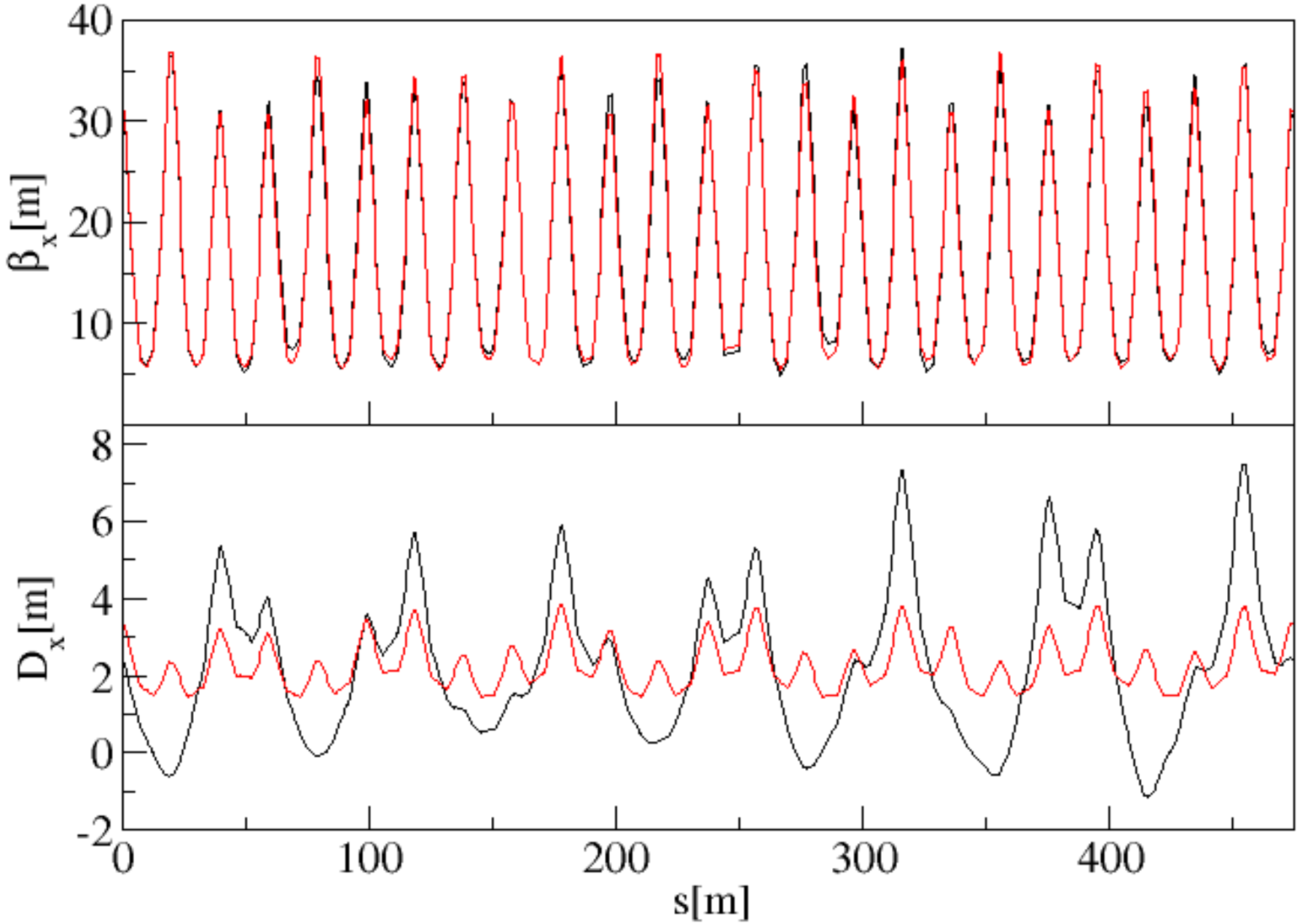
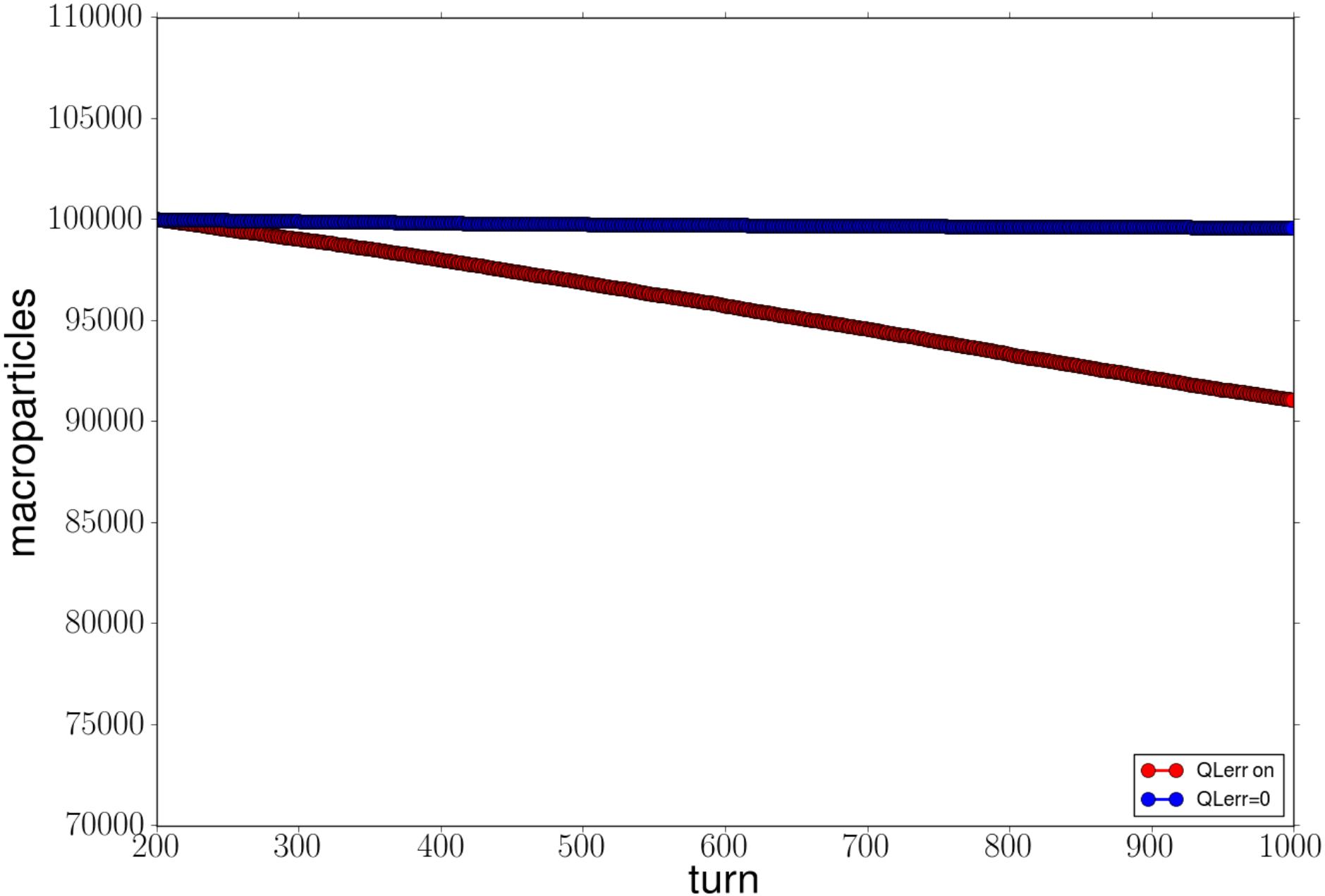
