

Power Deposition in 16 x-Slices of a 65-mrad Tilted Graphite Target

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7/7/14

4 MW beam power, 6.75 GeV beam kinetic energy.

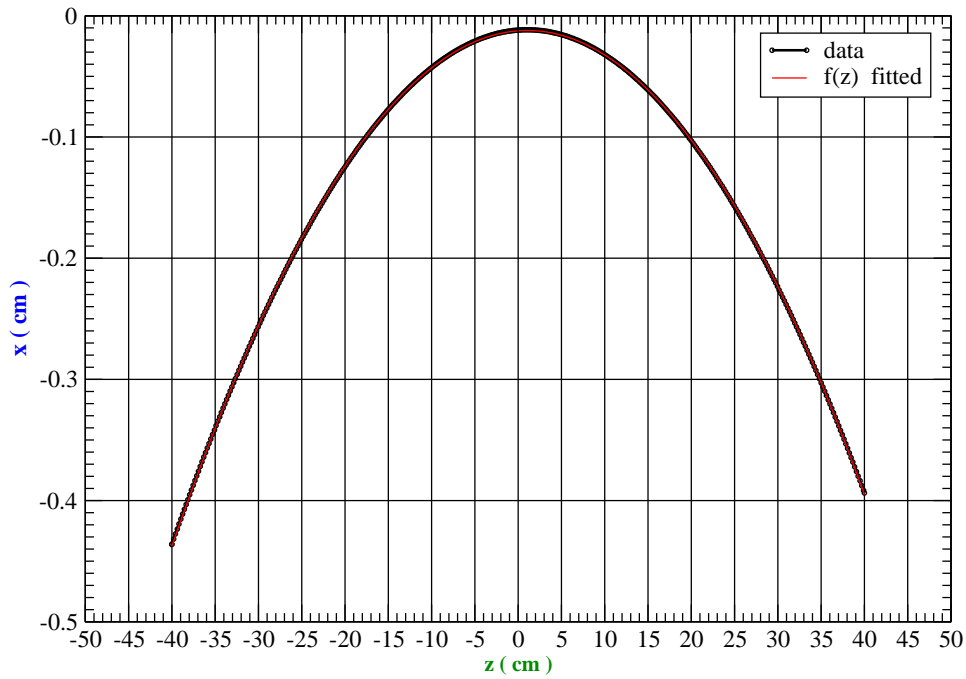
Beam spot has rms radius of 2 mm at the target center, $\beta^* = 80$ cm.

The peak energy deposition is 3598 J/g (\sim same as for the 0° case), and occurs for $(x,y,z) = (-0.35, 2.45, -37.5)$ cm (2.5 cm into the target).

Trajectory of the central proton ray for 65-mrad tilt and 20-T field.

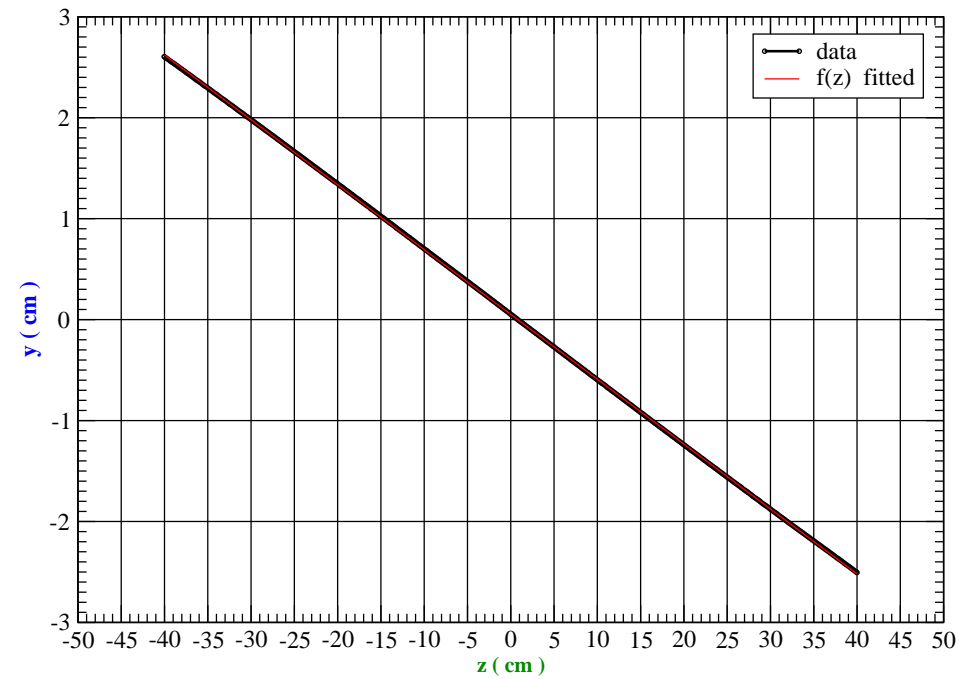
CENTROID TRJCT FOR $-40.0 < z < 40.0$ cm IN C TARGET REGION AND 2nd ORDER POLYNOMIAL FIT

