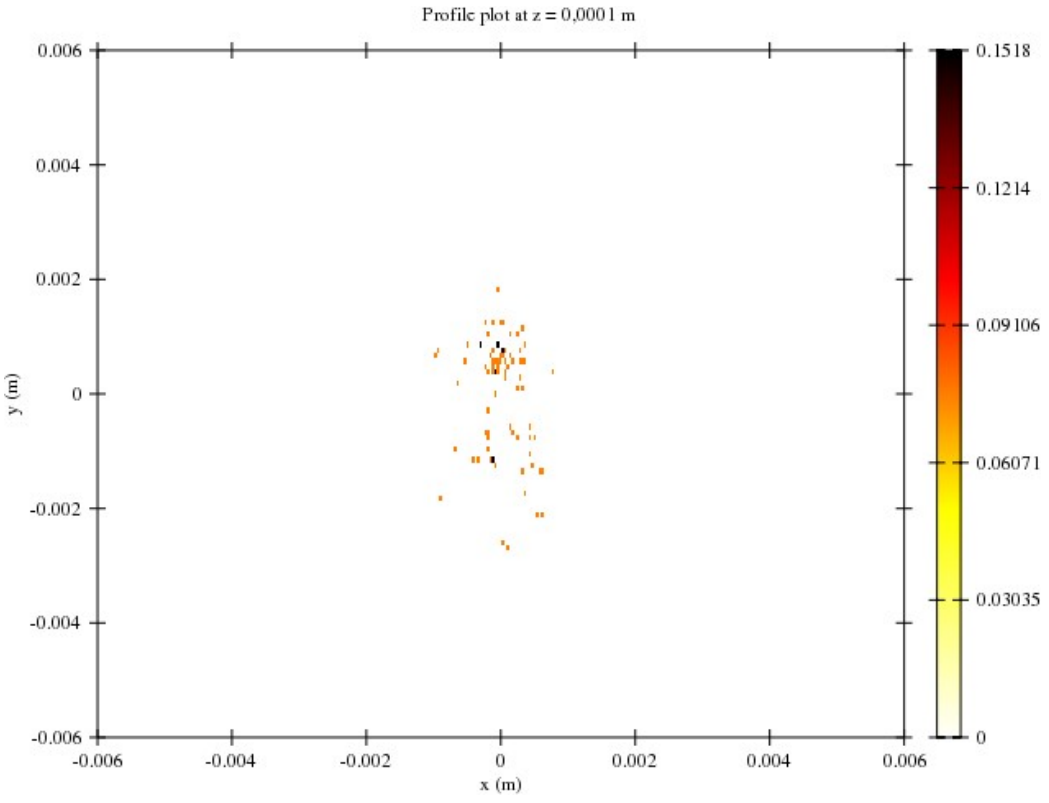
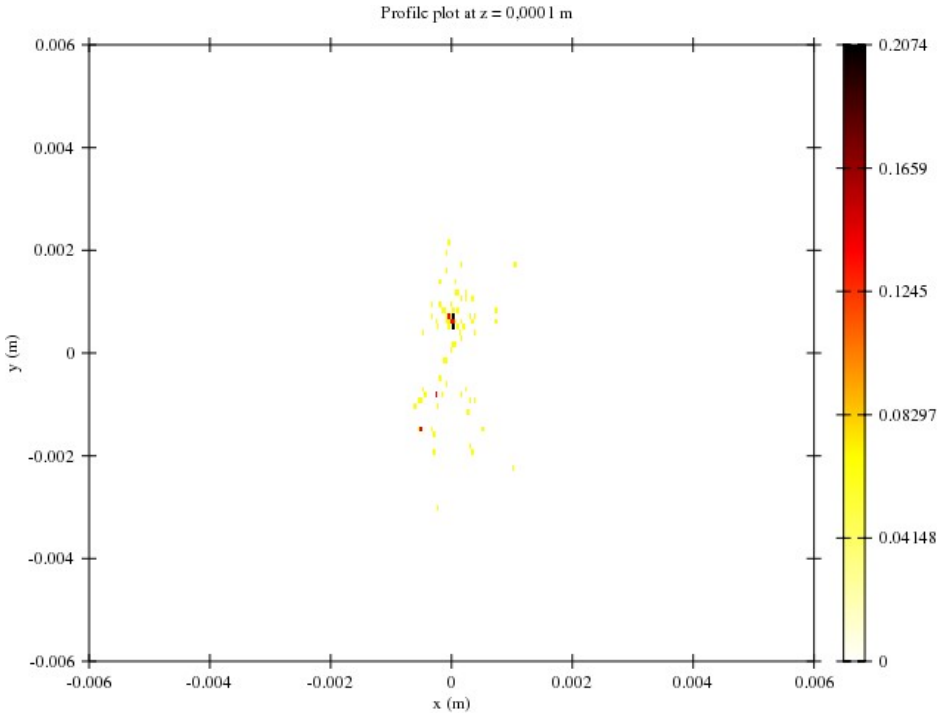
Simulations results