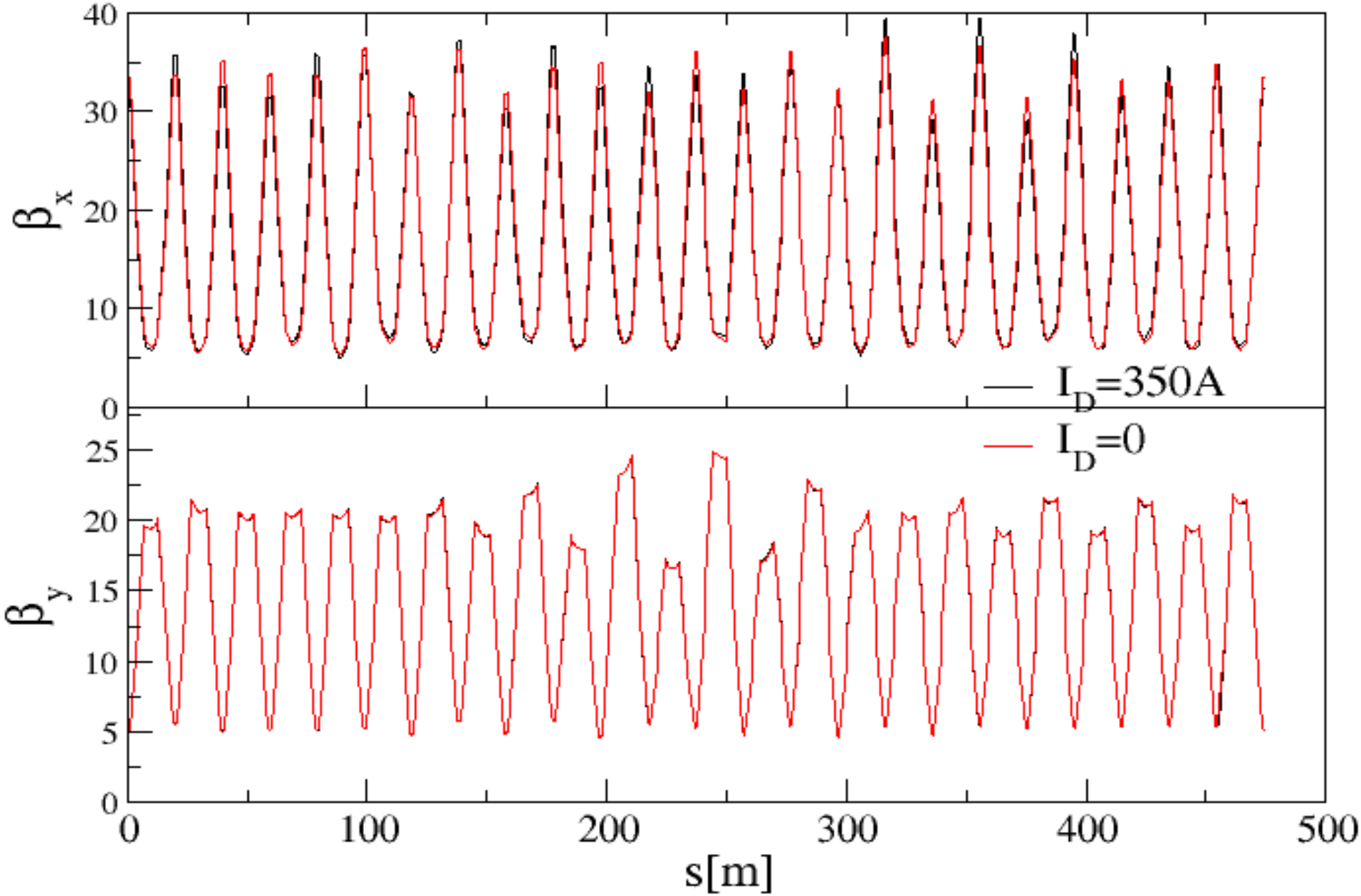
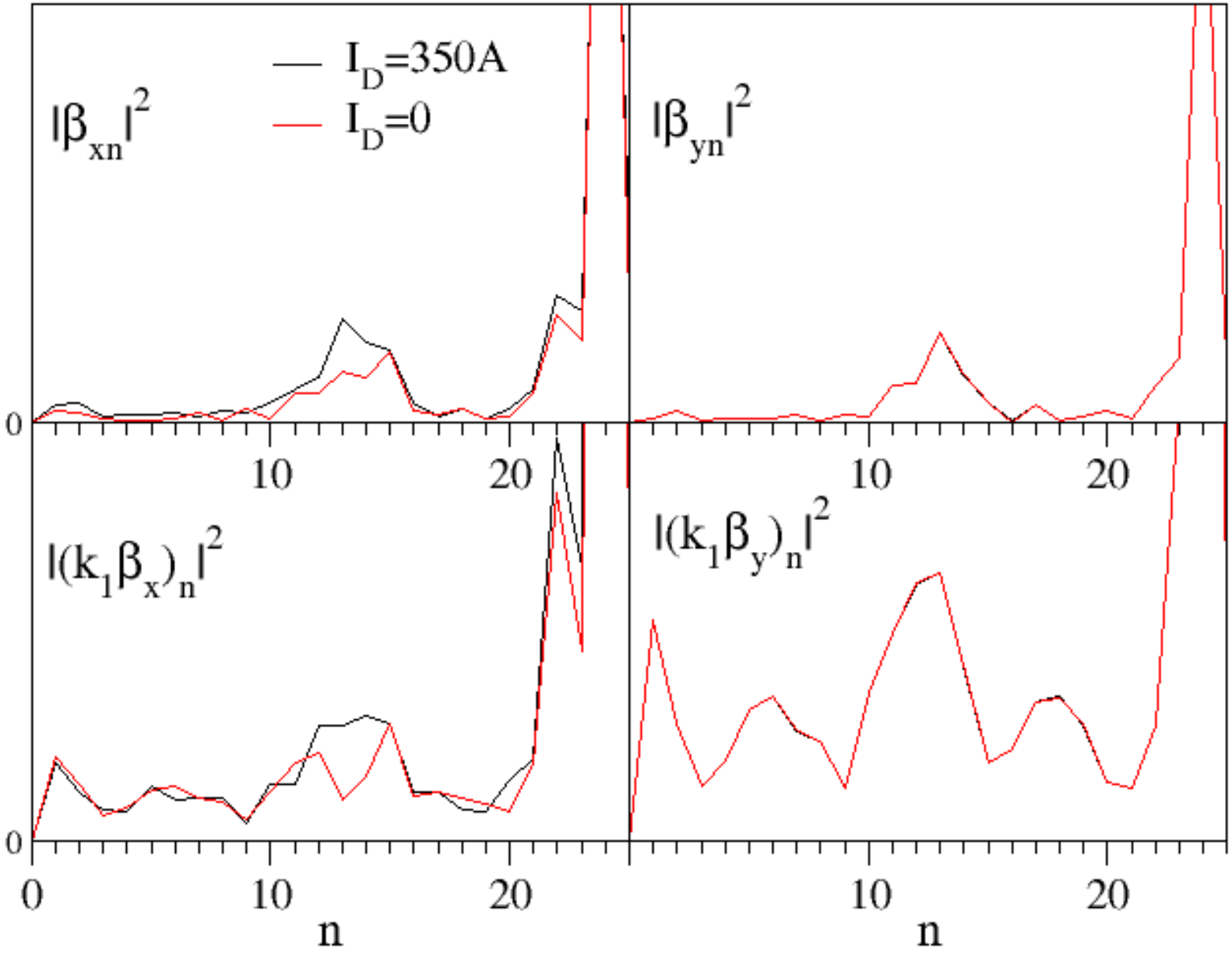
QLerr quads effect