$$x(z) = -0.012362 + 0.00053258 * z - 0.00025242 * z^2$$



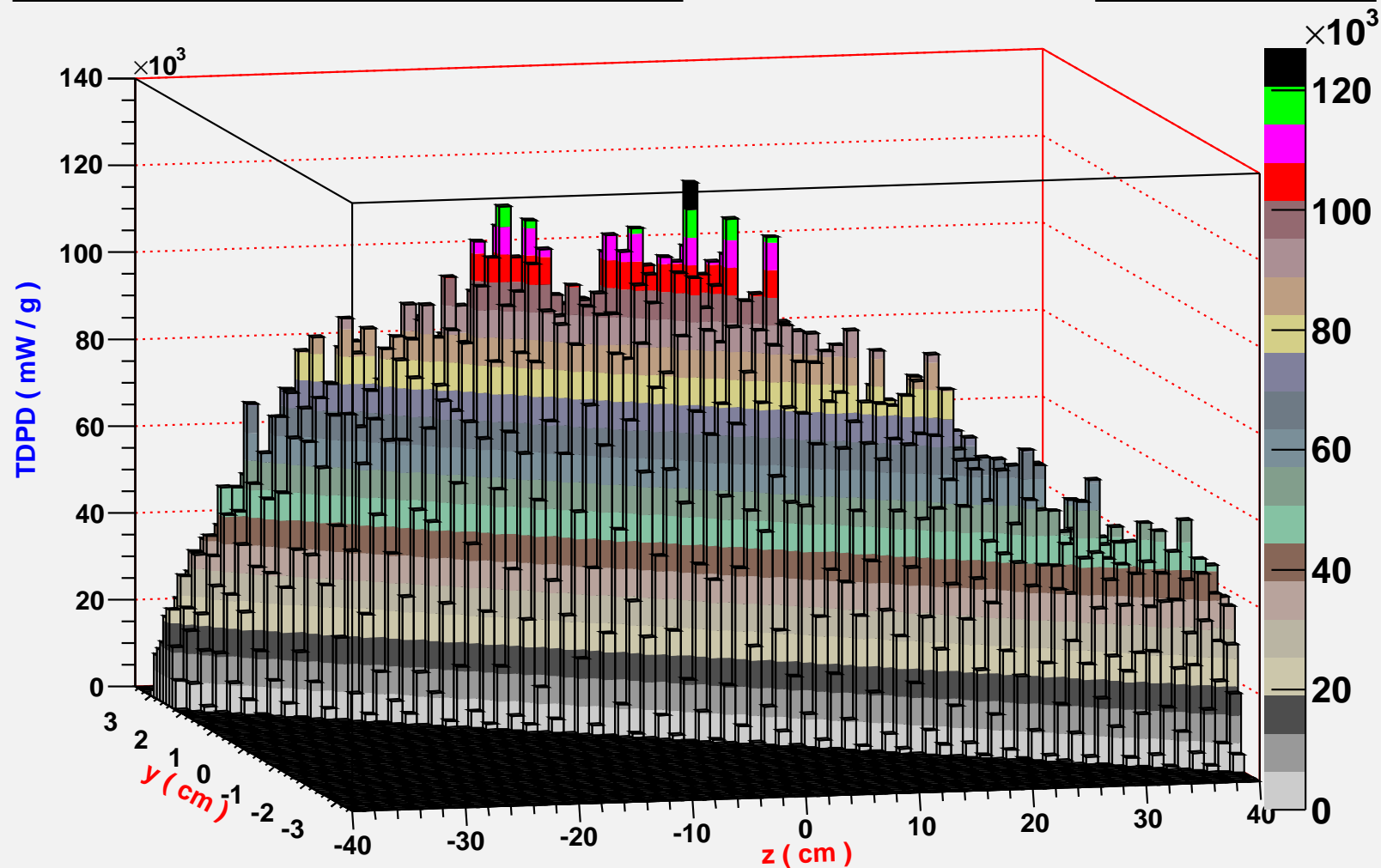
CENTROID TRJCT FOR $-40.0 < z < 40.0$ cm IN C TARGET REGION AND 1st ORDER POLYNOMIAL FIT