Distribution of ion back bombardmentbarment
New approach

Pass plots with only one iteration





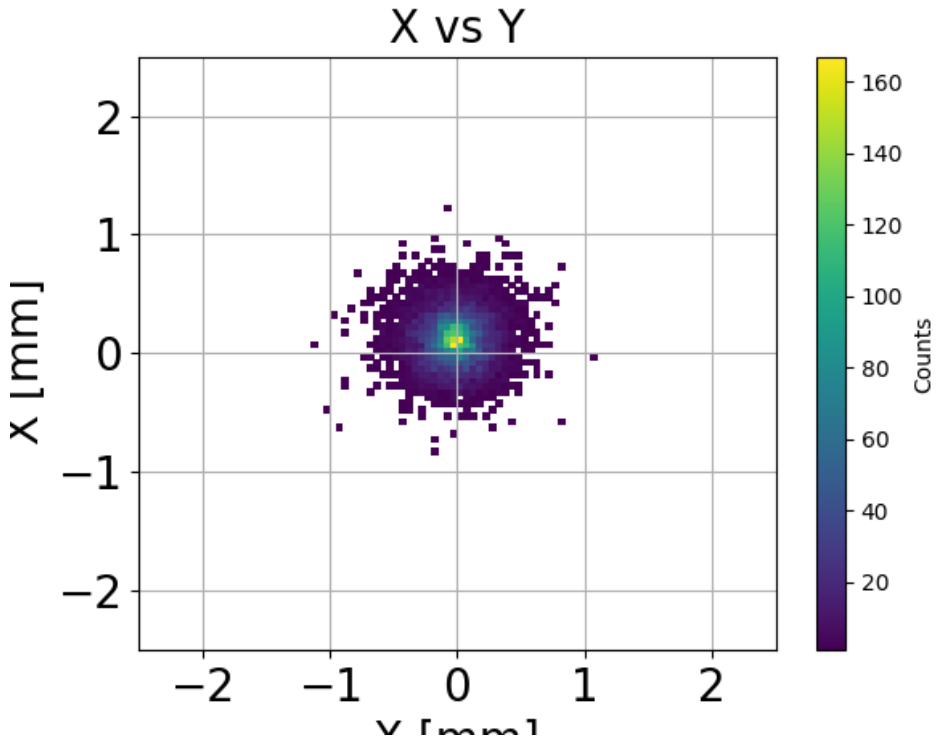
Particle parameters

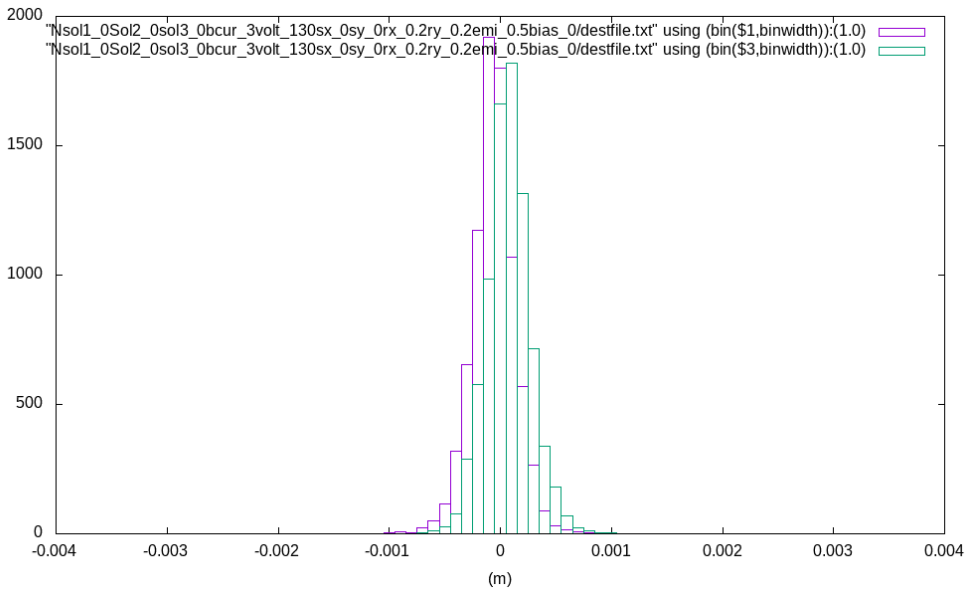
The rate of particle creation was the same in all the simulations

Now the results reflex the integrated ion back bombardment over 200 micro seconds.

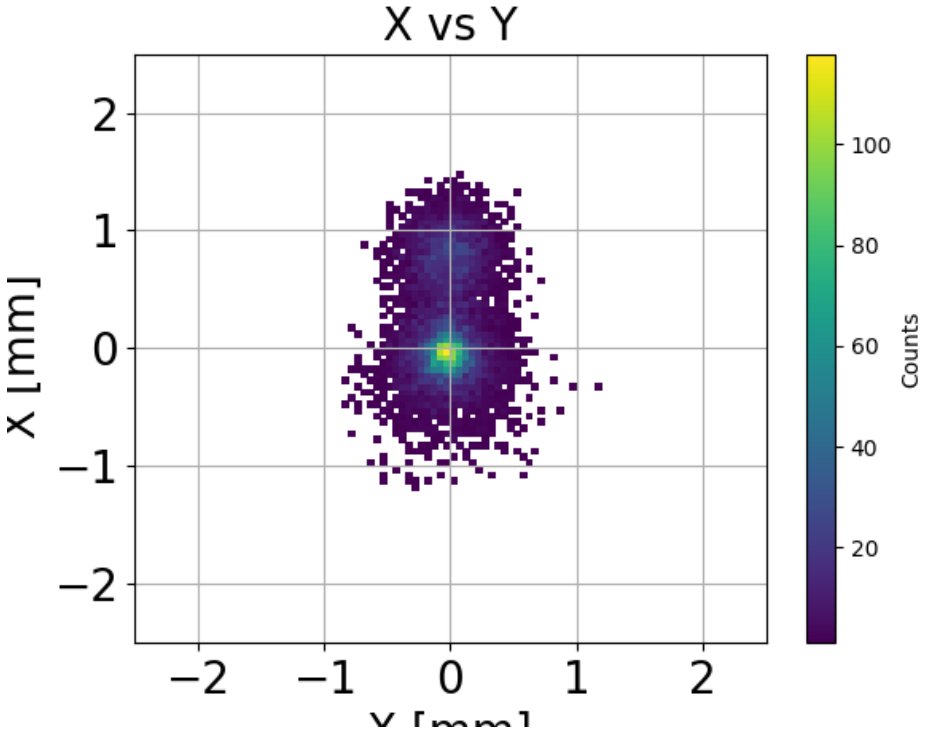
The gas density was : 2.60e18
Gun Voltage 130 kV
Beam 3 mA
Beam radius 0.2 mm
Cylindrical beam

