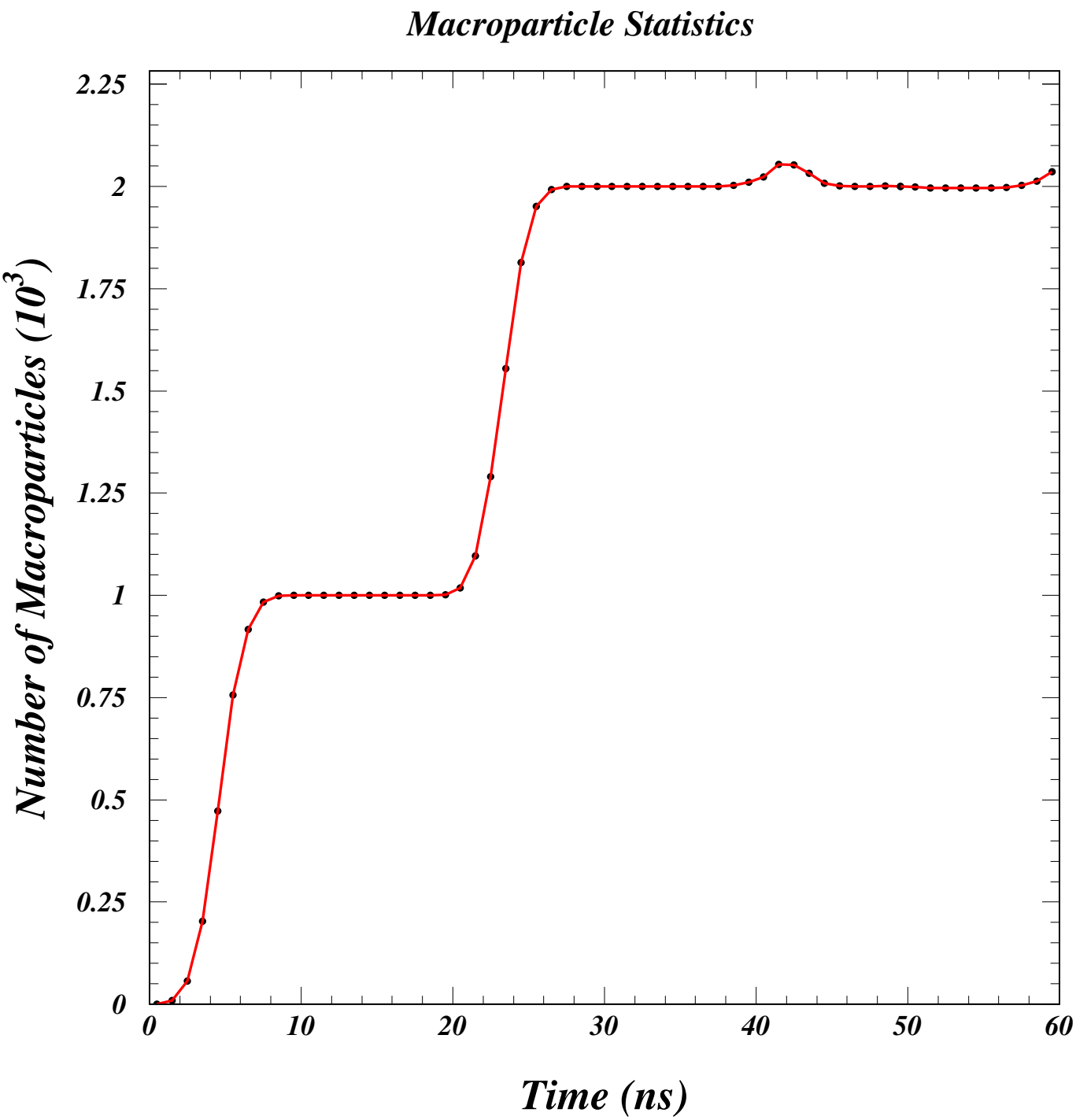
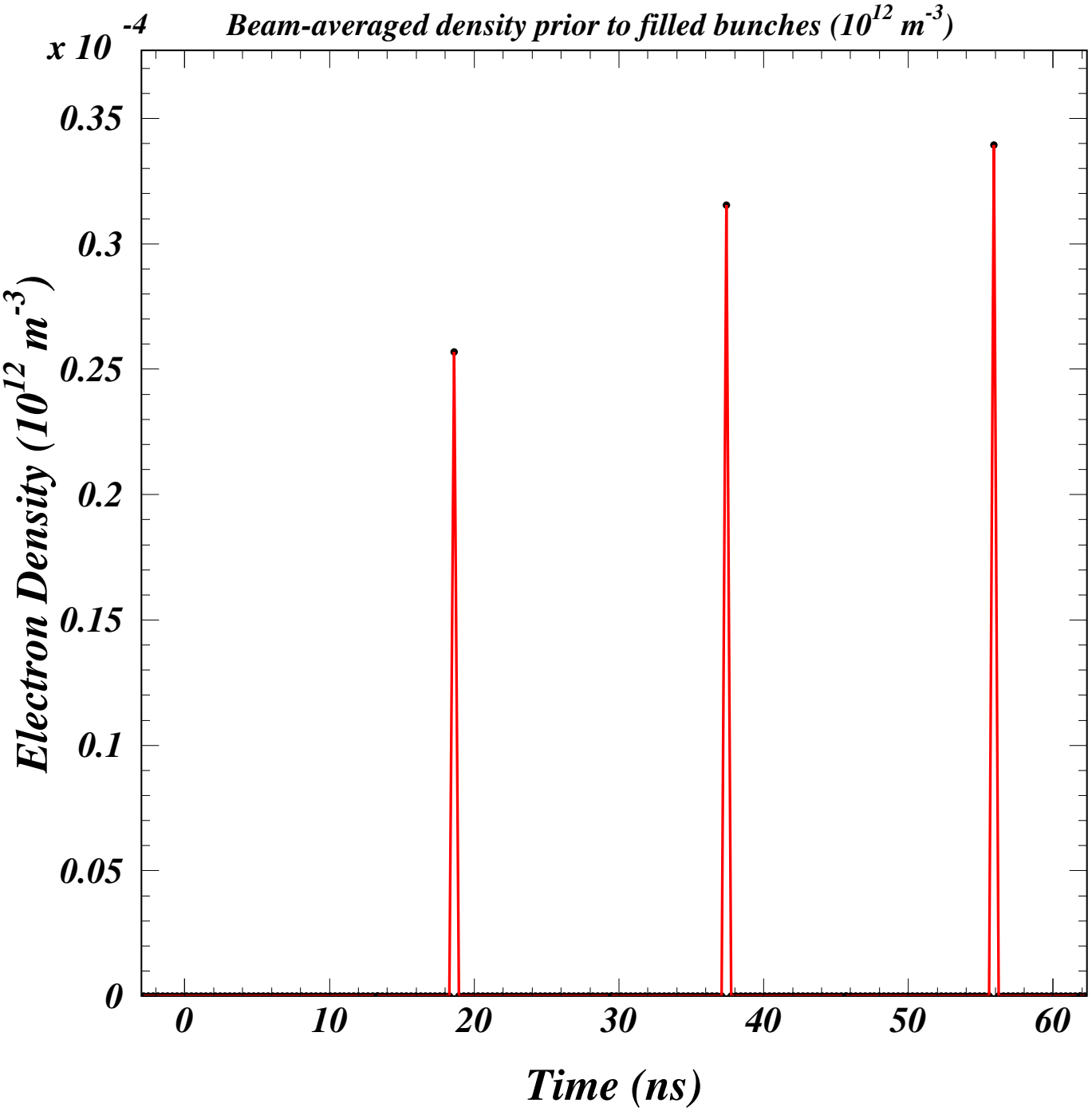
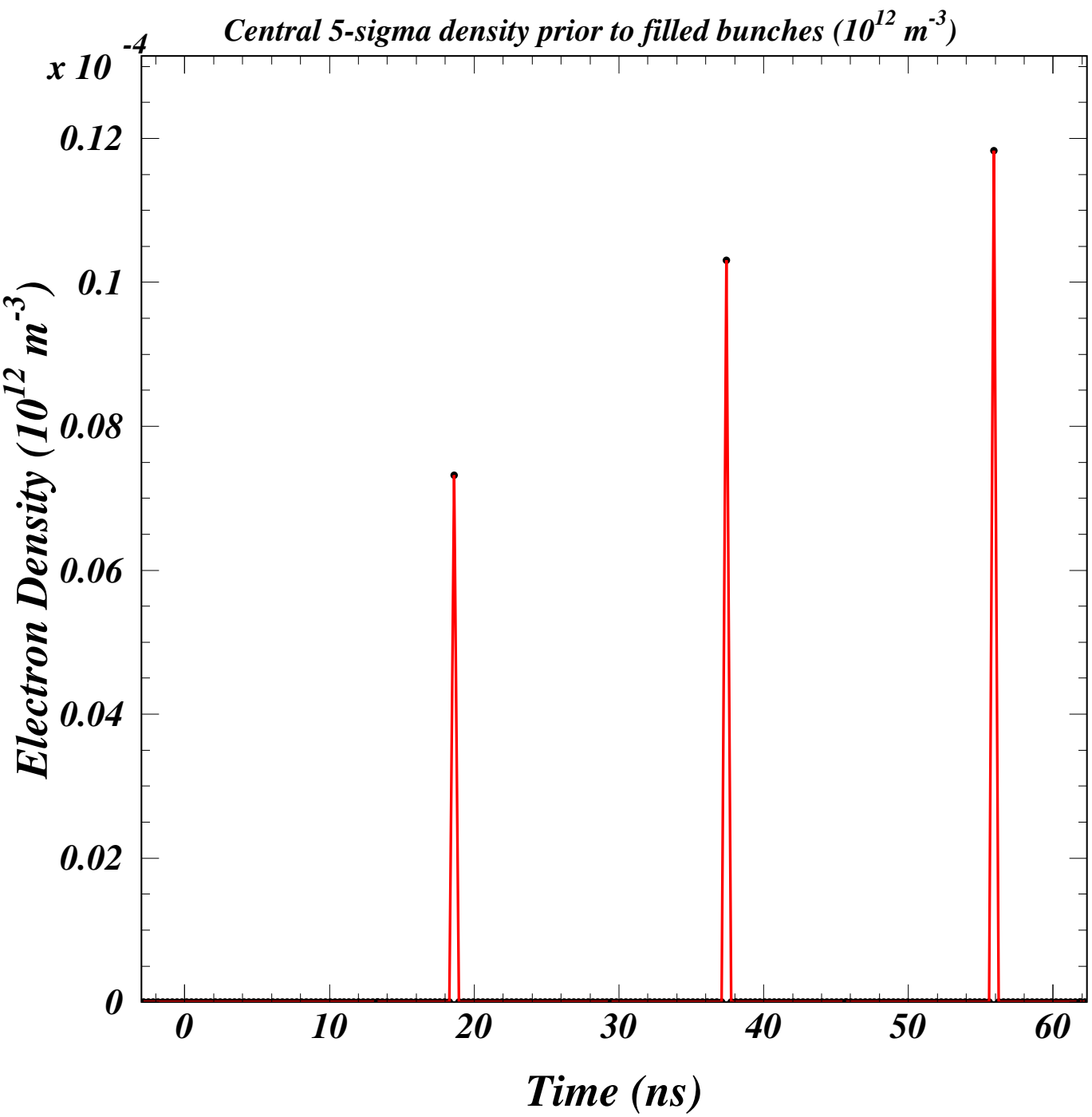
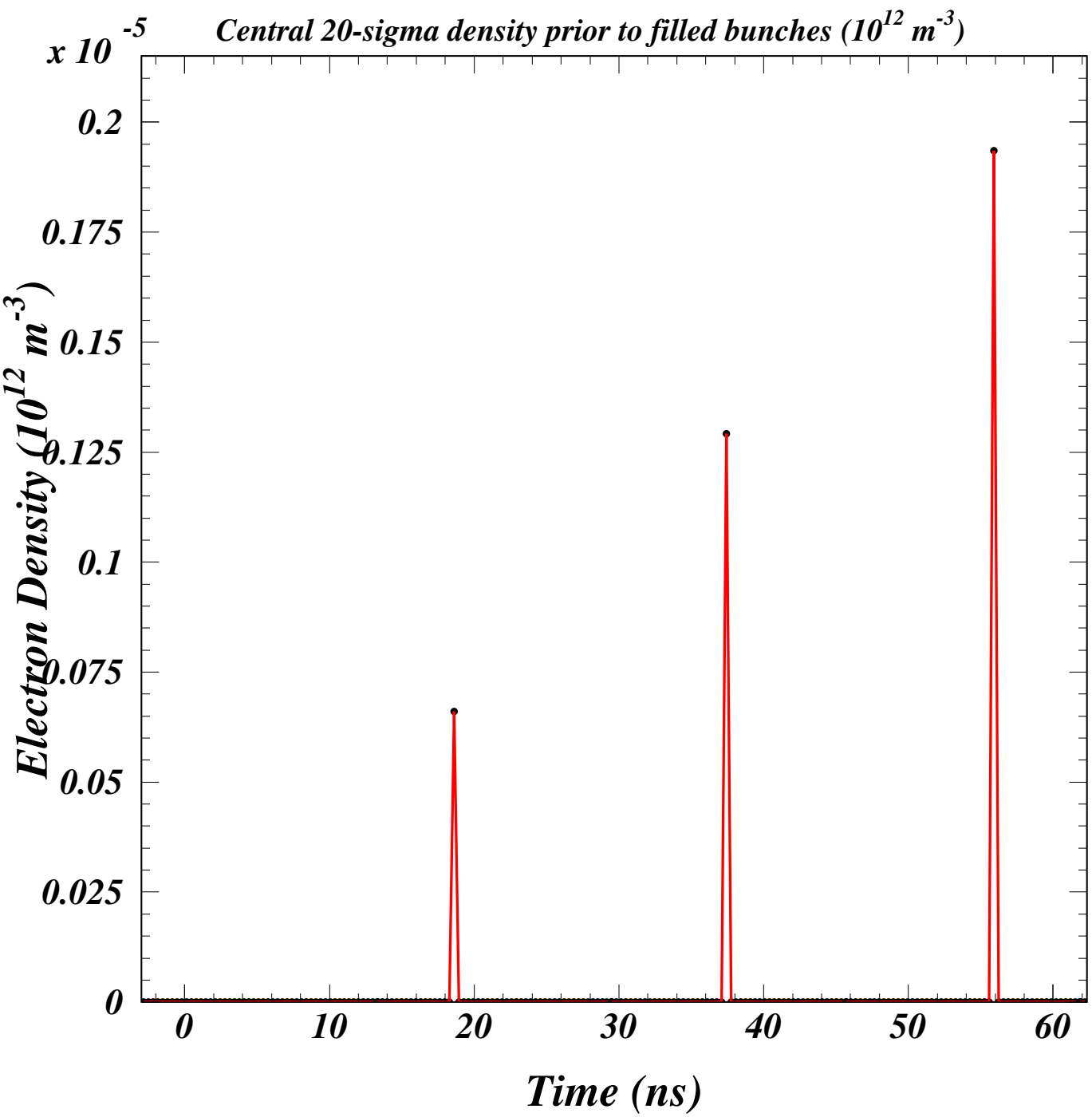