$$y(z) = 0.051594 - 0.064267 * z$$



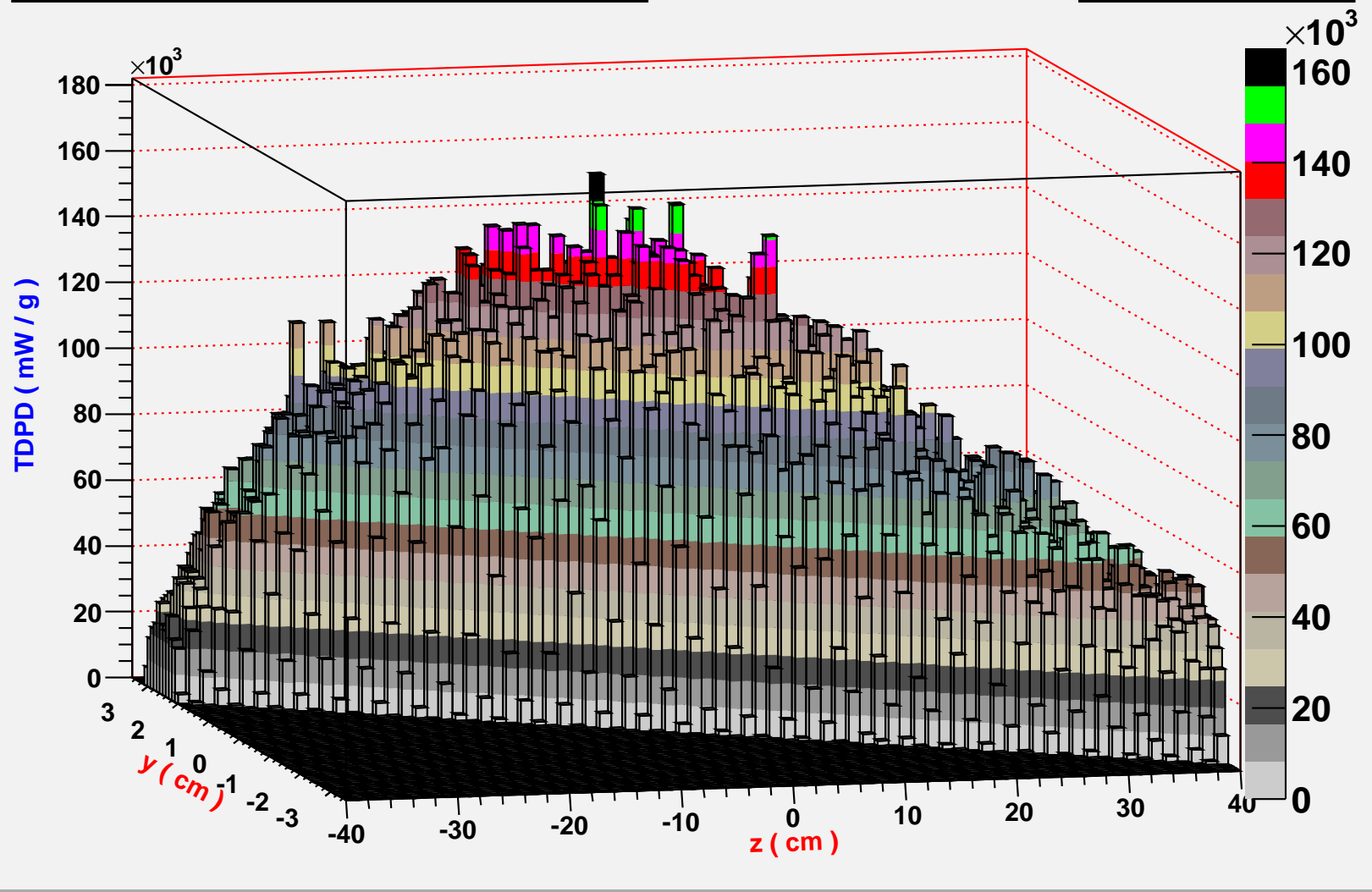
TDPD (mW/g) $0.7 < x < 0.8$ cm

1391976
1.255
0.1078
2001
1.117



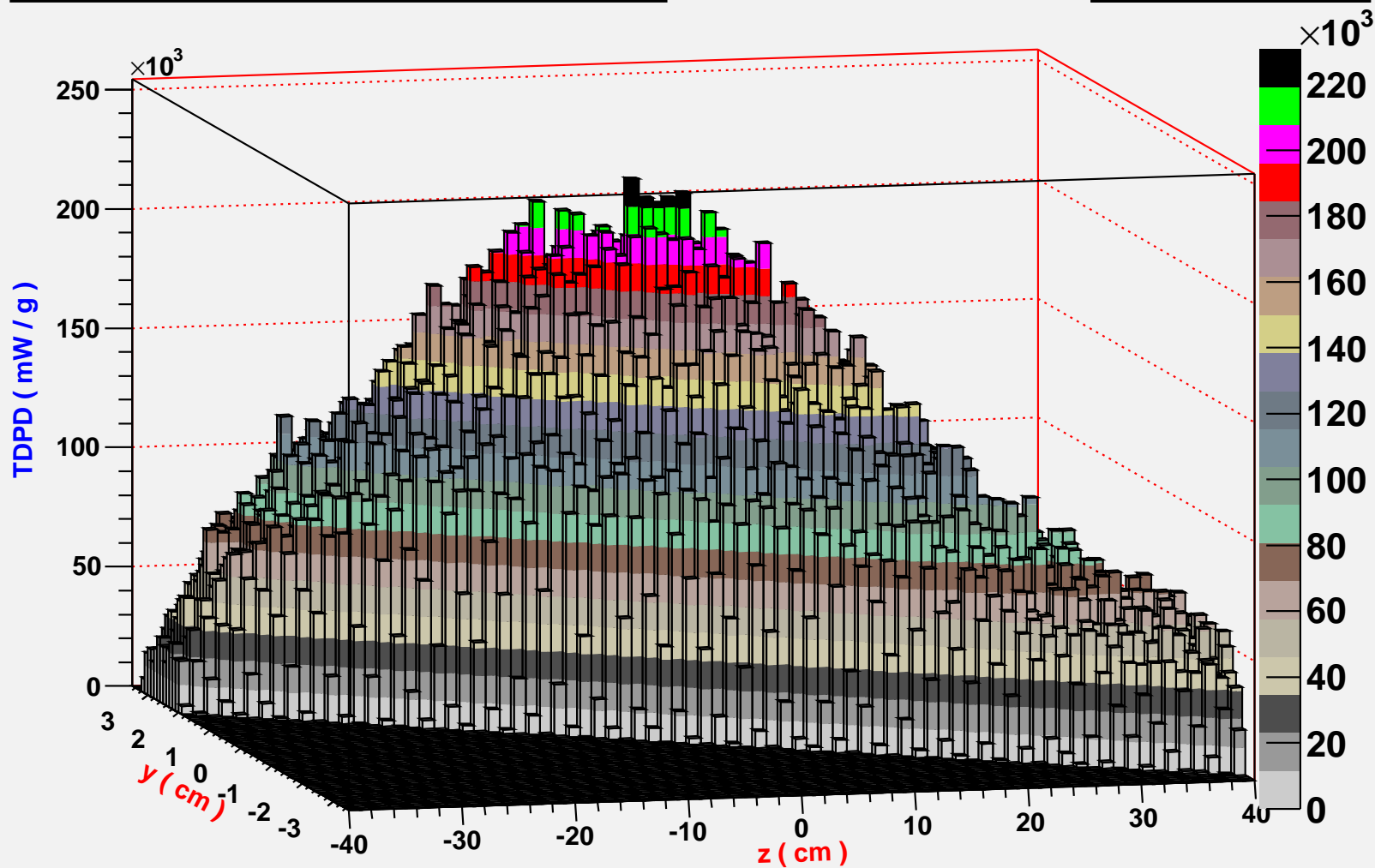
TDPD (mW/g) $0.6 < x < 0.7$ cm