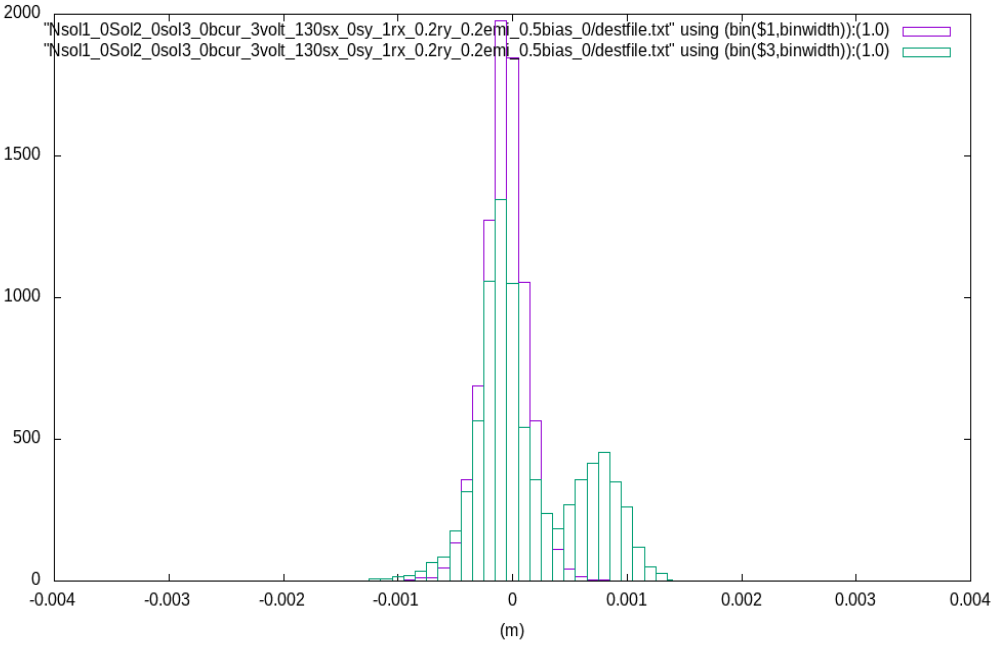
Beam at center



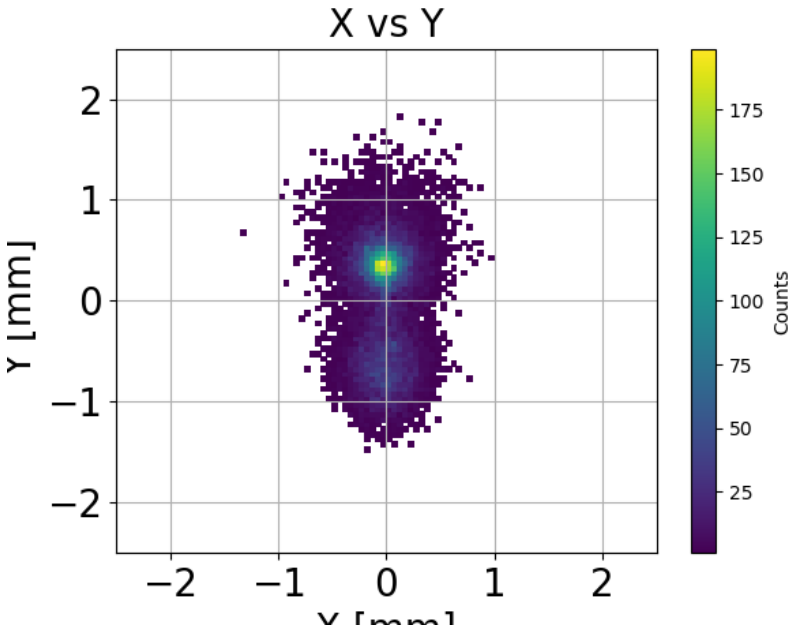


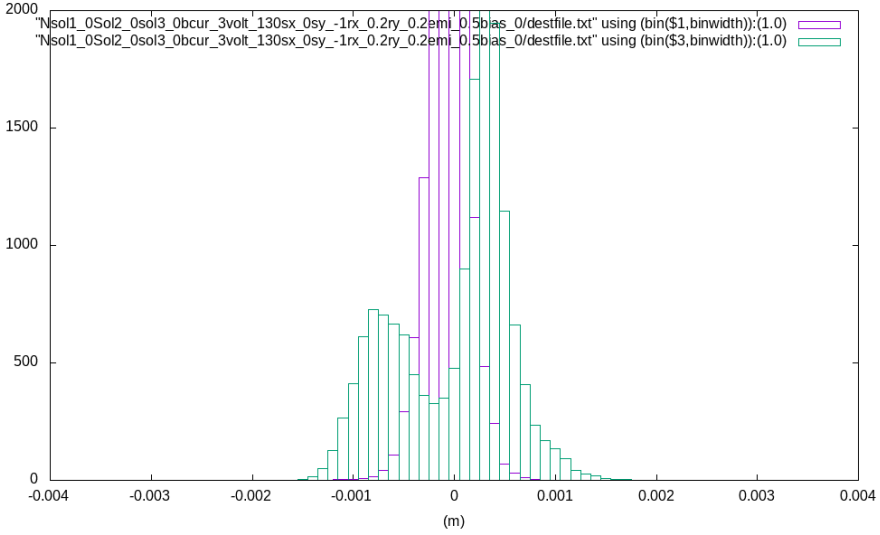
Beam x=0 , Y=1


X vs Y
X [mm]
Y [mm]
Counts
2
1
0
−1
−2
100
80
60
40
20


"Nsol1_0Sol2_0sol3_0bcur_3volt_130sx_0sy_1rx_0.2ry_0.2emi_0.5bias_0/destfile.txt" using (bin($1,binwidth)):(1.0)
"Nsol1_0Sol2_0sol3_0bcur_3volt_130sx_0sy_1rx_0.2ry_0.2emi_0.5bias_0/destfile.txt" using (bin($3,binwidth)):(1.0)
2000
1500
1000
500
0
-0.004
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
0.004
(m)