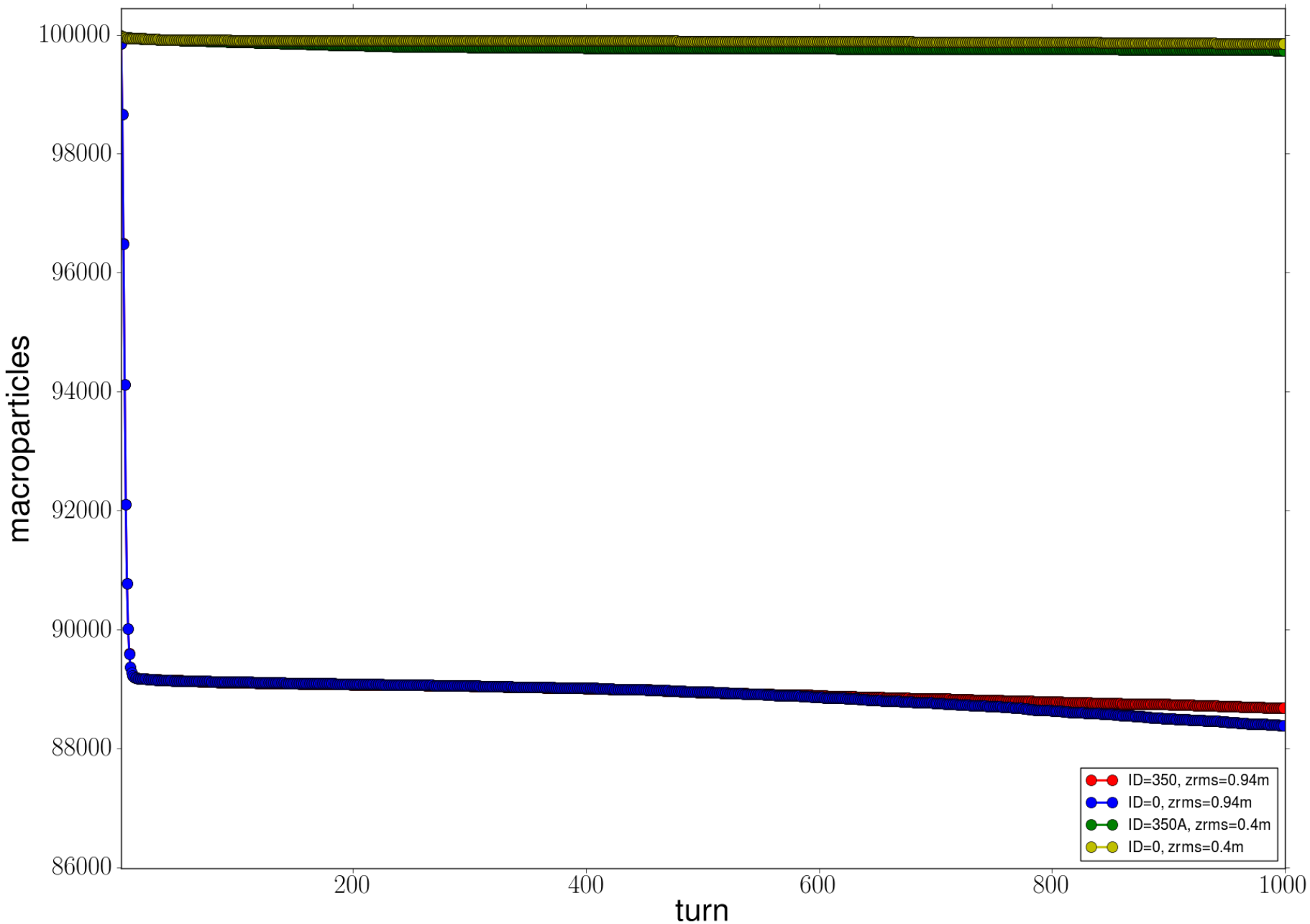
QLerr quads effect



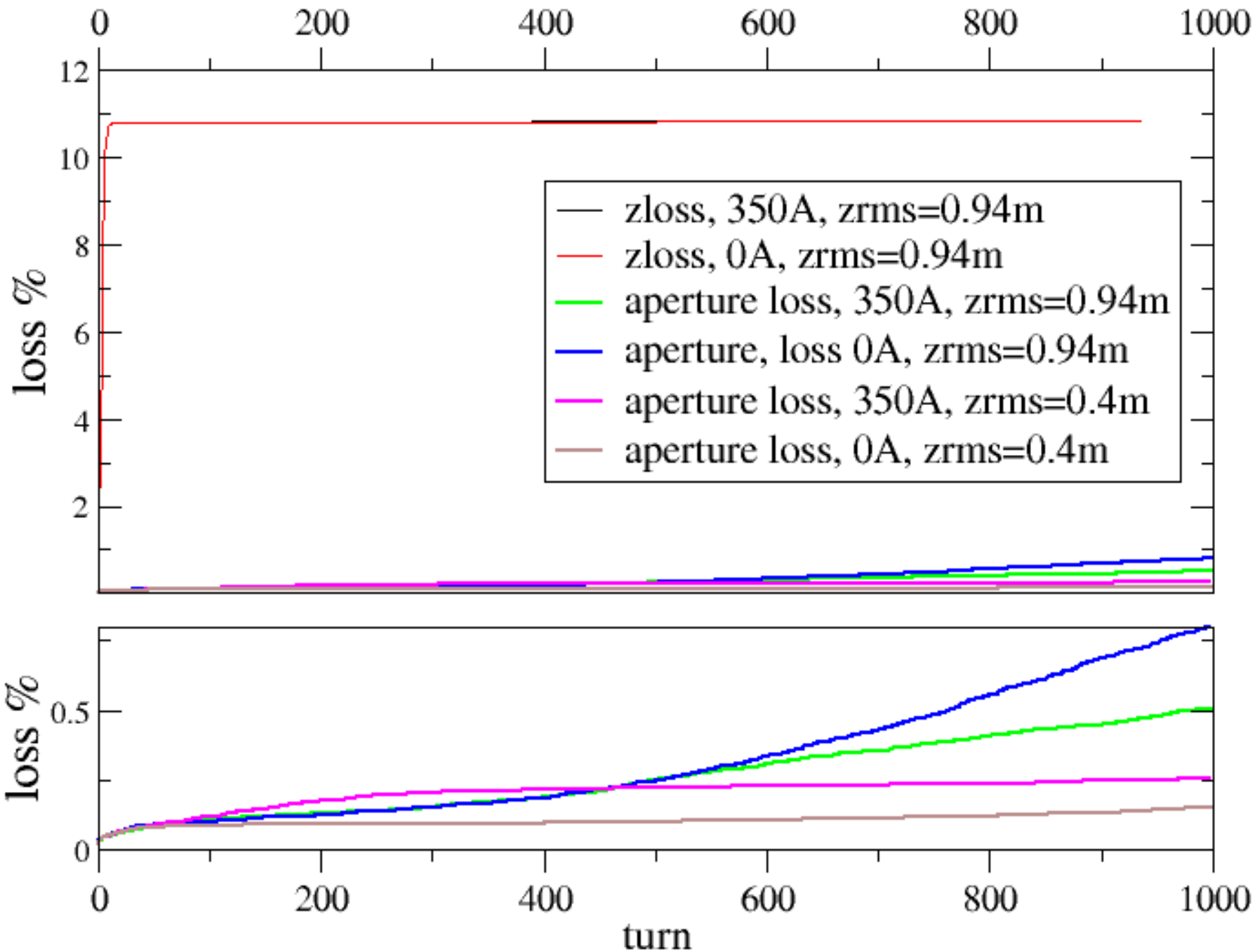

40
30
20
10
0
β_x
I_D=350A
I_D=0
25
20
15
10
5
0
β_y
0
100
200
300
400
500
s[m]


I_D=350A
I_D=0
$|\beta_{xn}|^2$
$|\beta_{yn}|^2$
$|(k_1\beta_x)_n|^2$
$|(k_1\beta_y)_n|^2$
0
10
20
n