Entries	3720	287042
Mean x	-1.275	
Mean y	0.199	
Std x	19.72	
RMS x		



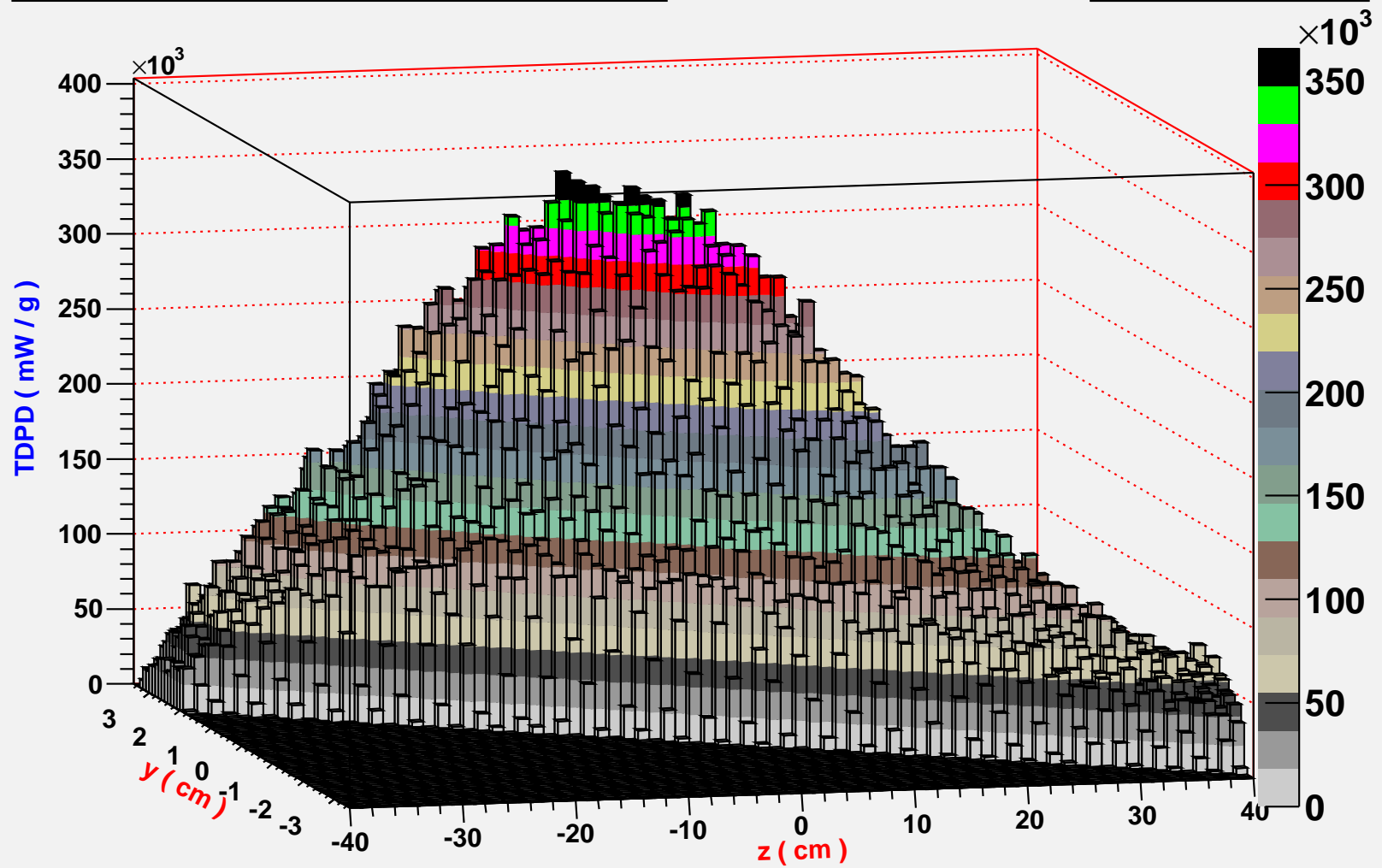
TDPD (mW/g) $0.5 < x < 0.6$ cm

Entries: 4442771
Mean x: -1.642
Mean y: 0.1303