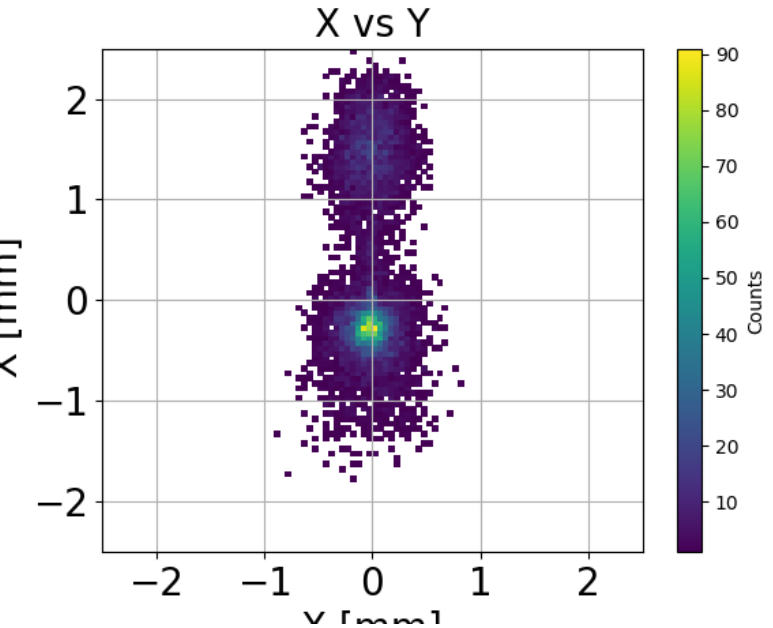
X=2, Y=-1

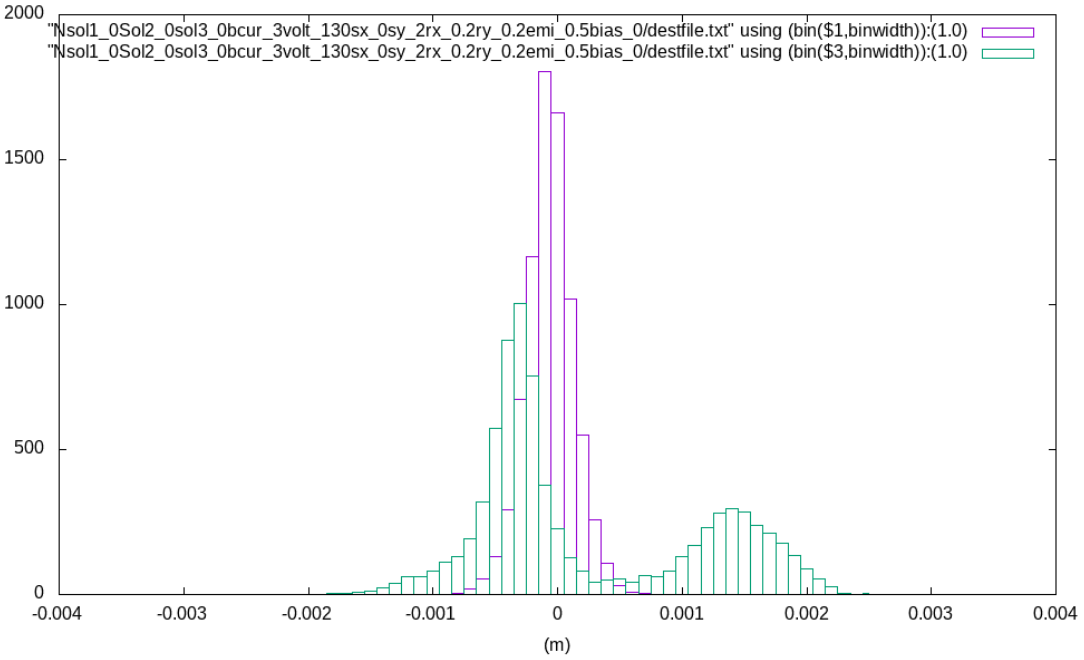




- Note this case run two times, then is necessary to divide the maximum in the histos by two only in this slide