Job 51275: Beampipe-averaged Cloud Density (10^{12} m^{-3})
x 10^{-4}
0.1
0.08
0.06
0.04
0.02
0
Electron Density (10^{12} m^{-3})
0
10
20
30
40
50
60
Time (ns)


Macroparticle Statistics
Number of Macroparticles (10^3)
2.25
2
1.75
1.5
1.25
1
0.75
0.5
0.25
0
0
10
20
30
40
50
60
Time (ns)

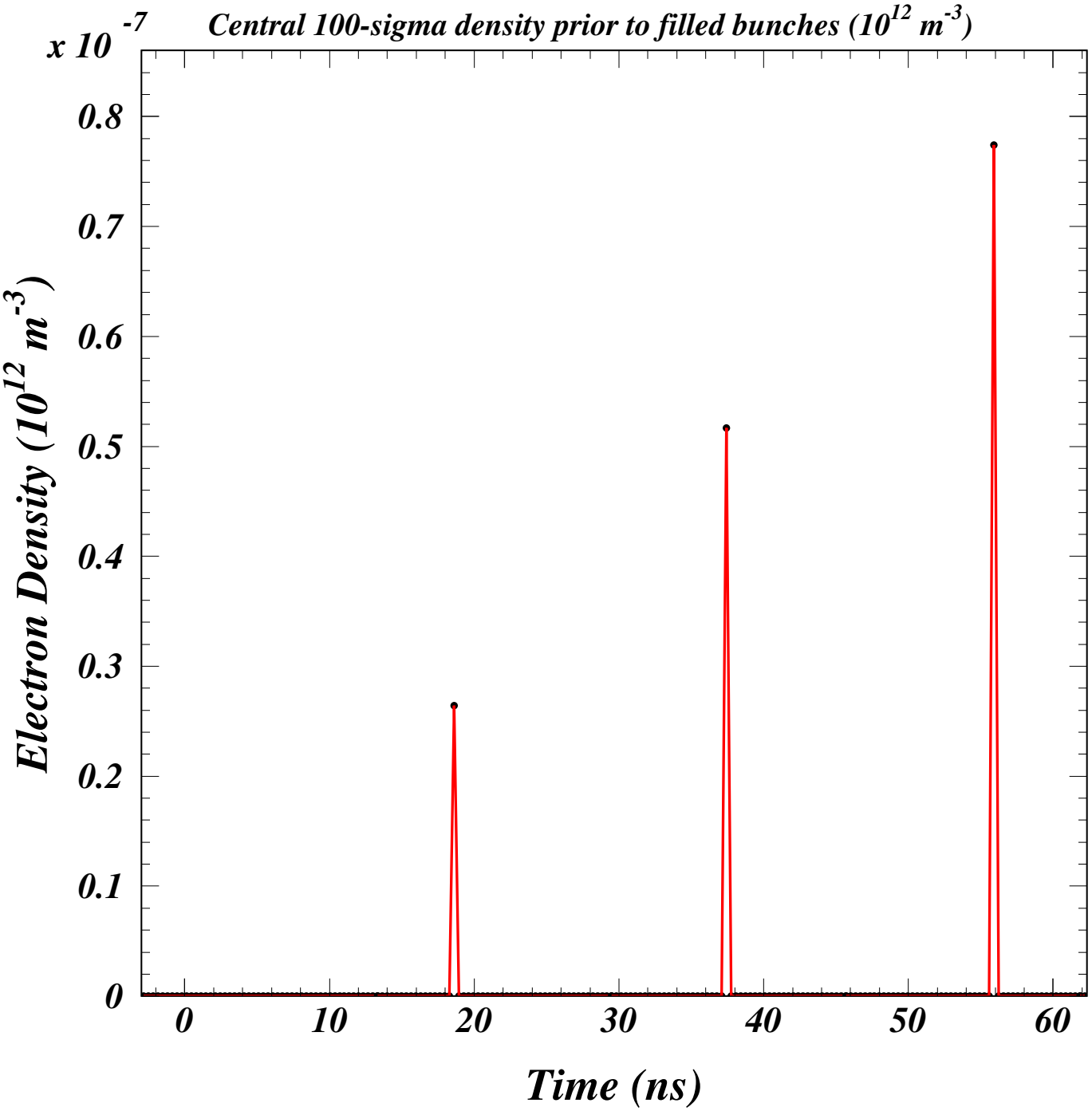

Beam-averaged density prior to filled bunches (10^{12} m^{-3})
x 10 -4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Electron Density (10^{12} m^{-3})
0
10
20
30
40
50
60
Time (ns)

17/01/02 10.05

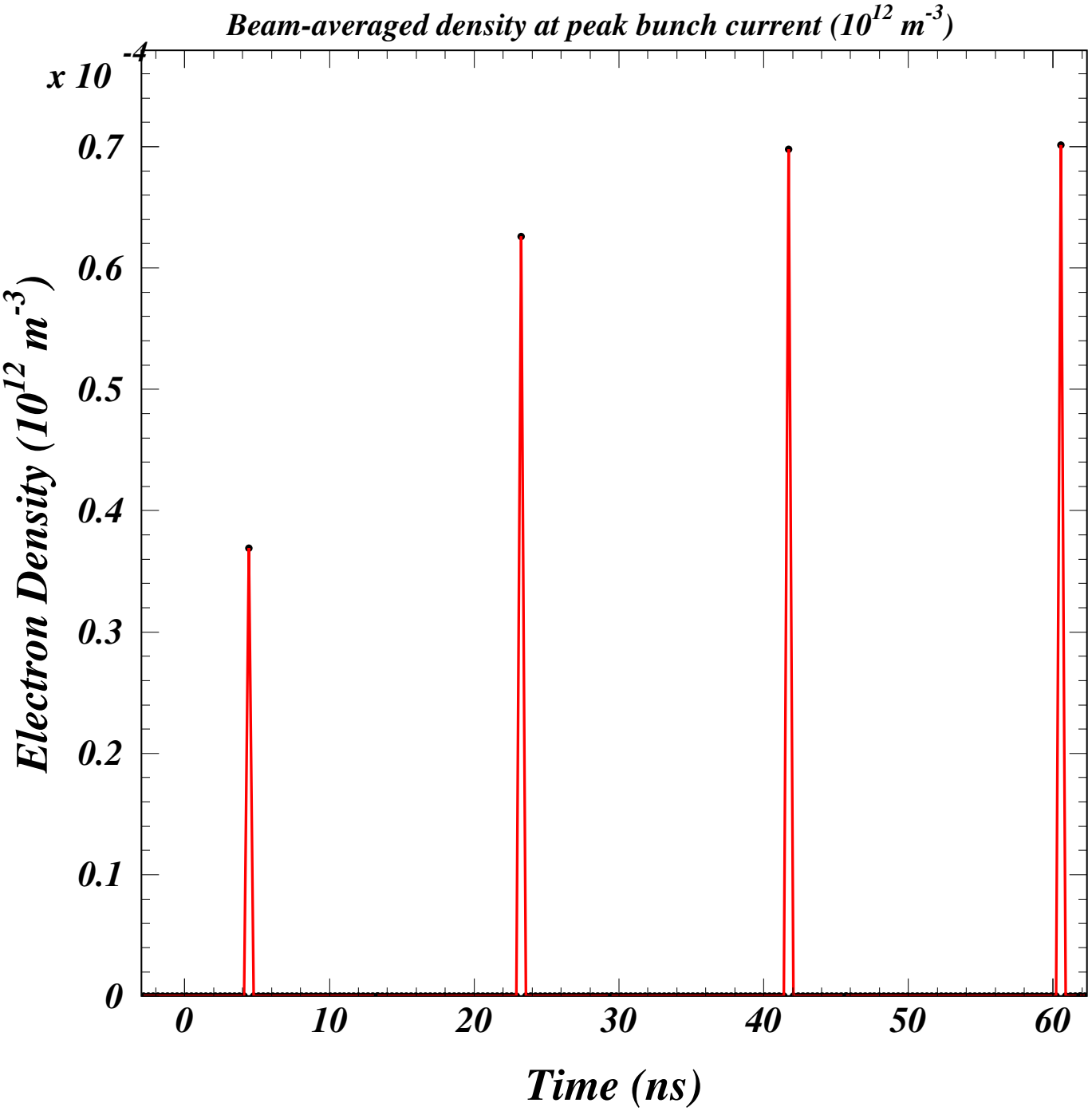

Central 5-sigma density prior to filled bunches (10^{12} m^{-3})
x 10 -4
0.12
0.1
0.08
0.06
0.04
0.02
0
Electron Density (10^{12} m^{-3})
0
10
20
30
40
50
60
Time (ns)