Max x: 19.22
Max y: 19.25



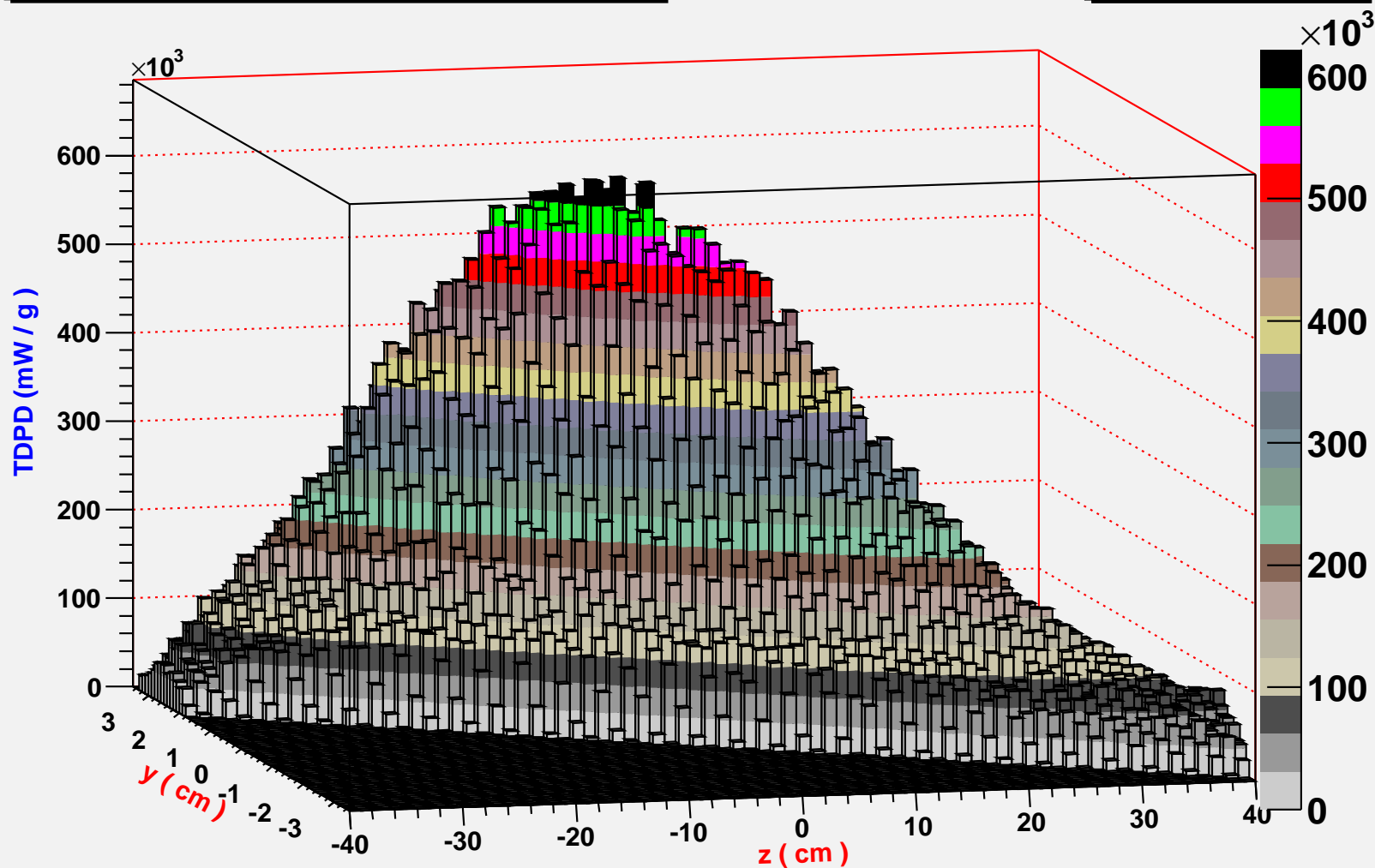
TDPD (mW/g) $0.4 < x < 0.5$ cm

Entries	6745	663468
Mean x	-1.983	1.983
Mean y	0.1658	0.1658
RMS x	18.52	18.52
RMS y	3.288	3.288