Beam x=0, Y=2


X vs Y
X [mm]
Counts
2
1
0
−1
−2
−2
−1
0
1
2
90
80
70
60
50
40
30
20
10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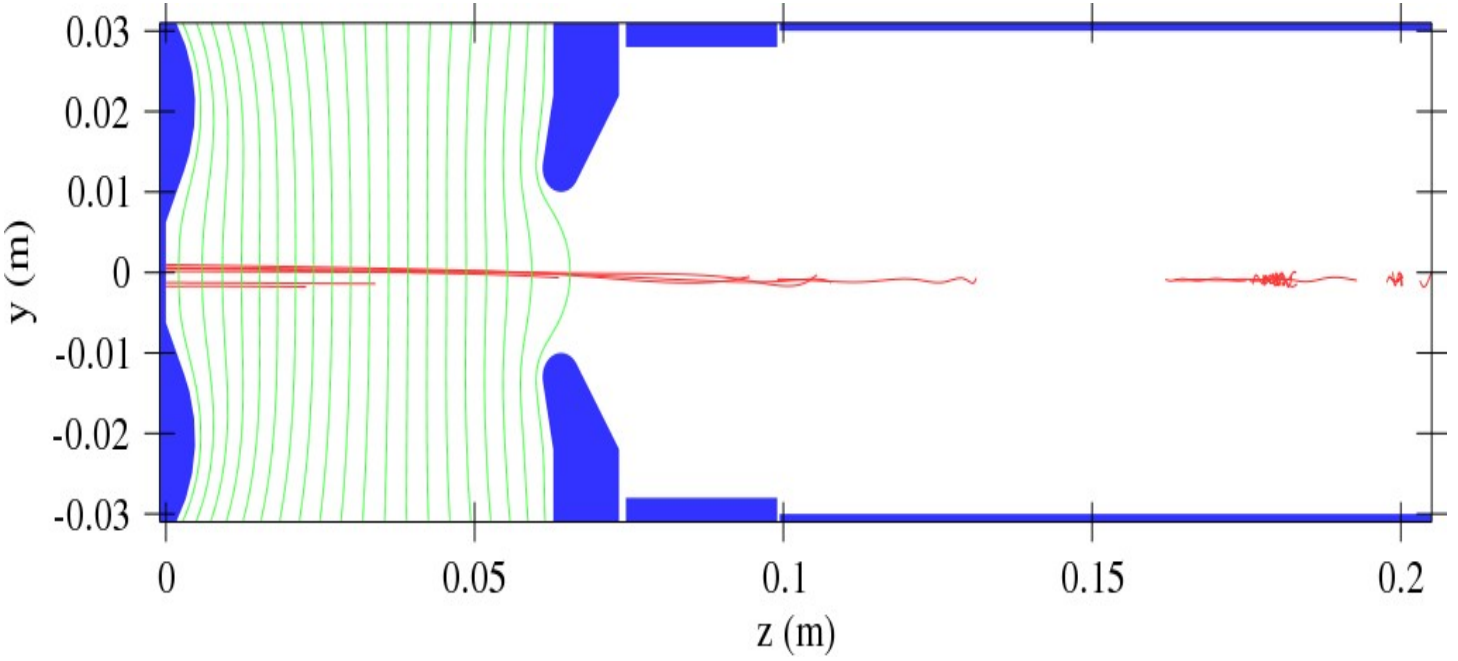
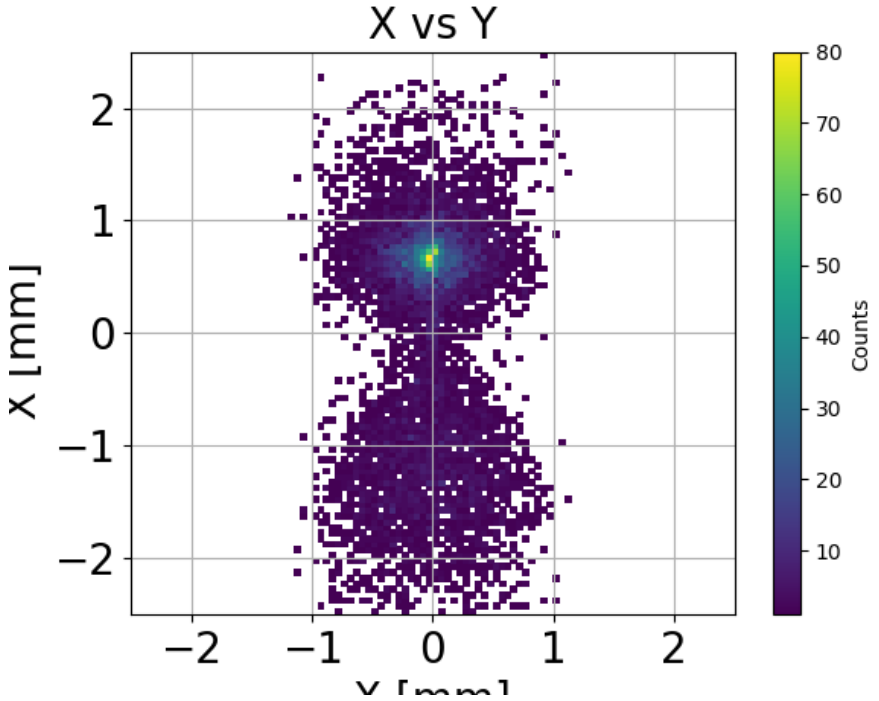
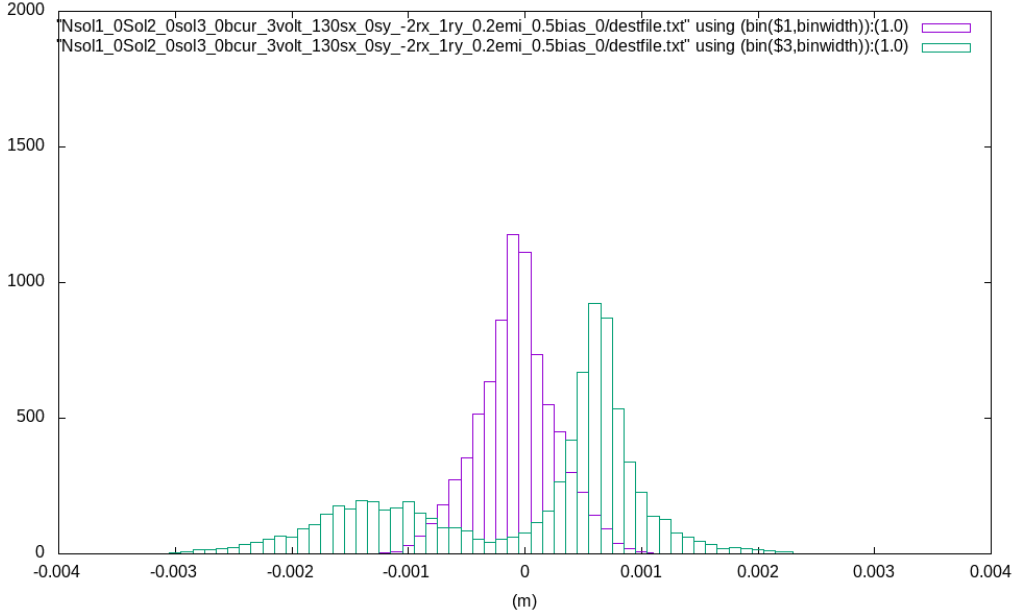
"Nsol1_0Sol2_0sol3_0bcur_3volt_130sx_0sy_2rx_0.2ry_0.2emi_0.5bias_0/destfile.txt" using (bin($3,binwidth)):(1.0)
2000
1500
1000
500
0
-0.004
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
0.004
(m)