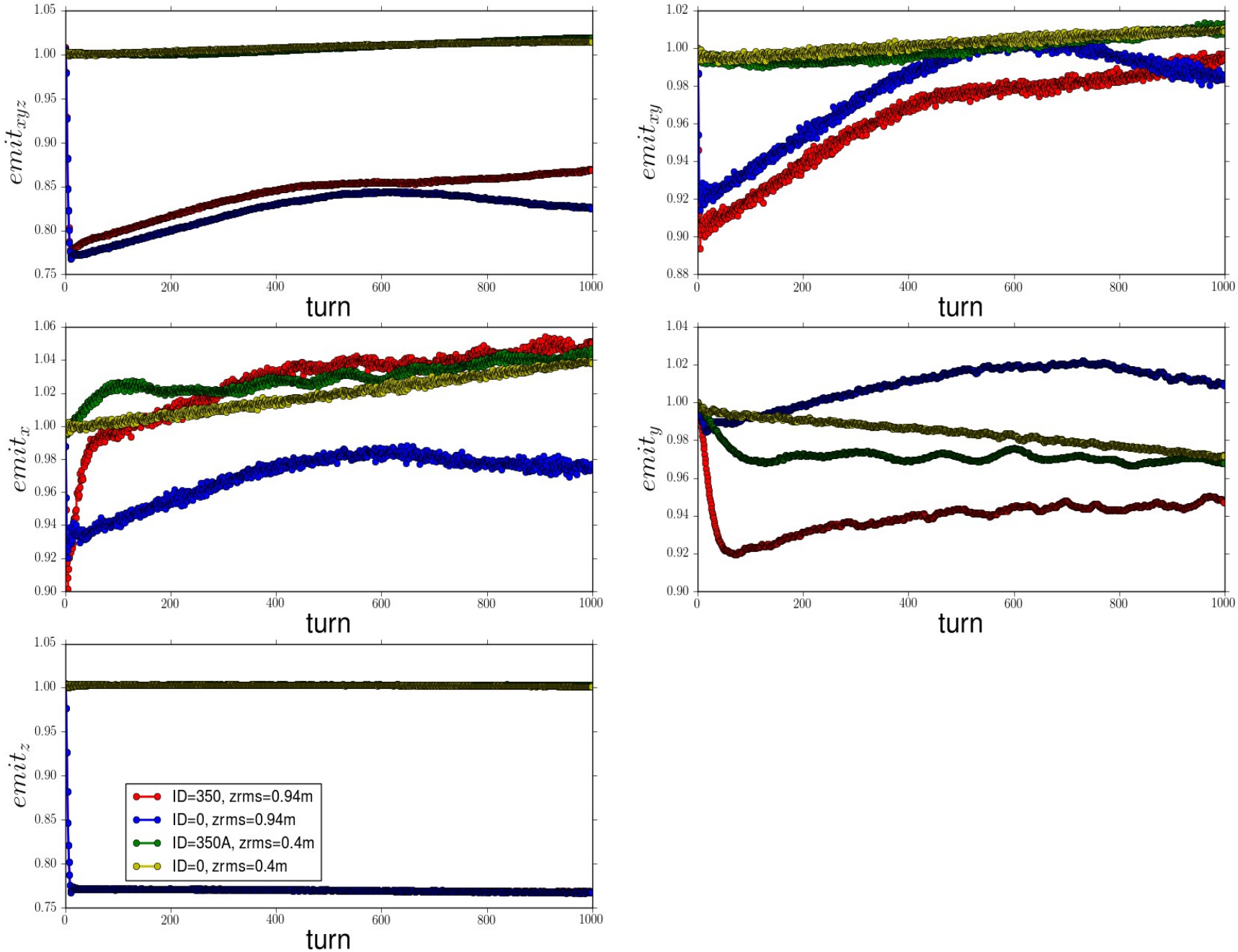
No collective effects

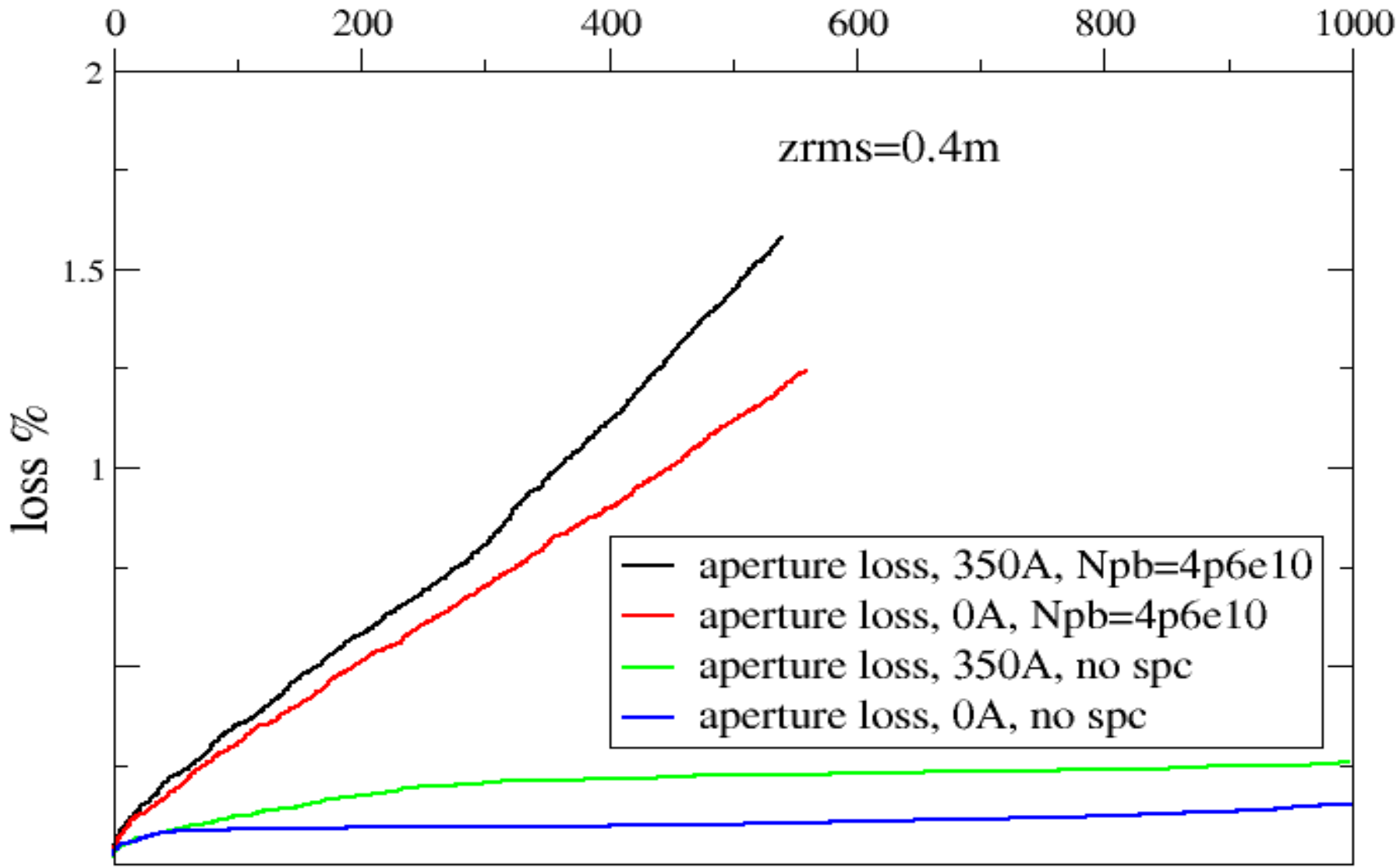


No collective effects

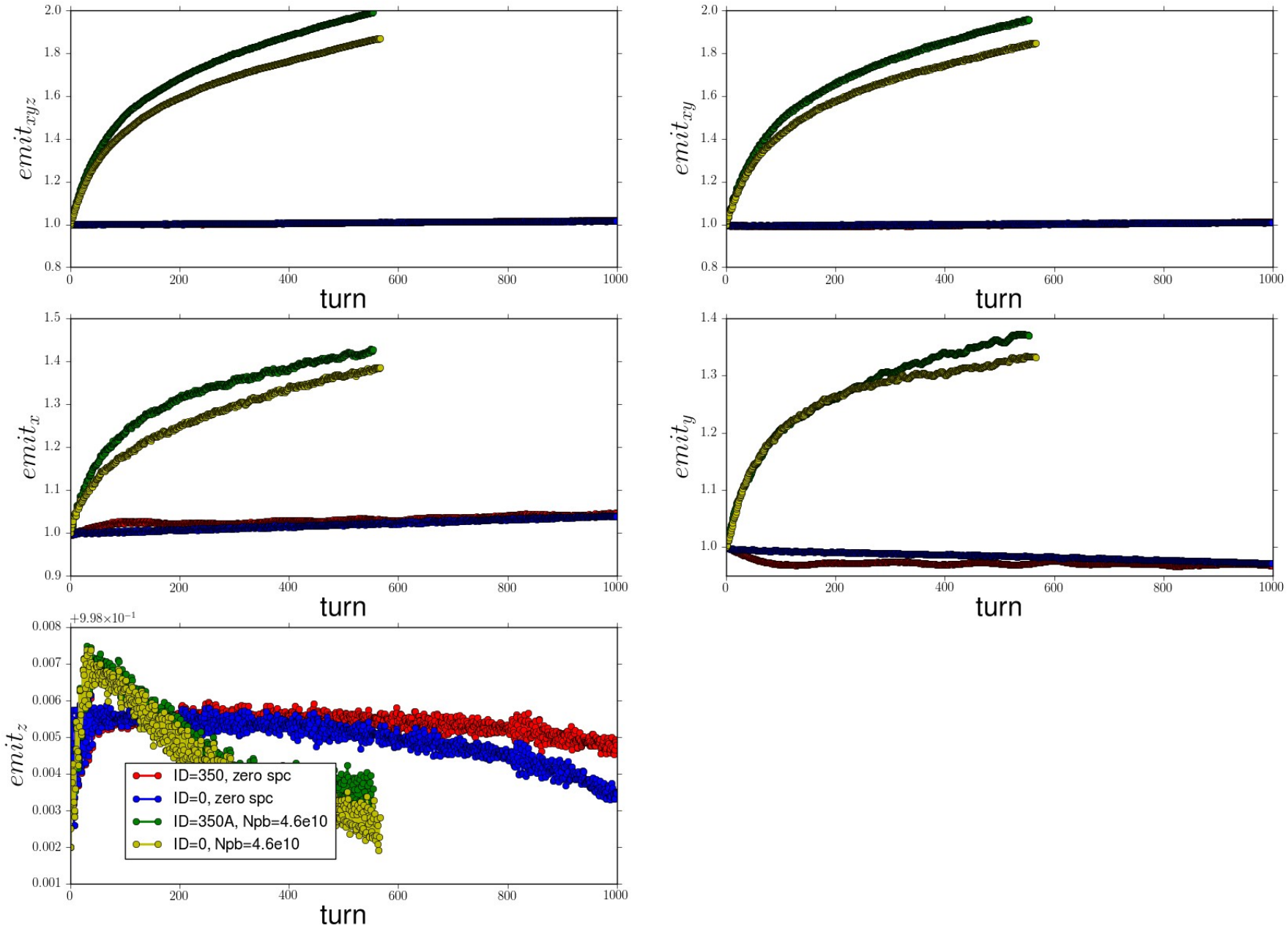


No collective effects