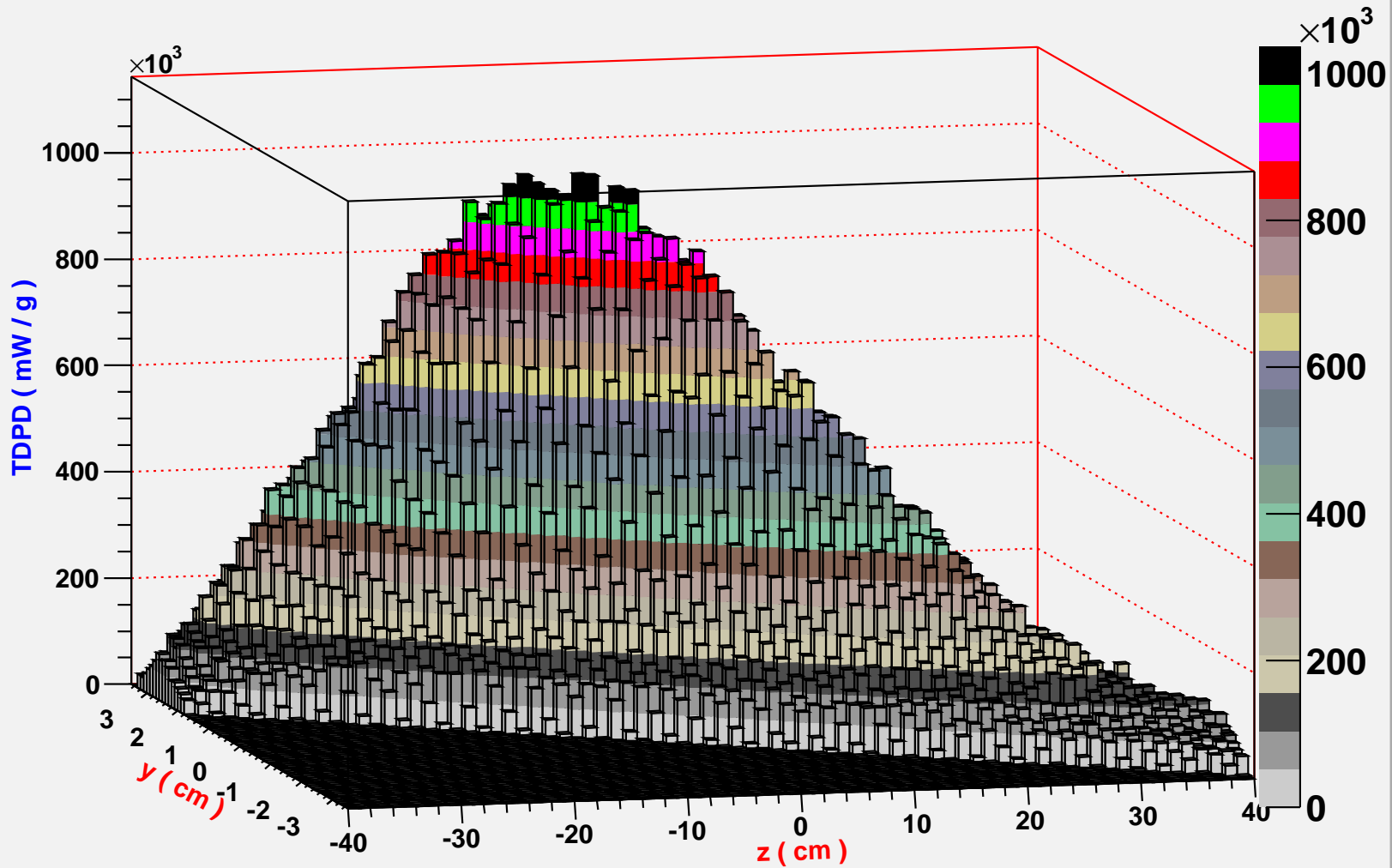
TDPD (mW/g) $0.3 < x < 0.4$ cm

Entries	1023
Mean x	1.002746e+07
Mean y	2.236
Mean z	0.2223
RMS x	17.228
RMS y	1.268