Why this two peaks
X=0, Y=-2



Beam x=0, Y=-2


X vs Y
X [mm]
Y [mm]
Counts
2
1
0
−1
−2
−2
−1
0
1
2
80
70
60
50
40
30
20
10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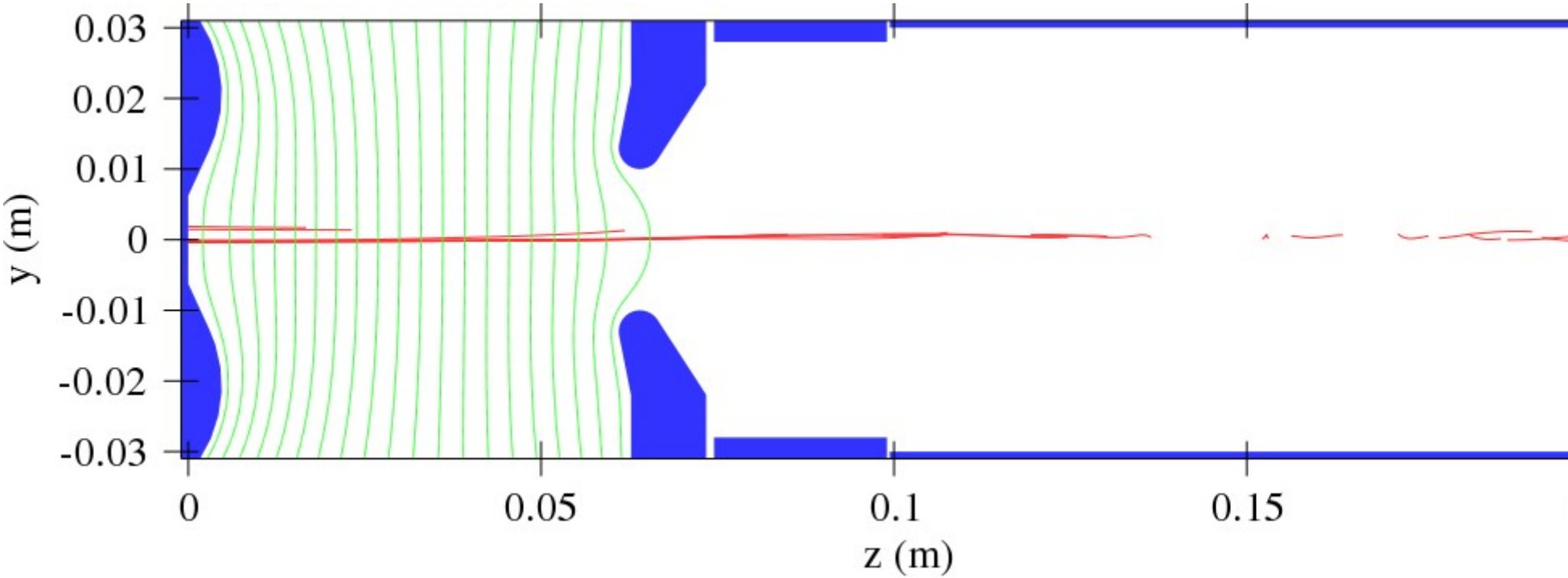
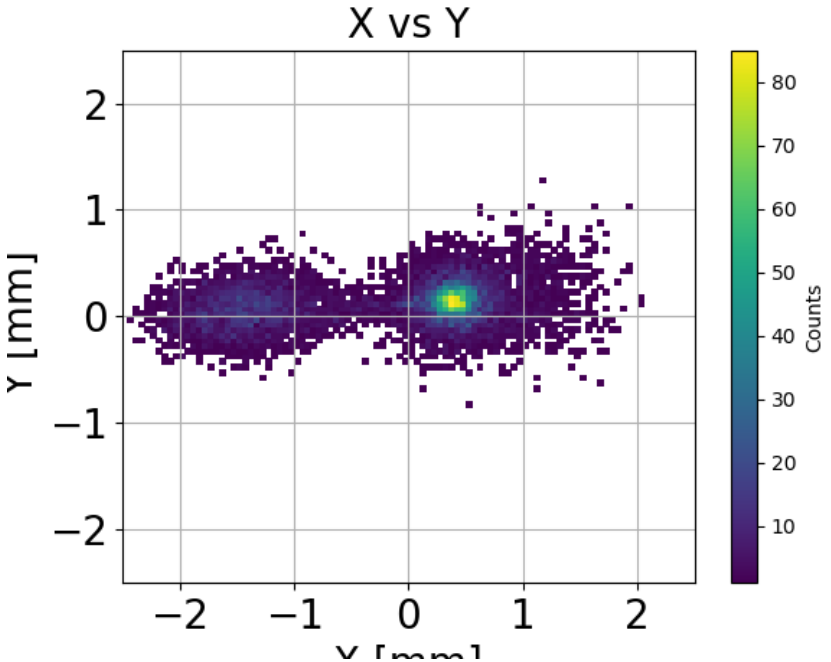
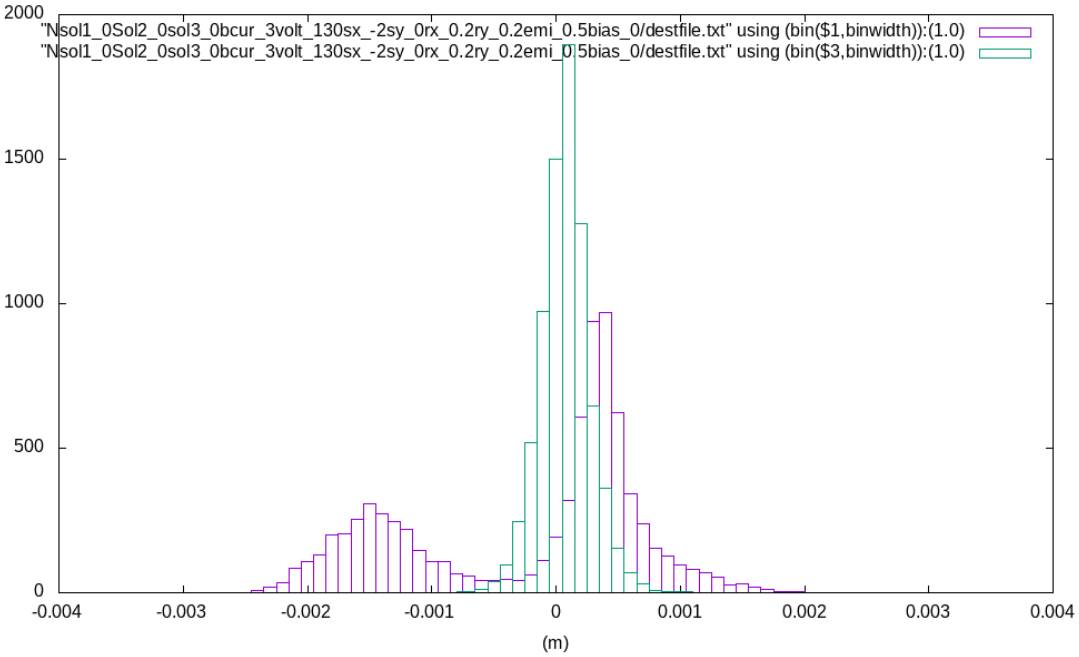
"Nsol1_0Sol2_0sol3_0bcur_3volt_130sx_0sy_-2rx_1ry_0.2emi_0.5bias_0/destfile.txt" using (bin($3,binwidth)):(1.0)
2000
1500
1000
500
0
-0.004
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
0.004
(m)