Central 20-sigma density prior to filled bunches (10^{12} m^{-3})
x 10 -5
0.2
0.175
0.15
0.125
0.1
0.075
0.05
0.025
0
Electron Density (10^{12} m^{-3})
0
10
20
30
40
50
60
Time (ns)

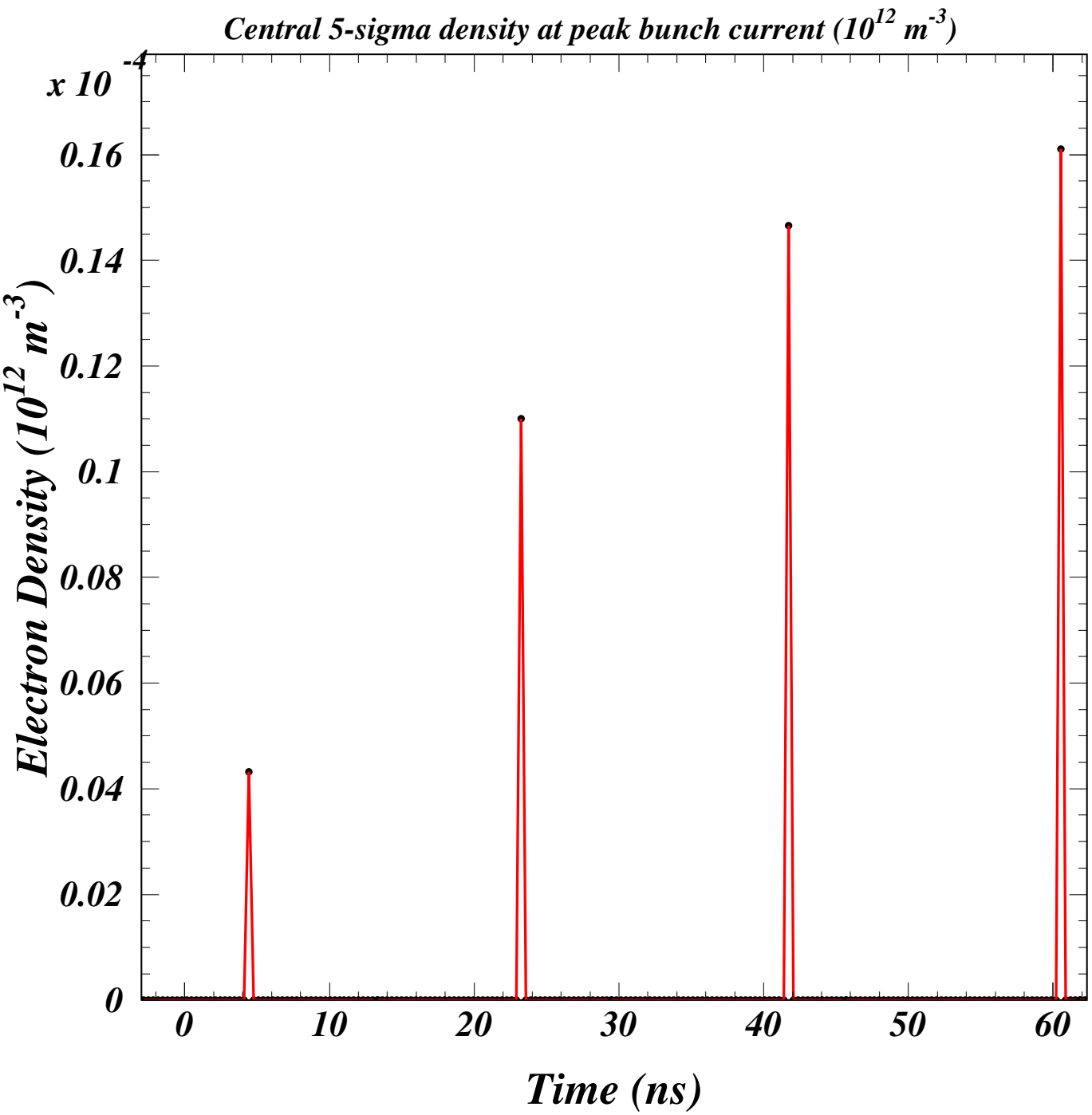
17/01/02 10.05


Central 100-sigma density prior to filled bunches (10^{12} m^{-3})
x 10 -7
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Electron Density (10^{12} m^{-3})
0
10
20
30
40
50
60
Time (ns)

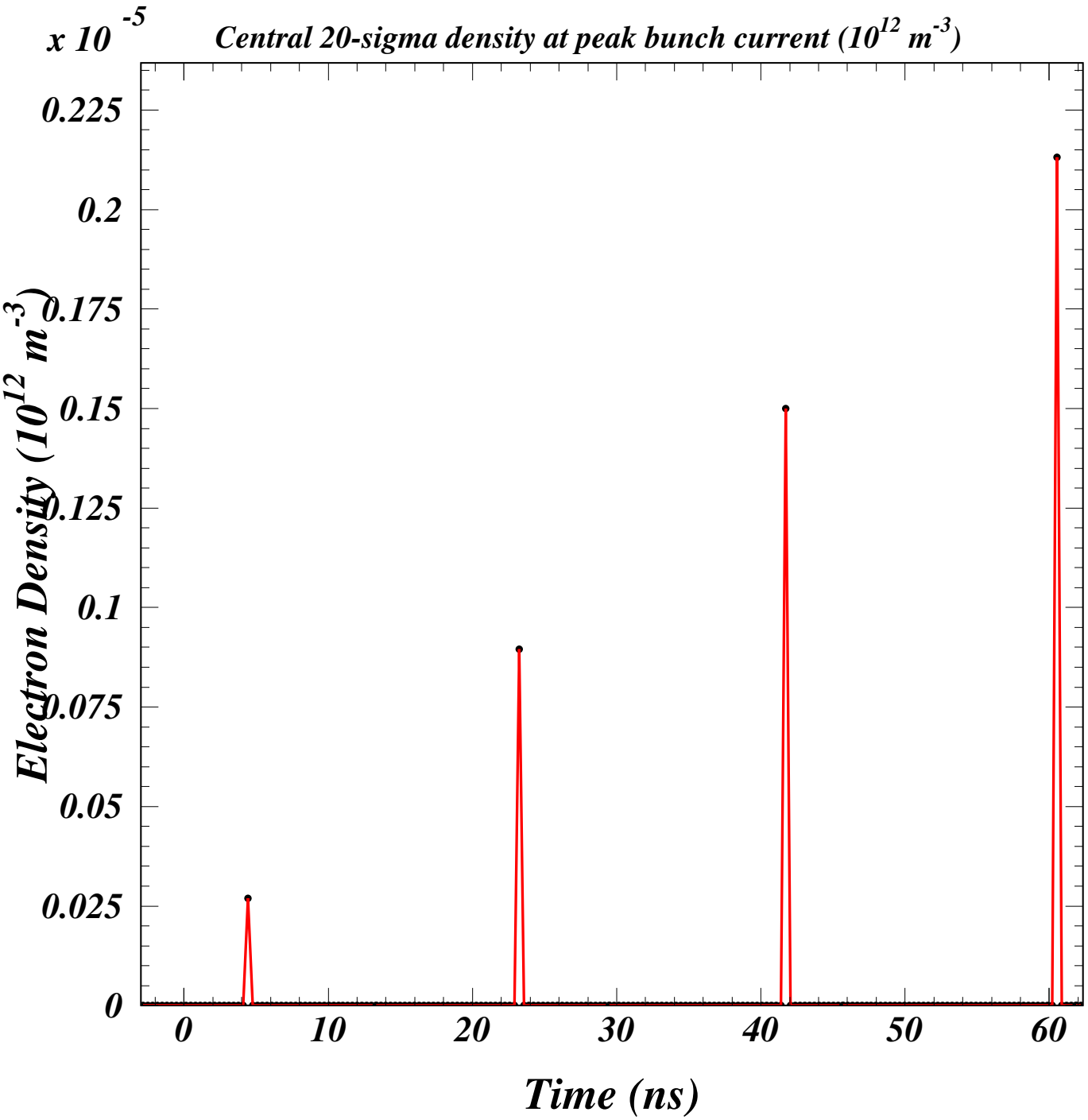
17/01/02 10.05

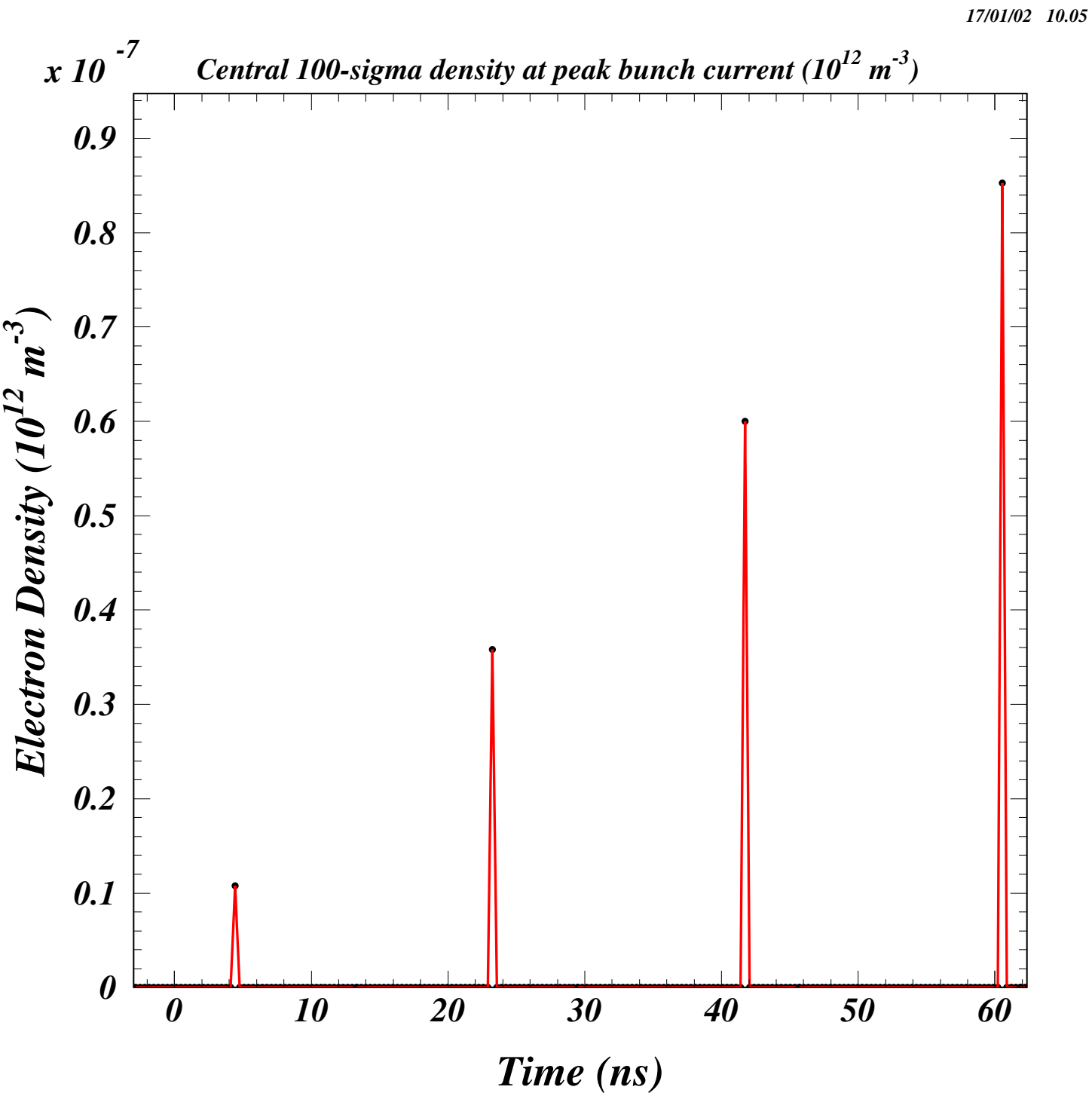

Beam-averaged density at peak bunch current (10^{12} m^{-3})
x 10^{-4}
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Electron Density (10^{12} m^{-3})
0
10
20
30
40
50
60
Time (ns)