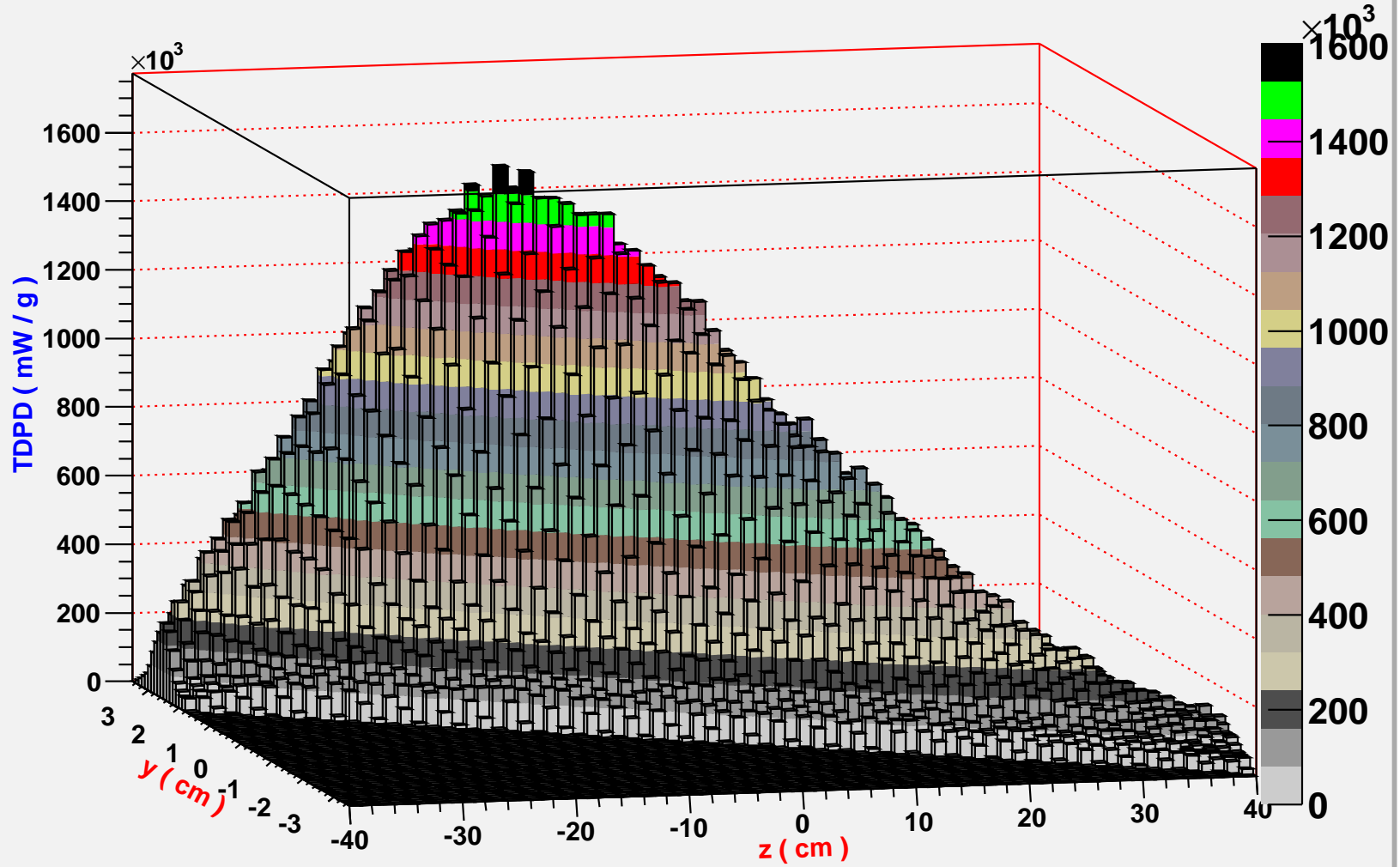
TDPD (mW/g) $0.2 < x < 0.3$ cm

Count	1.501384e+07
Mean x	-2.584
Mean y	0.2107
RMS x	17.78
RMS y	1.28



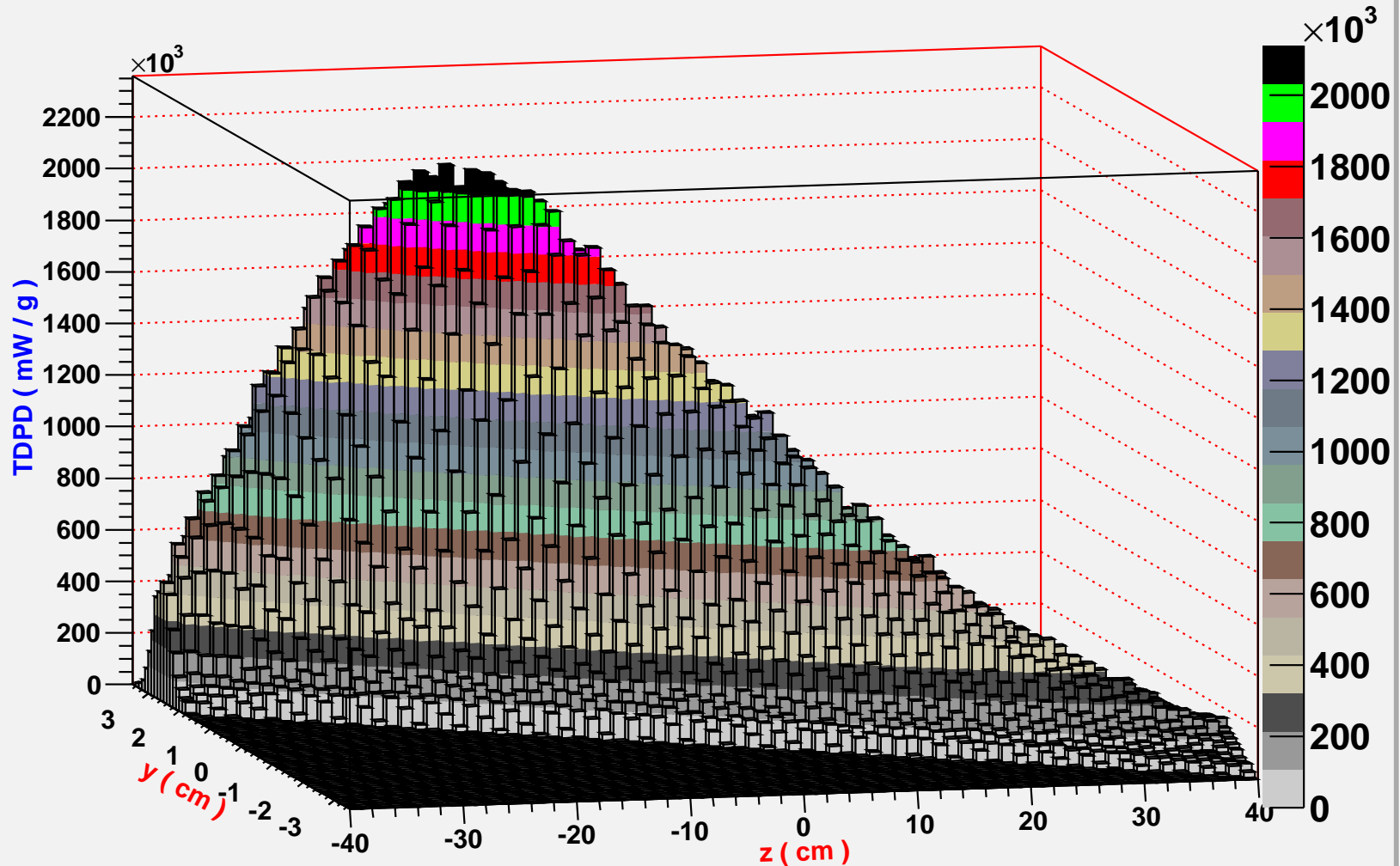
TDPD (mW/g) $0.1 < x < 0.2$ cm