X=0 Y =2



X=-2 y=0


X vs Y
Y [mm]
X [mm]
Counts
2
1
0
−1
−2
−2
−1
0
1
2
80
70
60
50
40
30
20
10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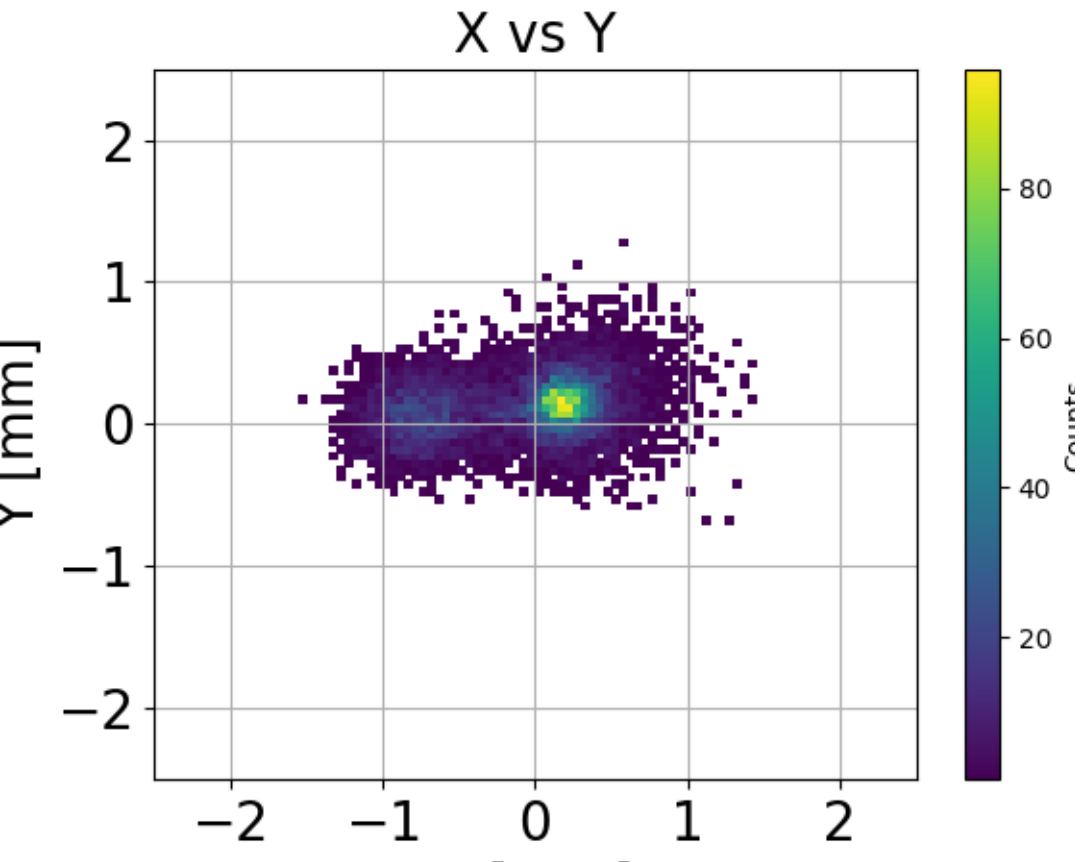
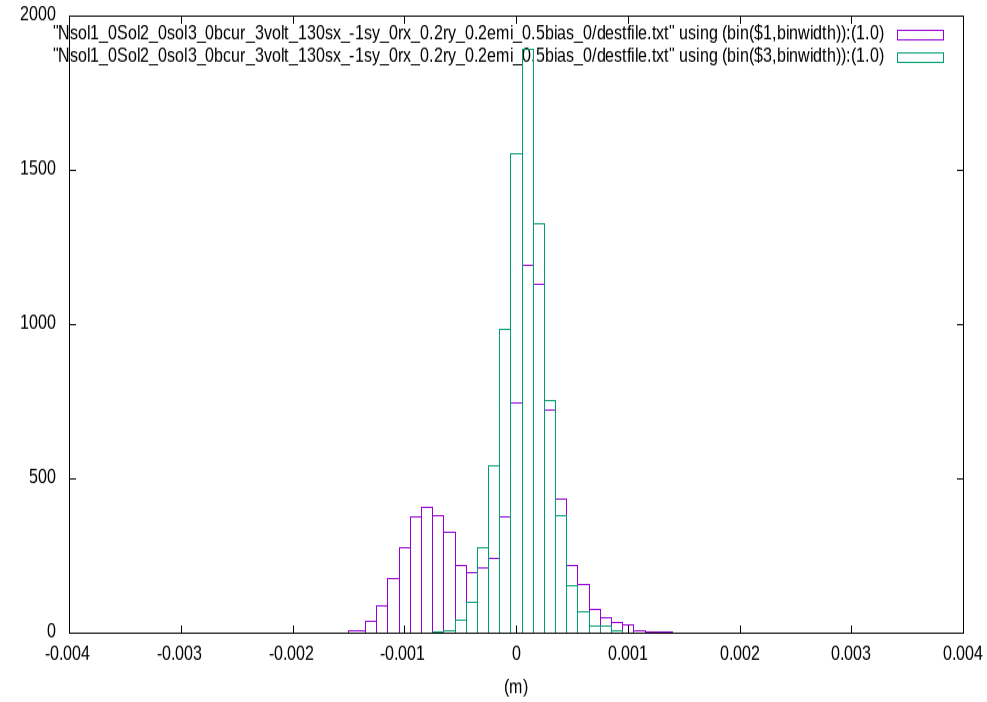
"Nsol1_0Sol2_0sol3_0bcur_3volt_130sx_-2sy_0rx_0.2ry_0.2emi_0.5bias_0/destfile.txt" using (bin($3,binwidth)):(1.0)
2000
1500
1000
500
0
-0.004
-0.003
-0.002
-0.001
0
0.001
0.002
0.003
0.004
(m)