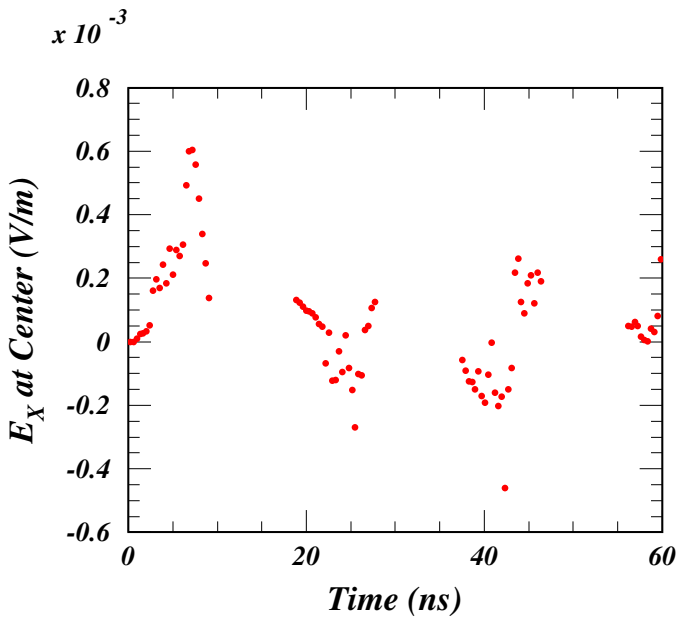
17/01/02 10.05

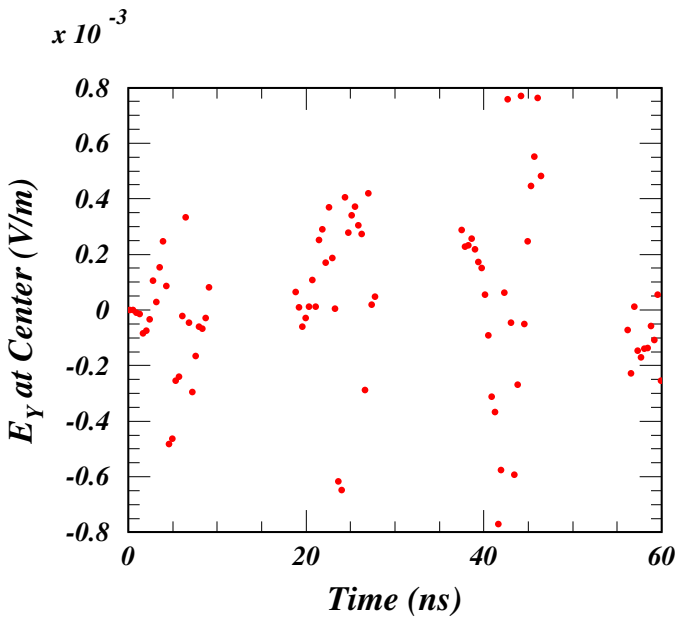

Central 5-sigma density at peak bunch current (10^{12} m^{-3})
x 10^{-4}
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
Electron Density (10^{12} m^{-3})
0
10
20
30
40
50
60
Time (ns)

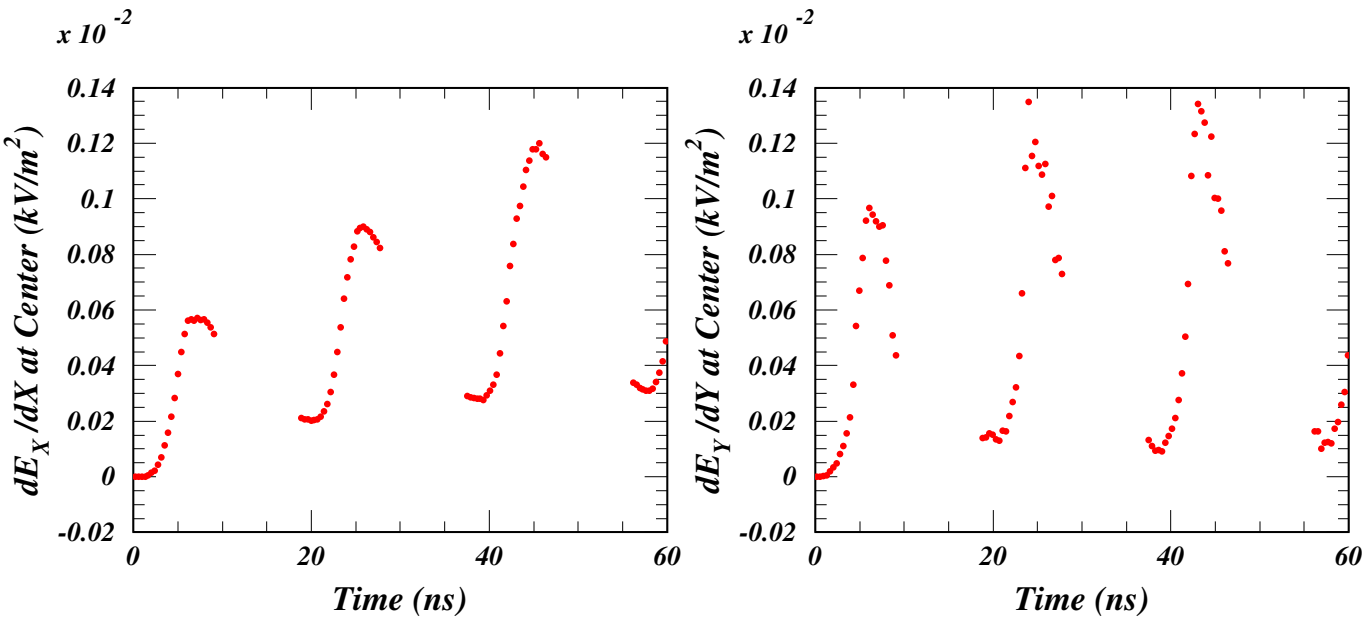
17/01/02 10.05

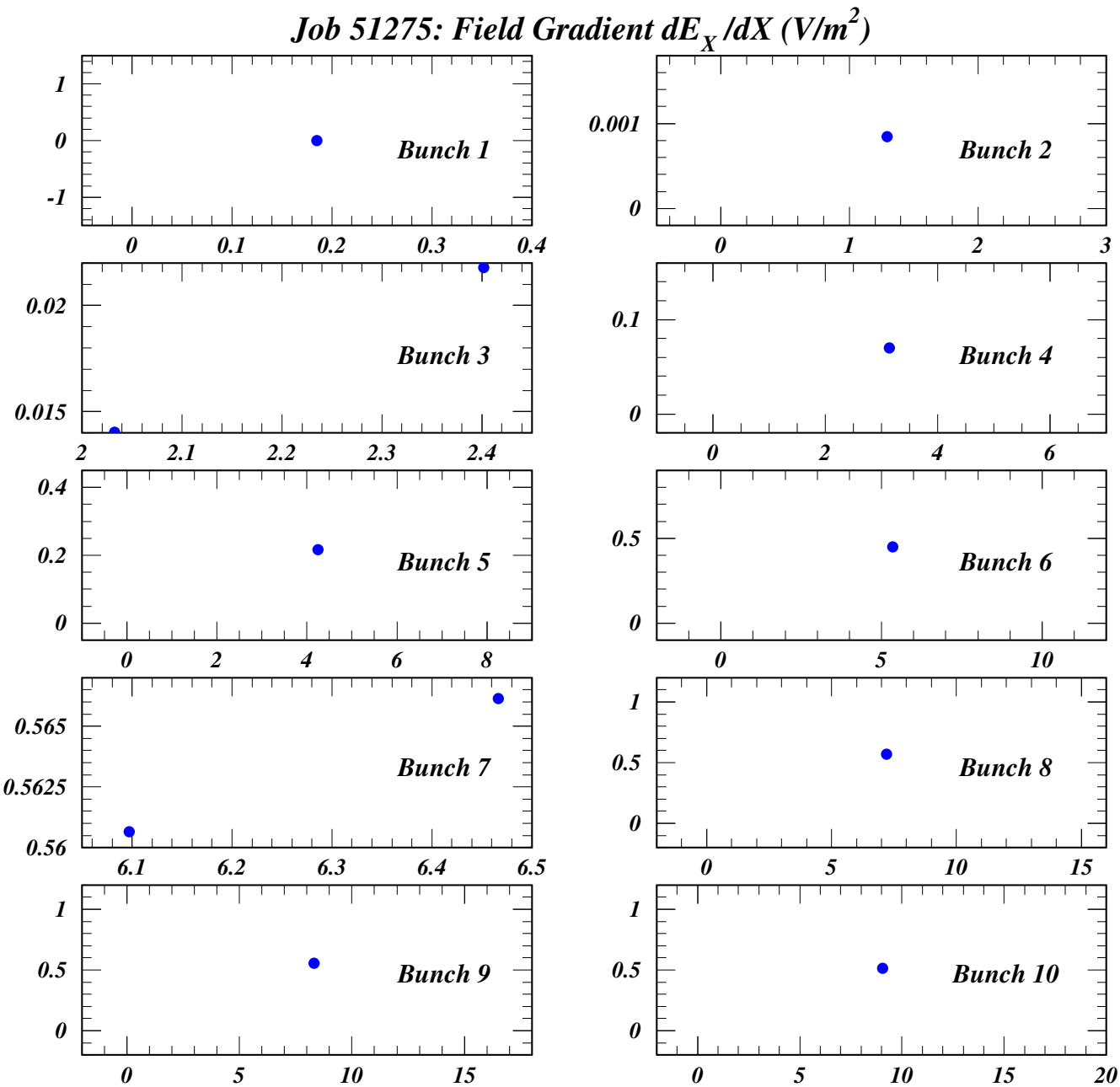

x 10 -5
Central 20-sigma density at peak bunch current (10^12 m^-3)
Electron Density (10^12 m^-3)
0.225
0.2
0.175
0.15
0.125
0.1
0.075
0.05
0.025
0
0
10
20
30
40
50
60
Time (ns)