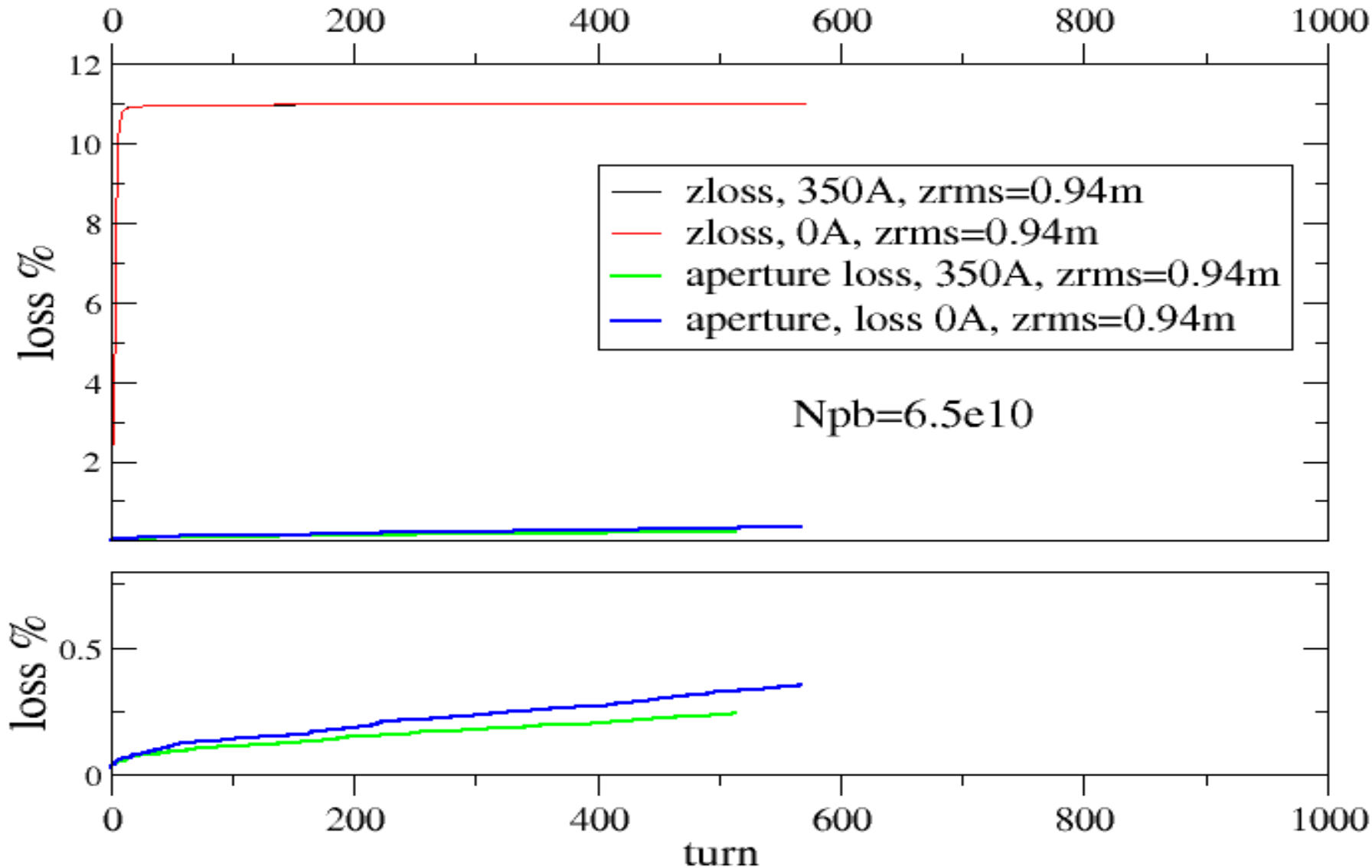



zrms=0.4m
loss %
0
200
400
600
800
1000
2
1.5
1
aperture loss, 350A, Npb=4p6e10
aperture loss, 0A, Npb=4p6e10
aperture loss, 350A, no spc
aperture loss, 0A, no spc