X=-1, Y=0


X vs Y
Y [mm]
2
1
0
−1
−2
−2
−1
0
1
2
80
60
40
20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"Nsol1_0Sol2_0sol3_0bcur_3volt_130sx_-1sy_0rx_0.2ry_0.2emi_0.5bias_0/destfile.txt" using (bin($3,binwidth)):(1.0)
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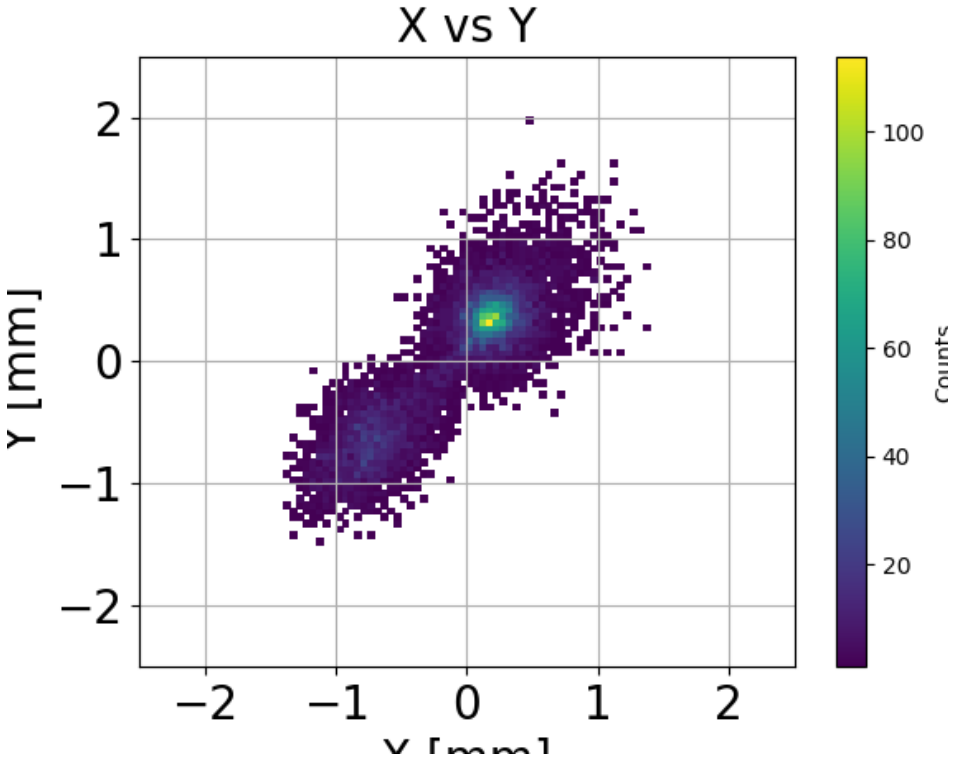
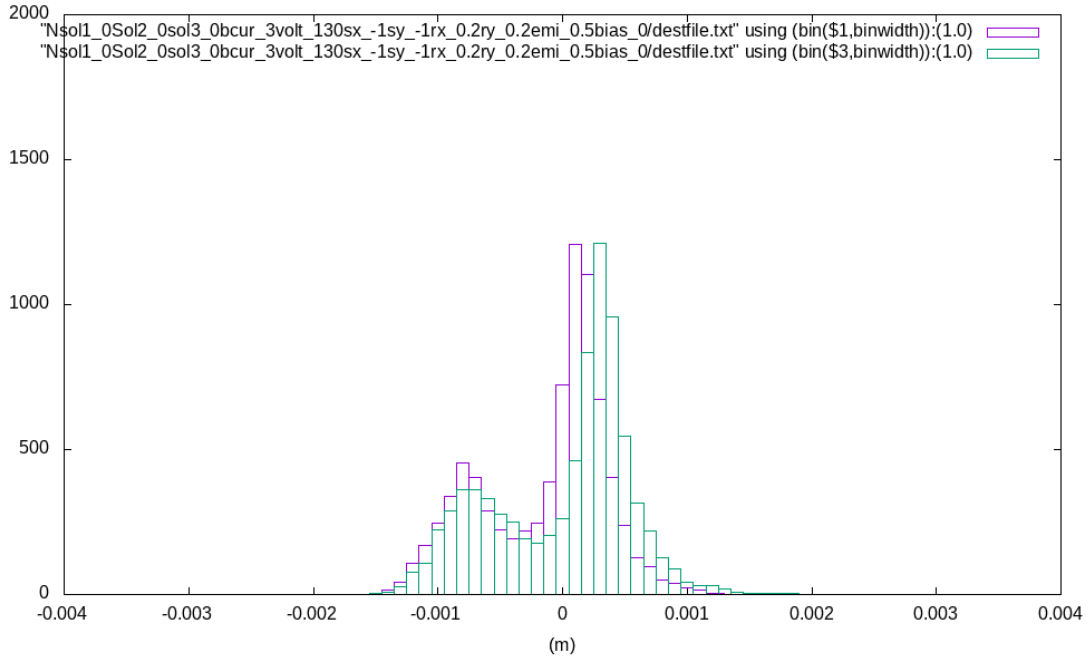
0.003
0.004
(m)

X=-1,Y=-1


X vs Y
Y [mm]
X [mm]
2
1
0
−1
−2
−2
−1
0
1
2
100
80
60
40
20


"Nsol1_0Sol2_0sol3_0bcur_3volt_130sx_-1sy_-1rx_0.2ry_0.2emi_0.5bias_0/destfile.txt" using (bin($1,binwidth)):(1.0)
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Counts
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-0.001
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0.003
0.004
(m)