17/01/02 10.05
x 10 -7
Central 100-sigma density at peak bunch current (10^12 m^-3)
Electron Density (10^12 m^-3)
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
10
20
30
40
50
60
Time (ns)

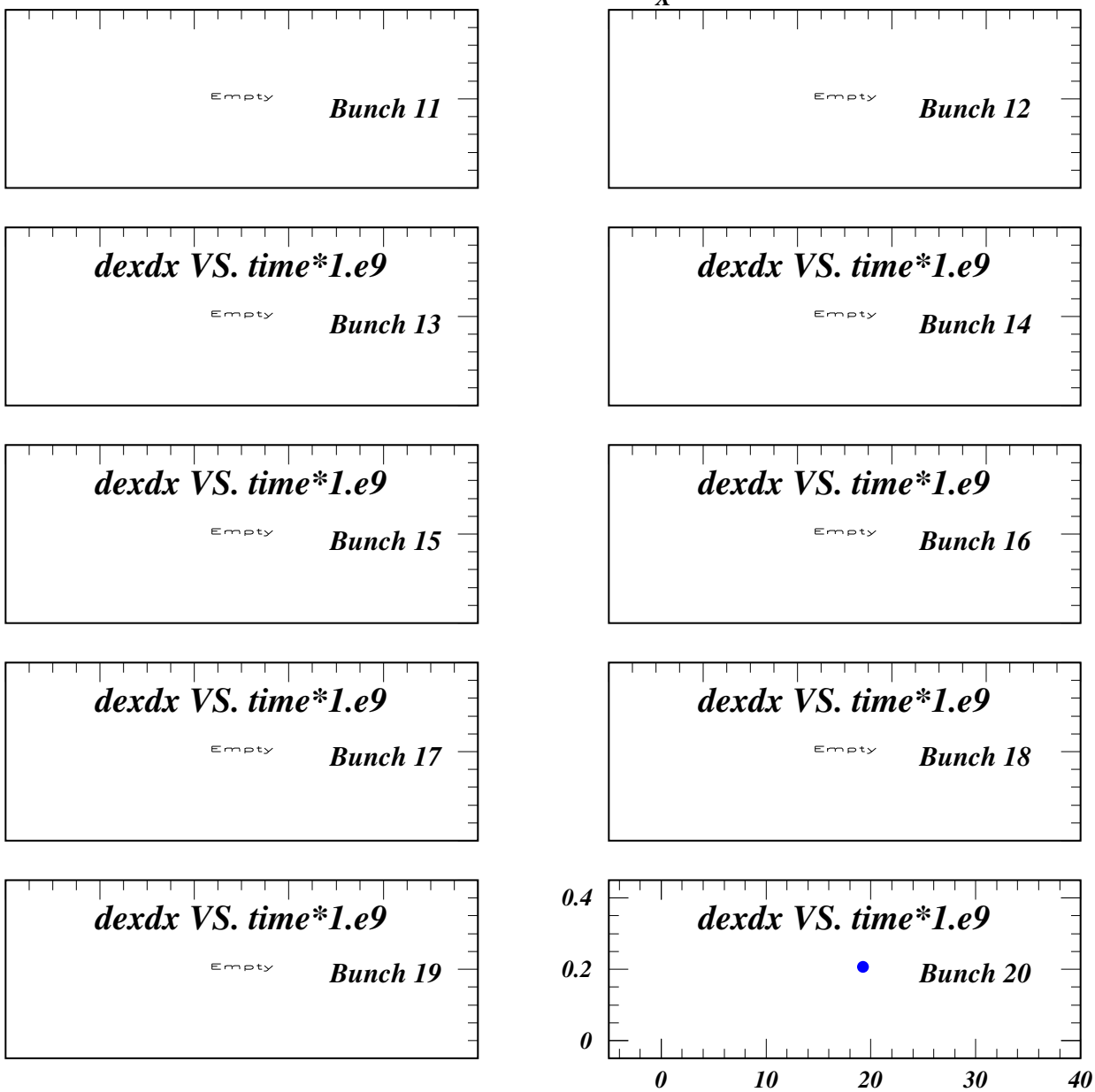

x 10 -3
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
E_X at Center (V/m)
0
20
40
60
Time (ns)


x 10 -3
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
E_Y at Center (V/m)
0
20
40
60
Time (ns)

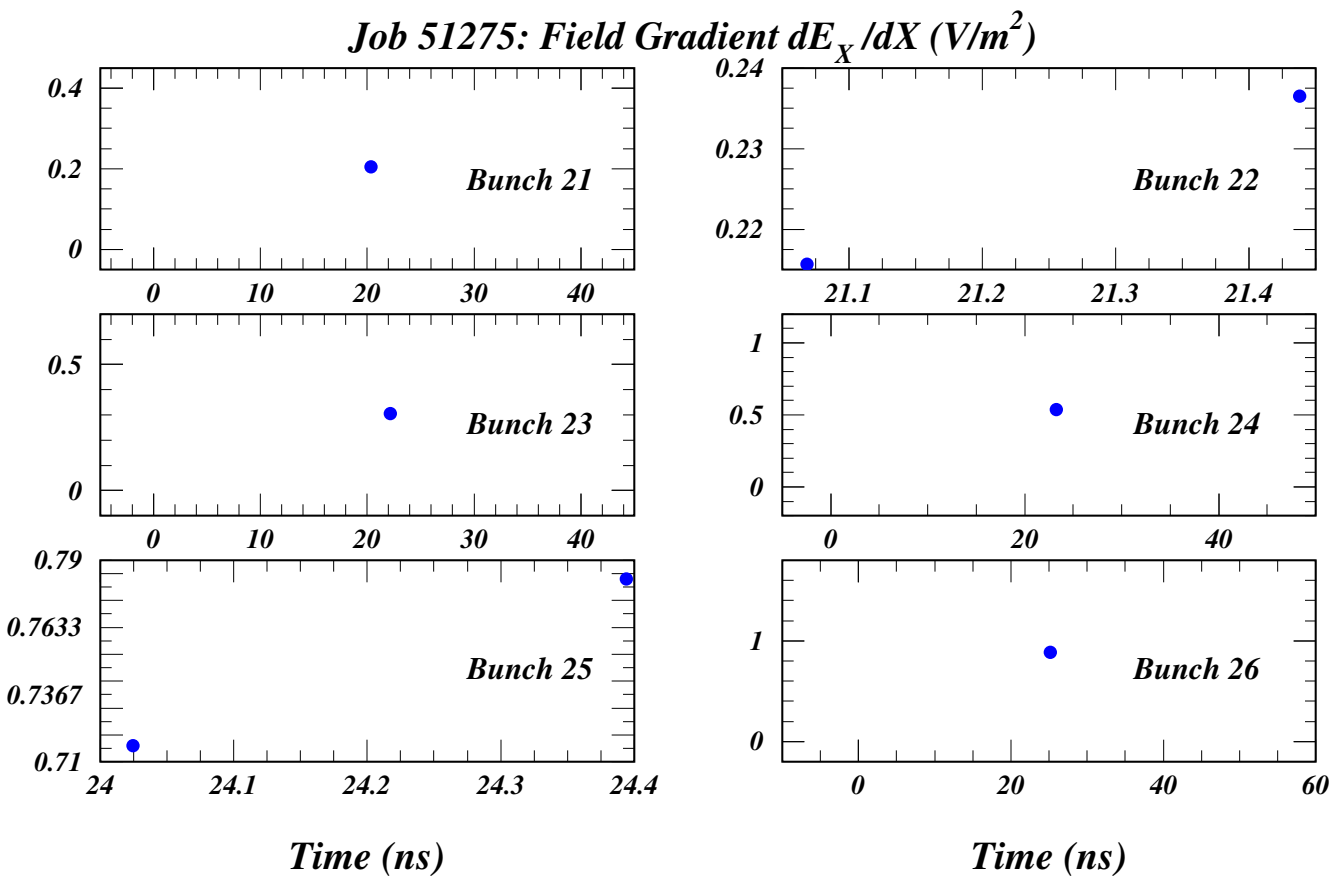

x 10 -2
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
-0.02
dE_X /dX at Center (kV/m^2)
0
20
40
60
Time (ns)
x 10 -2
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
-0.02
dE_Y /dY at Center (kV/m^2)
0
20
40
60
Time (ns)

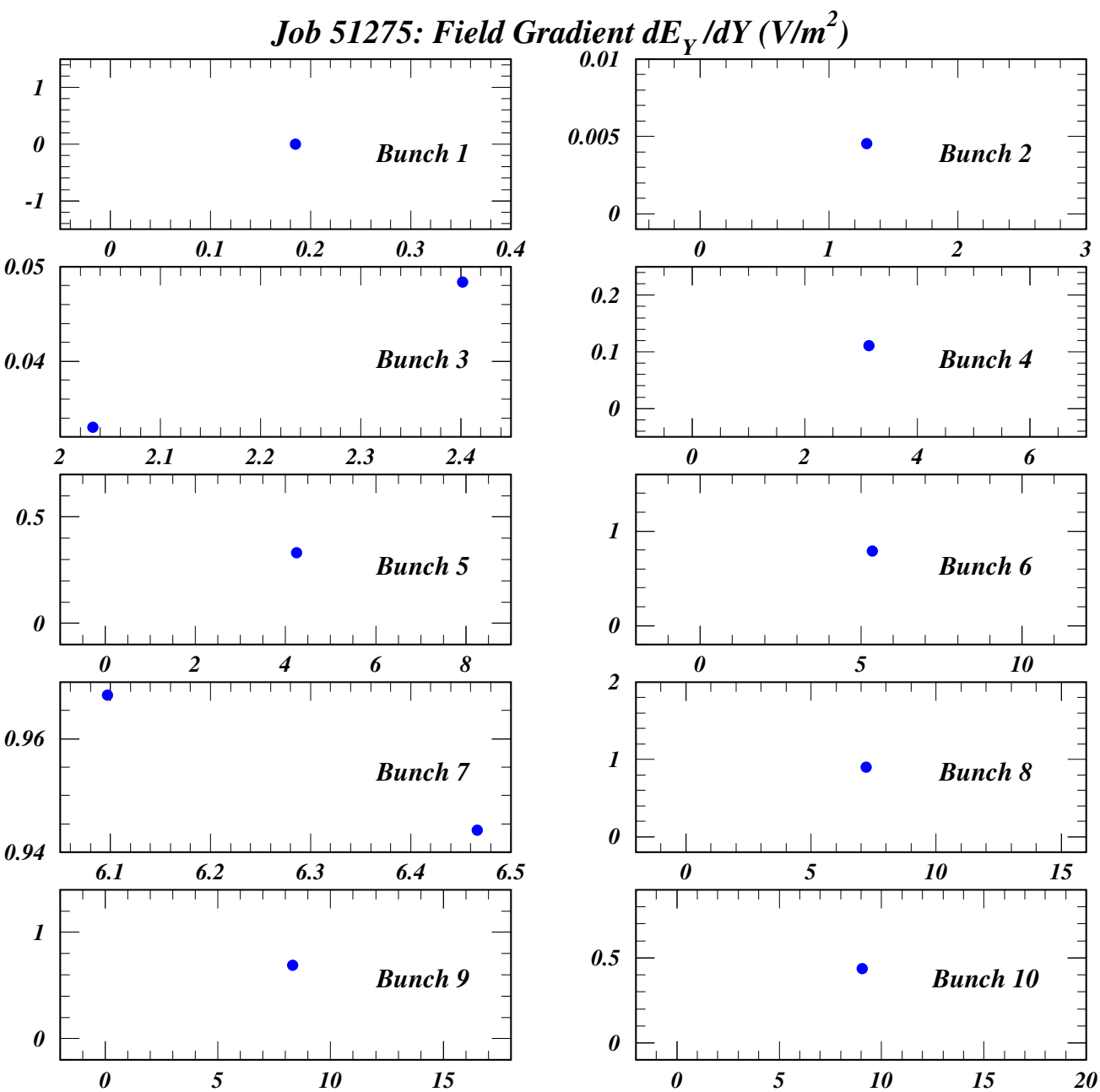

Job 51275: Field Gradient dE_X /dX (V/m^2)
Bunch 1
Bunch 2
Bunch 3
Bunch 4
Bunch 5
Bunch 6
Bunch 7
Bunch 8
Bunch 9
Bunch 10