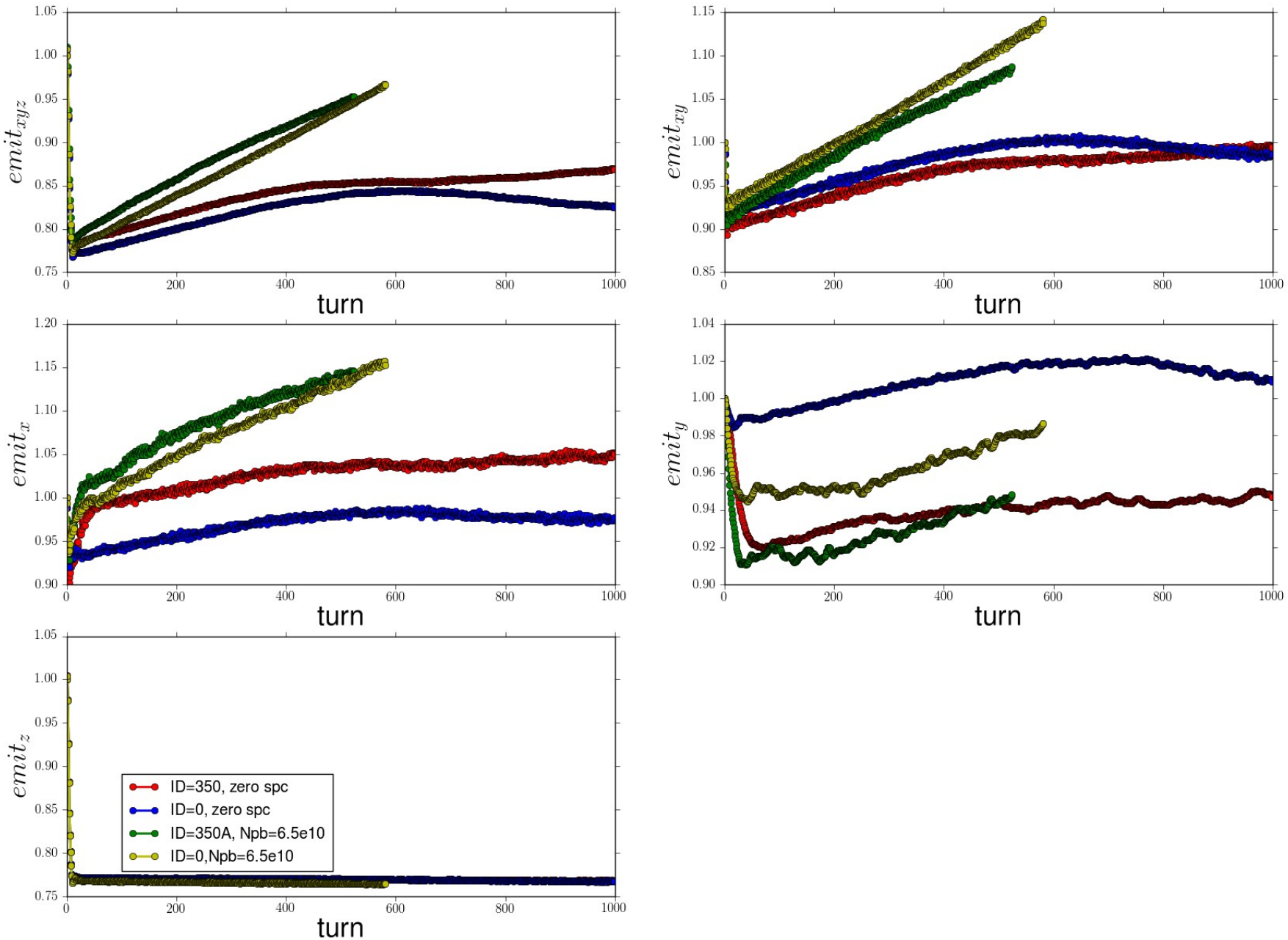
zrms=0.4m

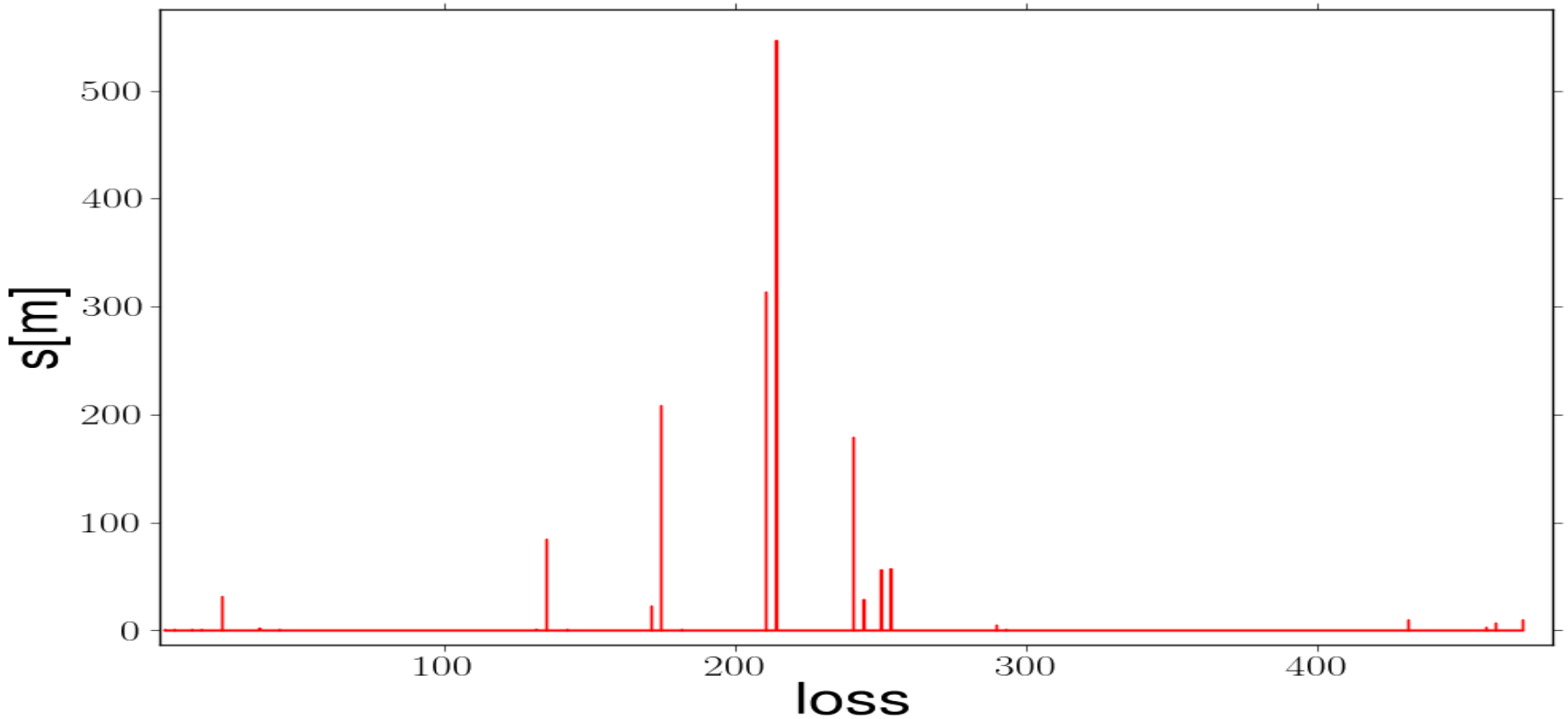

$emit_{xyz}$
$emit_{xy}$
$emit_x$
$emit_y$
$emit_z$
turn
$+9.98\times10^{-1}$
ID=350, zero spc
ID=0, zero spc
ID=350A, Npb=4.6e10
ID=0, Npb=4.6e10