Job 51275: Field Gradient dE_X/dX (V/m^2)

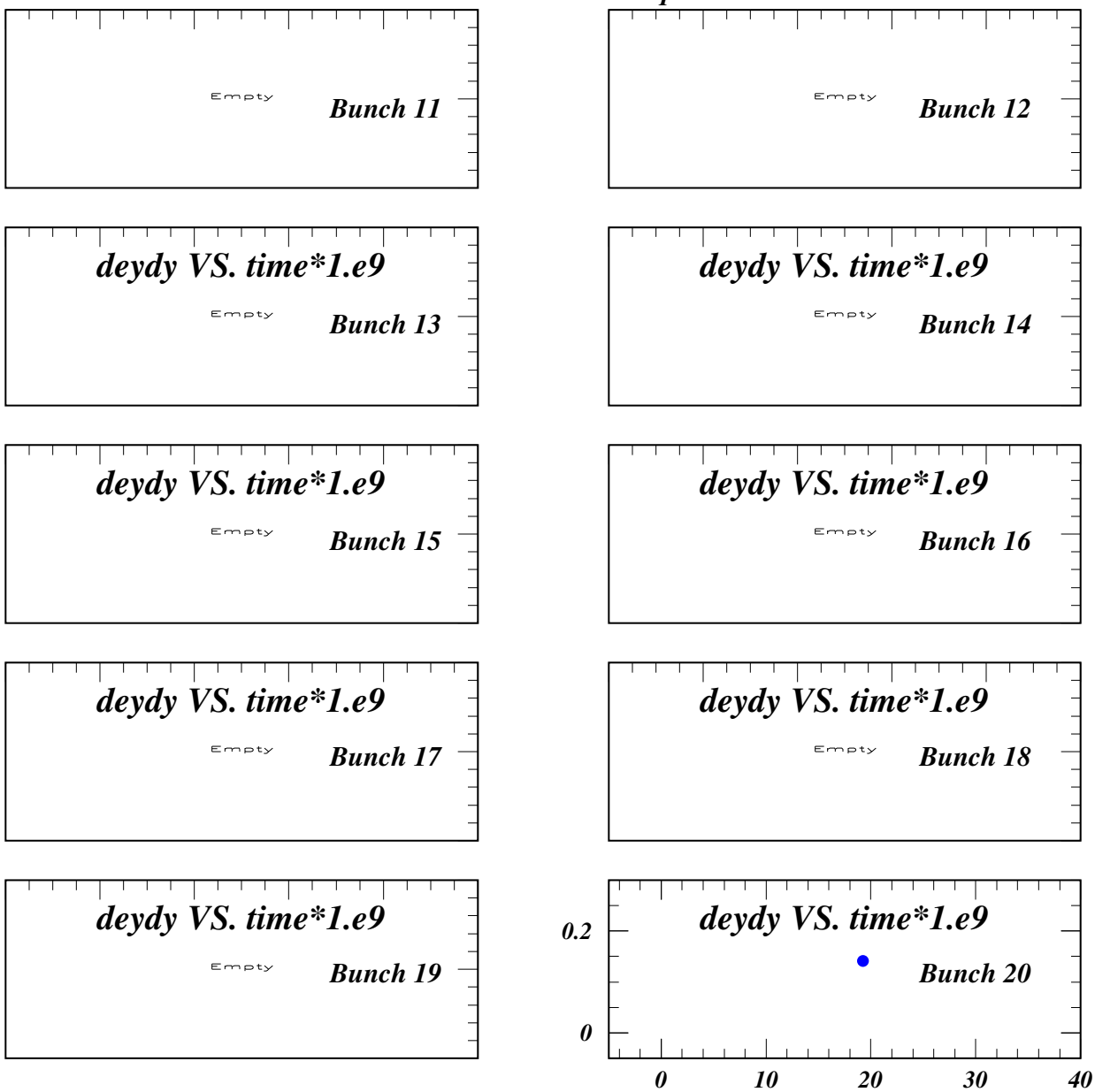


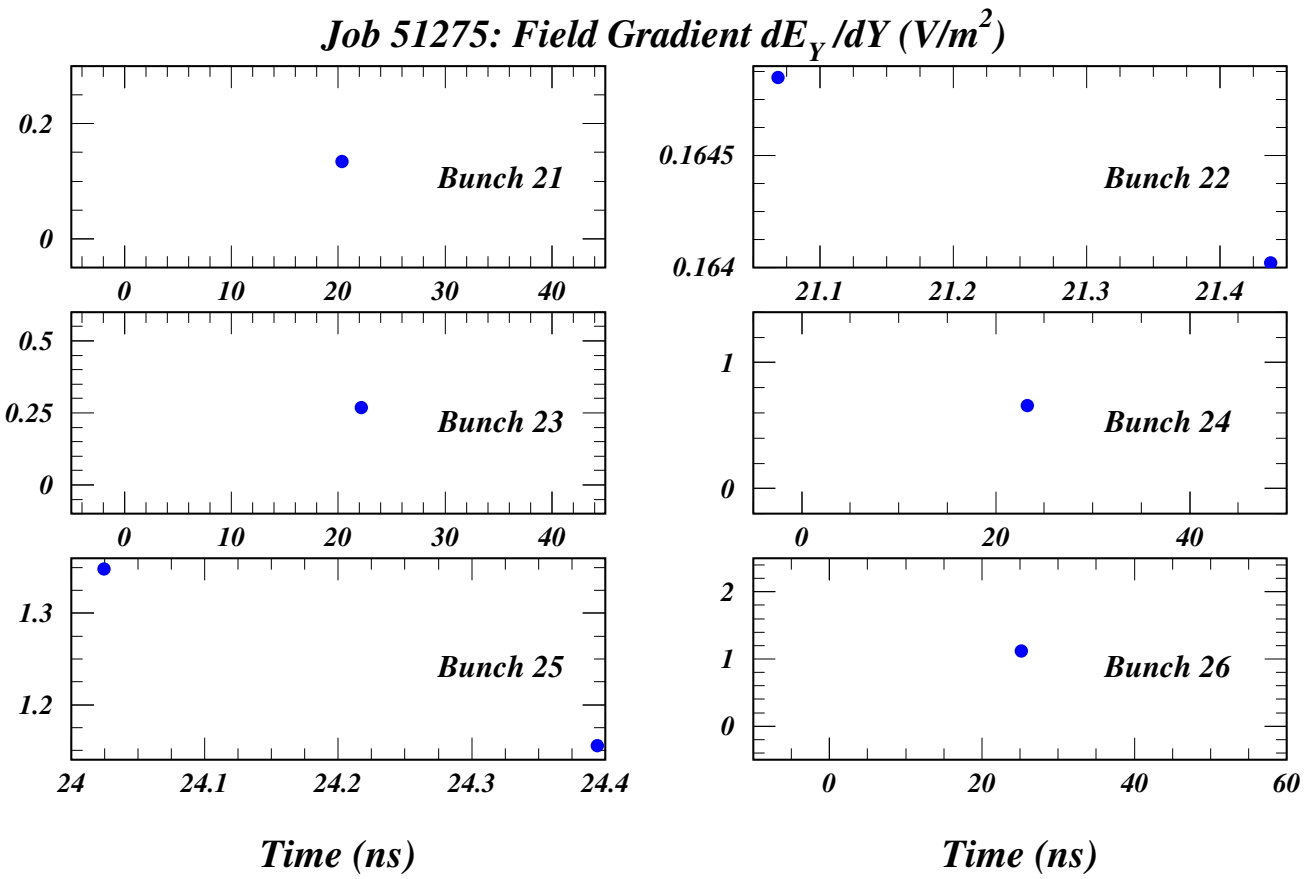
dexdx VS. time*1.e9

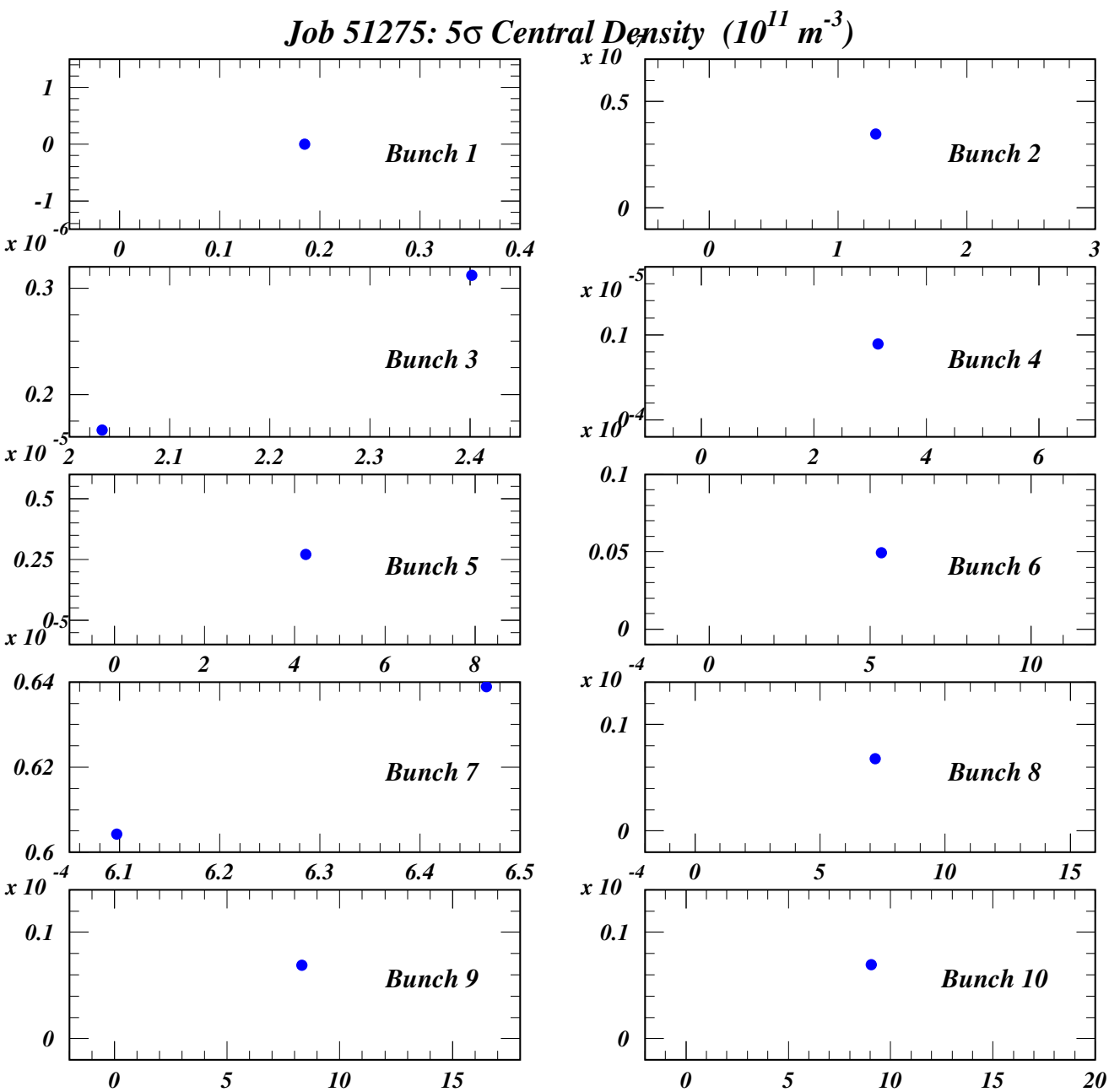

Job 51275: Field Gradient dE_X /dX (V/m^2)
Bunch 21
Bunch 22
Bunch 23
Bunch 24
Bunch 25
Bunch 26
Time (ns)
Time (ns)


Job 51275: 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

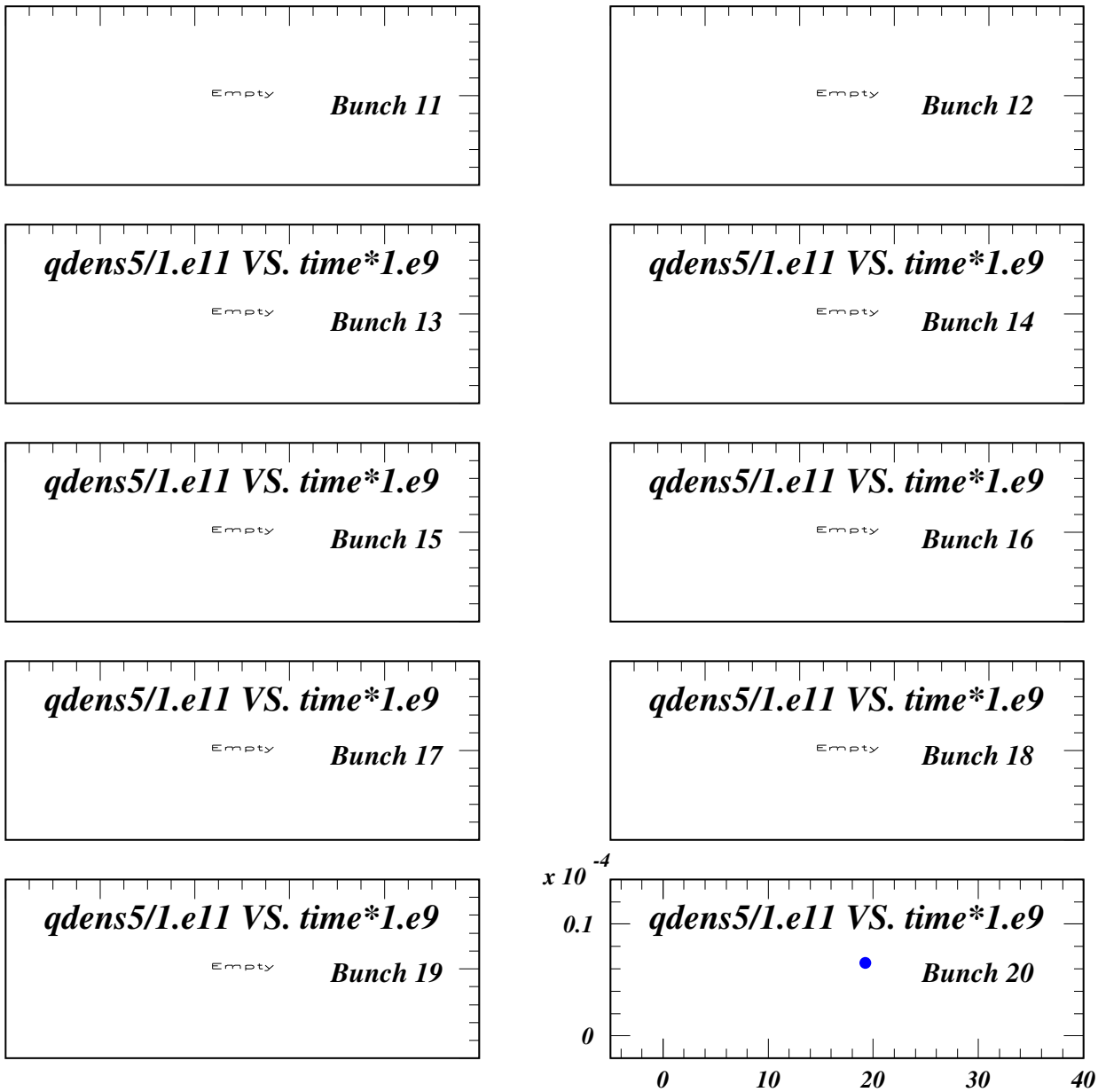
Job 51275: Field Gradient dE_Y/dY (V/m^2)



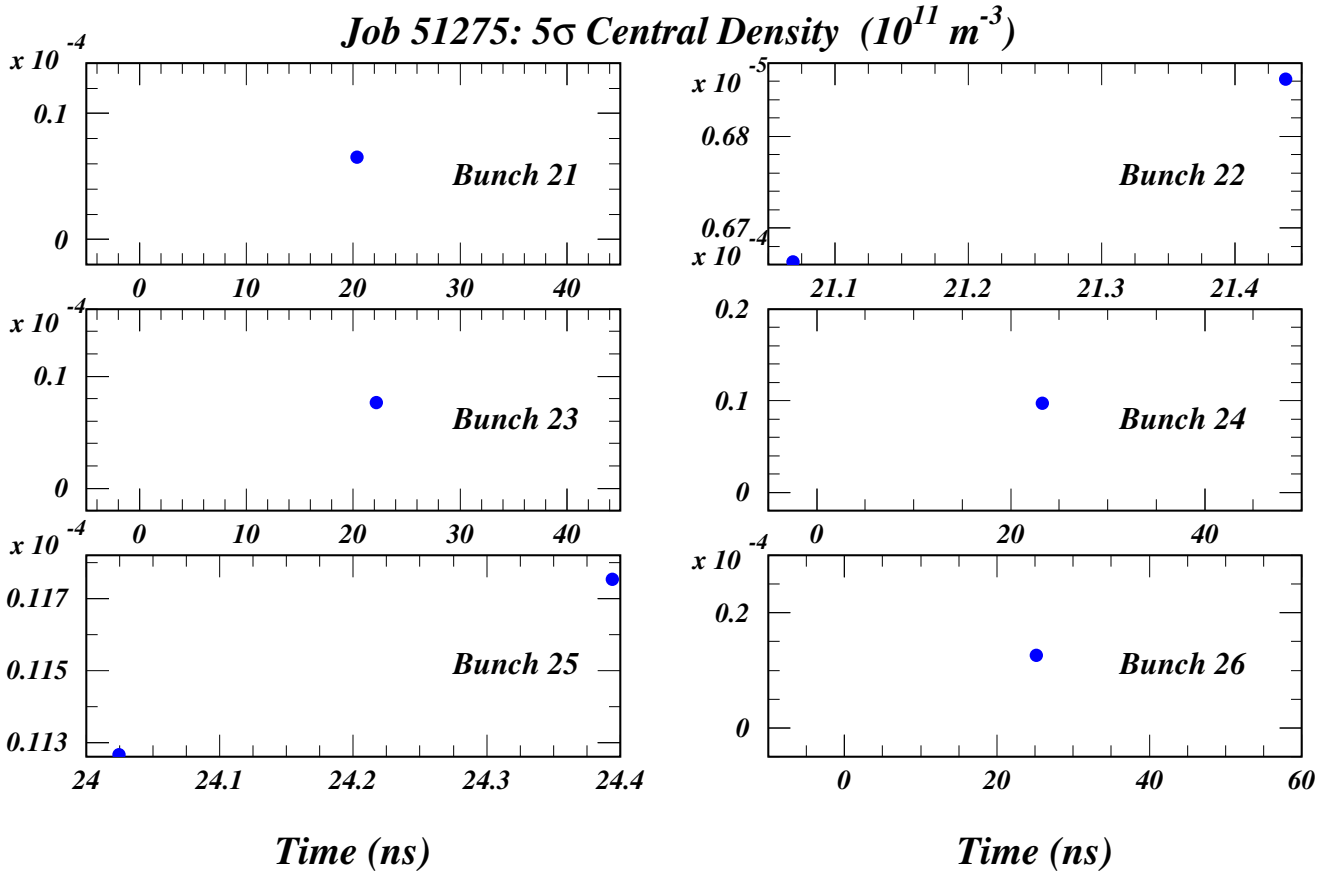

Job 51275: Field Gradient dE_Y /dY (V/m^2)
Bunch 21
Bunch 22
Bunch 23
Bunch 24
Bunch 25
Bunch 26
0.2
0
0.1645
0.164
0.5
0.25
1
1.3
1.2
2
0
10
20
30
40
21.1
21.2
21.3
21.4
24
24.1
24.2
24.3
24.4
60
Time (ns)
Time (ns)

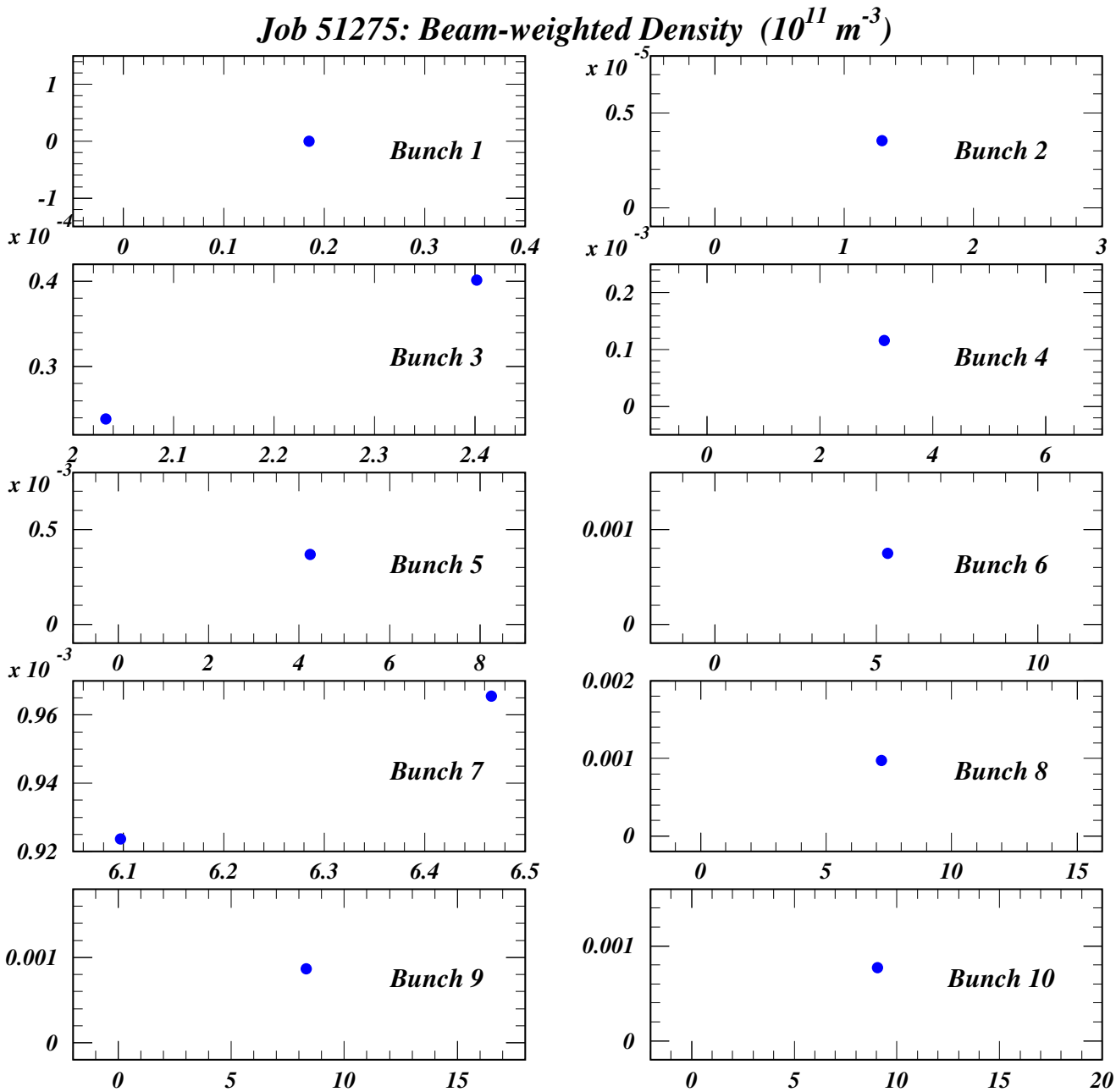

Job 51275: 5σ Central Density (10^11 m^-3)
Bunch 1
Bunch 2
Bunch 3
Bunch 4
Bunch 5
Bunch 6
Bunch 7
Bunch 8
Bunch 9
Bunch 10
x 10^-6
x 10
x 10^-5
x 10^-4