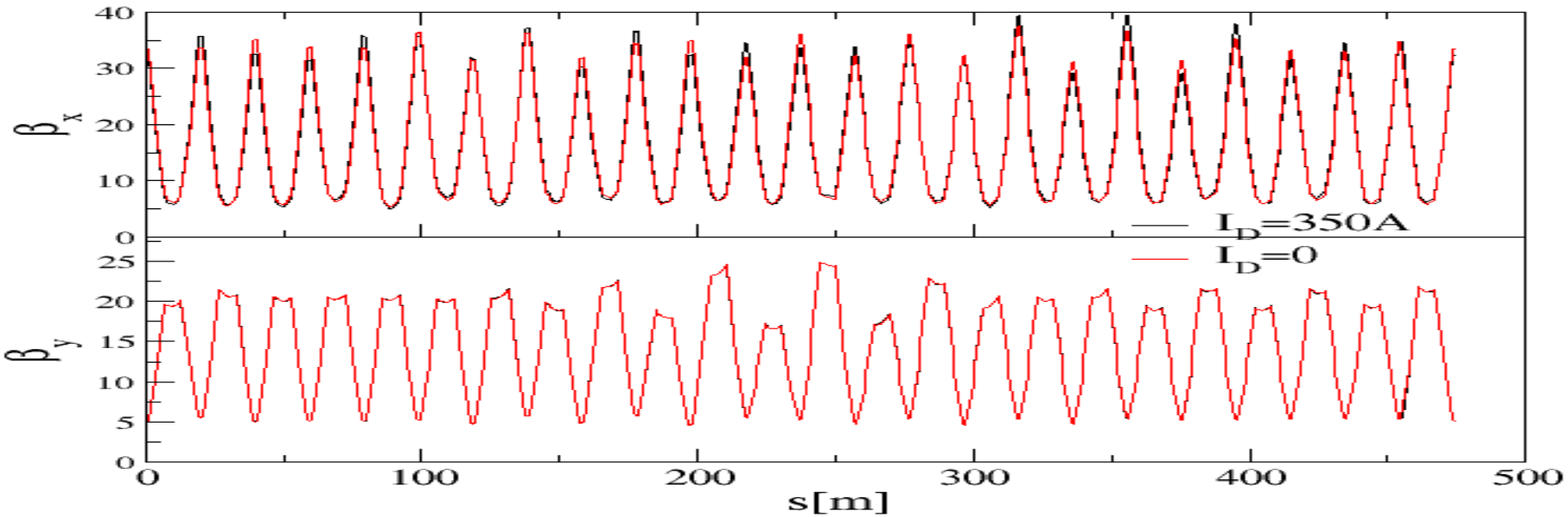
zrms=0.94m

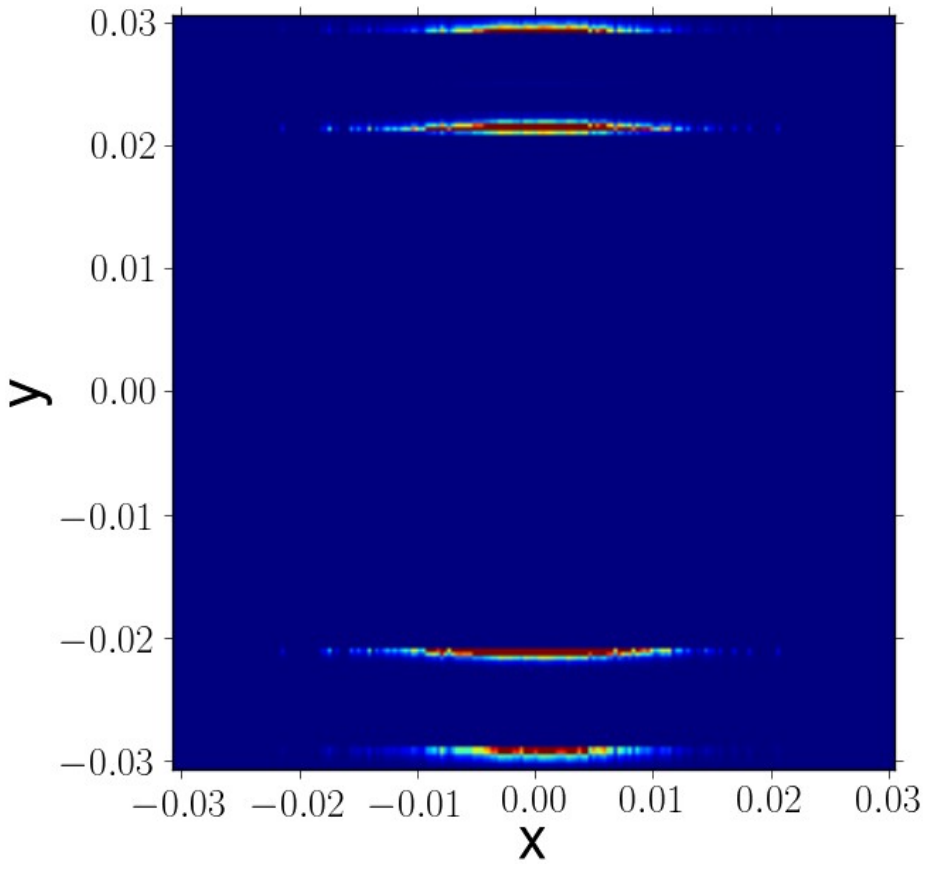

zloss, 350A, zrms=0.94m
zloss, 0A, zrms=0.94m
aperture loss, 350A, zrms=0.94m
aperture, loss 0A, zrms=0.94m
Npb=6.5e10
loss %
loss %
turn
0
200
400
600
800
1000
12
10
8
6
4
2
0.5
0