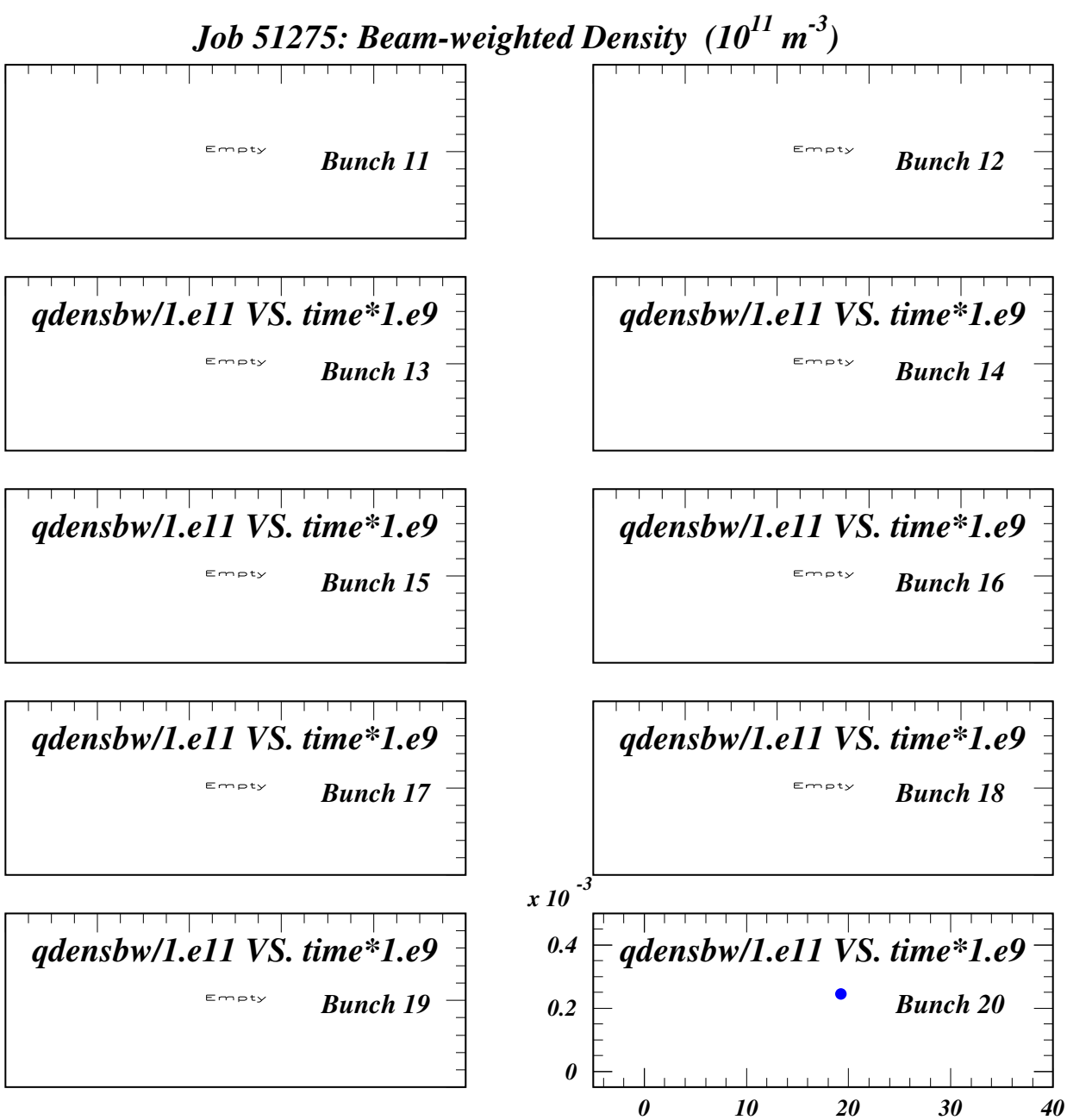
Job 51275: 5σ Central Density (10^{11} m^{-3})

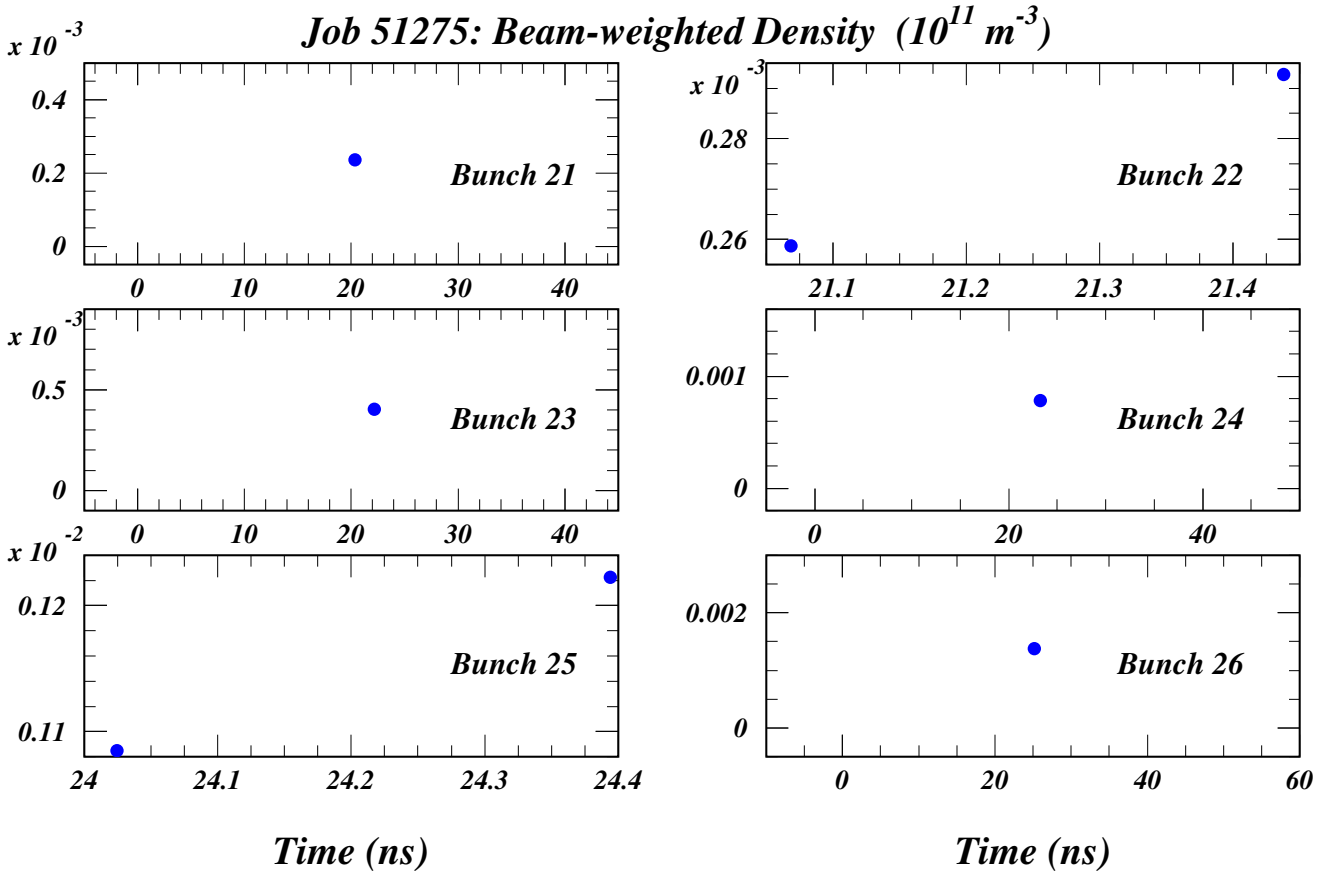


*qdens5/1.e11 VS. time*1.e9*


Job 51275: 5σ Central Density (10^11 m^-3)
x 10^-4
0.1
0
Bunch 21
0
10
20
30
40
x 10^-5
0.68
0.67
Bunch 22
x 10^-4
21.1
21.2
21.3
21.4
x 10^-4
0.1
0
Bunch 23
0.2
0.1
0
Bunch 24
0
20
40
x 10^-4
0.117
0.115
0.113
Bunch 25
24
24.1
24.2
24.3
24.4
x 10^-4
0.2
0
Bunch 26
0
20
40
60
Time (ns)
Time (ns)


Job 51275: Beam-weighted Density (10^11 m^-3)
Bunch 1
Bunch 2
Bunch 3
Bunch 4
Bunch 5
Bunch 6
Bunch 7
Bunch 8
Bunch 9
Bunch 10
x 10^-4
x 10^-5
x 10^-3


Job 51275: Beam-weighted Density (10^11 m^-3)
Empty
Bunch 11
Empty
Bunch 12
qdensbw/1.e11 VS. time*1.e9
Empty
Bunch 13
qdensbw/1.e11 VS. time*1.e9
Empty
Bunch 14
qdensbw/1.e11 VS. time*1.e9
Empty
Bunch 15
qdensbw/1.e11 VS. time*1.e9
Empty
Bunch 16
qdensbw/1.e11 VS. time*1.e9
Empty
Bunch 17
qdensbw/1.e11 VS. time*1.e9
Empty
Bunch 18
qdensbw/1.e11 VS. time*1.e9
Empty
Bunch 19
x 10^-3
0.4
0.2
0
qdensbw/1.e11 VS. time*1.e9
Bunch 20
0
10
20
30
40
qdensbw/1.e11 VS. time*1.e9


Job 51275: Beam-weighted Density (10^11 m^-3)
x 10^-3
0.4
0.2
0
Bunch 21
0
10
20
30
40
x 10^-3
0.28
0.26
Bunch 22
21.1
21.2
21.3
21.4
x 10^-3
0.5
0
Bunch 23
0.001
0
Bunch 24
0
20
40
x 10^-2
0.12
0.11
Bunch 25
24
24.1
24.2
24.3
24.4
0.002
0
Bunch 26
0
20
40
60
Time (ns)
Time (ns)