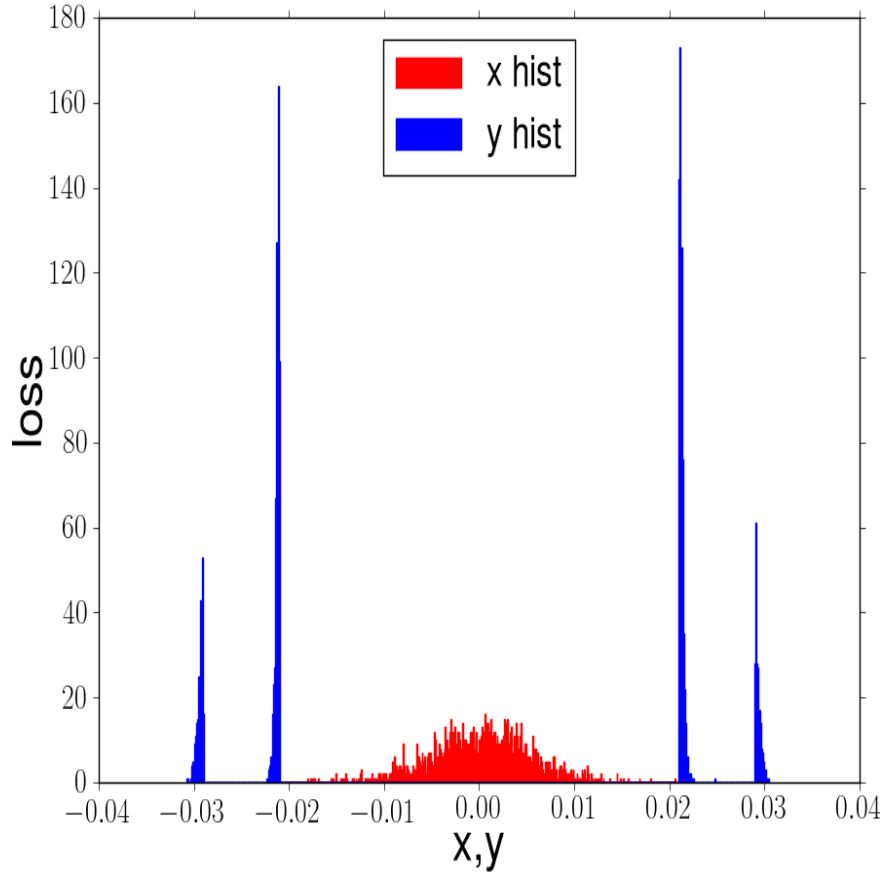
zrms=0.94m

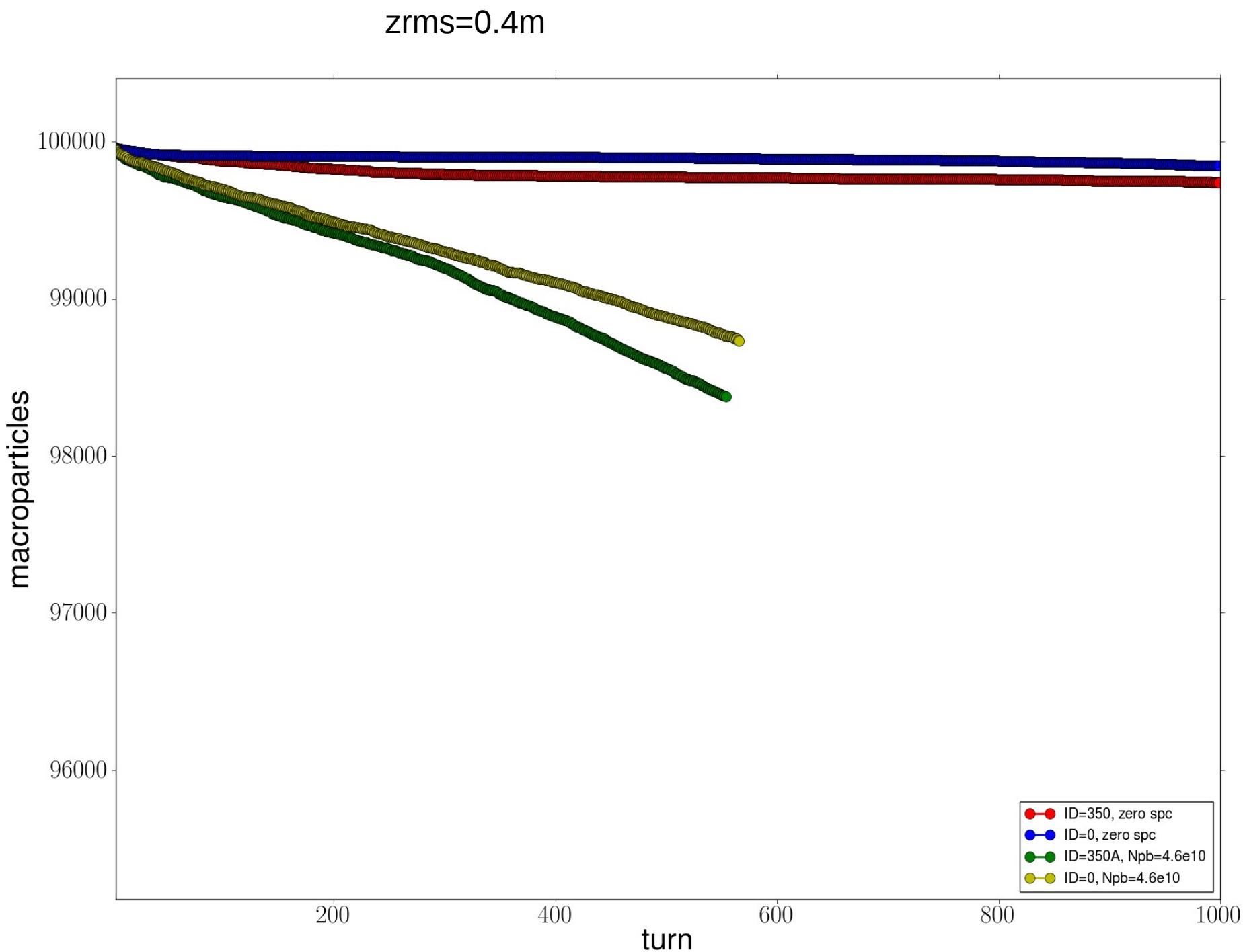

$emit_{xyz}$
$emit_{xy}$
$emit_x$
$emit_y$
$emit_z$
turn
ID=350, zero spc
ID=0, zero spc
ID=350A, Npb=6.5e10
ID=0,Npb=6.5e10

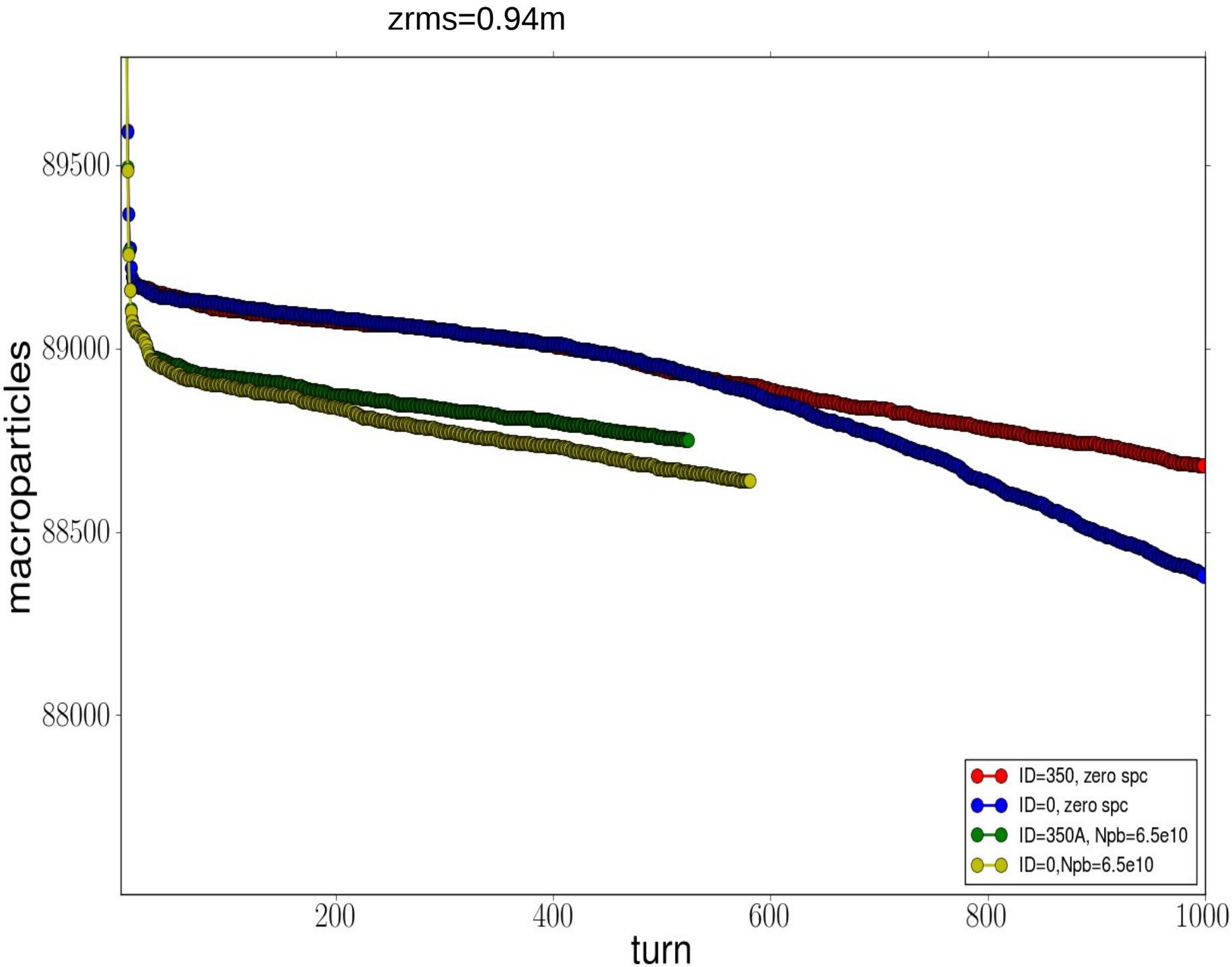

s[m]
loss
0
100
200
300
400
500
100
200
300
400


β_x
β_y
I_D=350A
I_D=0
s[m]
0
100
200
300
400
500


0.03
0.02
0.01
0.00
−0.01
−0.02
−0.03
y
−0.03 −0.02 −0.01 0.00 0.01 0.02 0.03
x


x hist
y hist
180
160
140
120
100
80
60
40
20
0
loss
−0.04 −0.03 −0.02 −0.01 0.00 0.01 0.02 0.03 0.04
x,y


zrms=0.4m
macroparticles
100000
99000
98000
97000
96000
200
400
600
800
1000
turn
ID=350, zero spc
ID=0, zero spc
ID=350A, Npb=4.6e10
ID=0, Npb=4.6e10


zrms=0.94m
macroparticles
89500
89000
88500
88000
200
400
600
800
1000
turn
ID=350, zero spc
ID=0, zero spc
ID=350A, Npb=6.5e10
ID=0,Npb=6.5e10