Count	21524
Mean x	0.523
Mean y	0.413
RMS x	17.91
RMS y	1.126



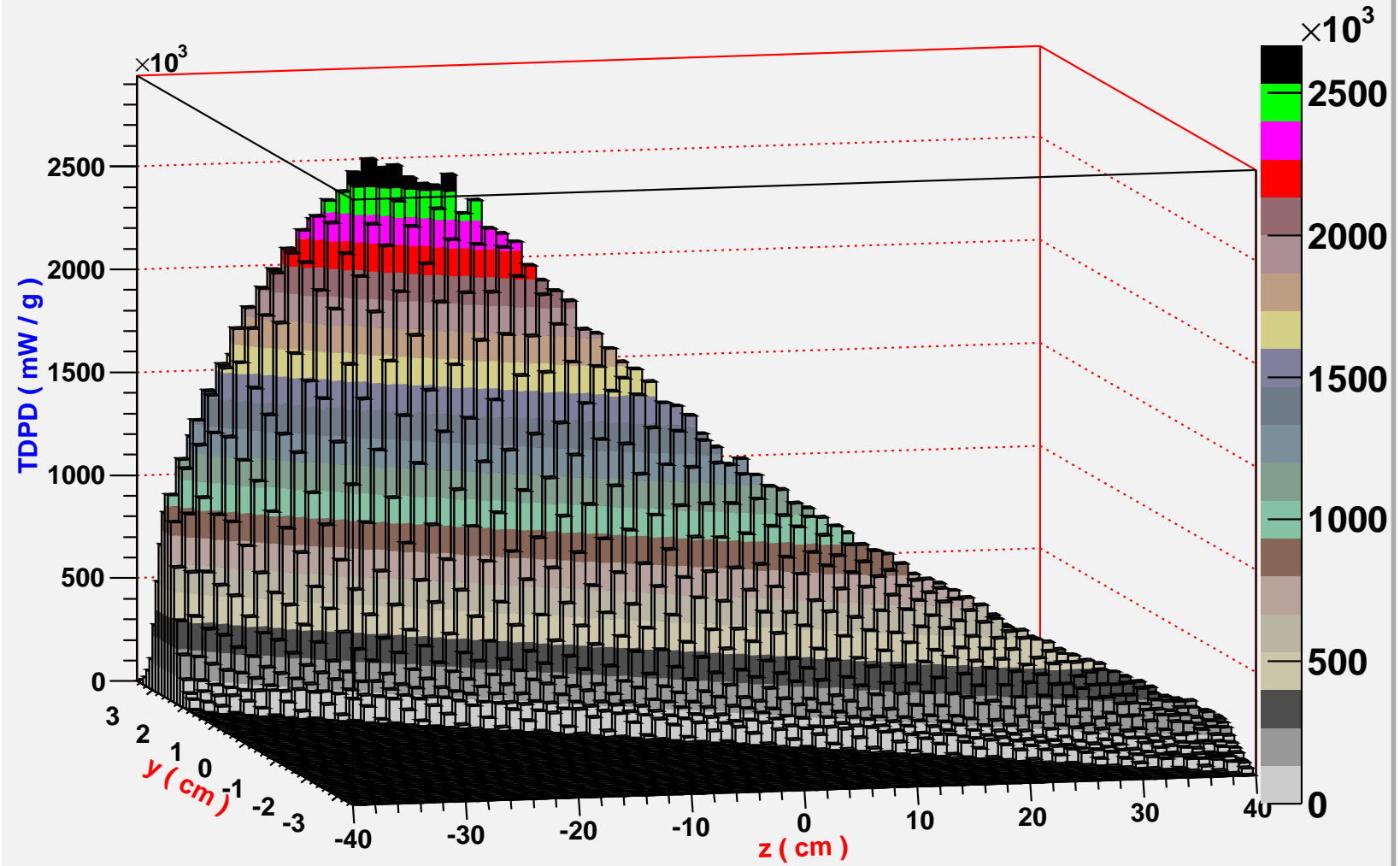
TDPD (mW/g) $0.0 < x < 0.1$ cm

Entries	6217
Mean x	2.828834e+07
Mean y	7.202
RMS x	0.0227
RMS y	18.41
RMS z	1.221



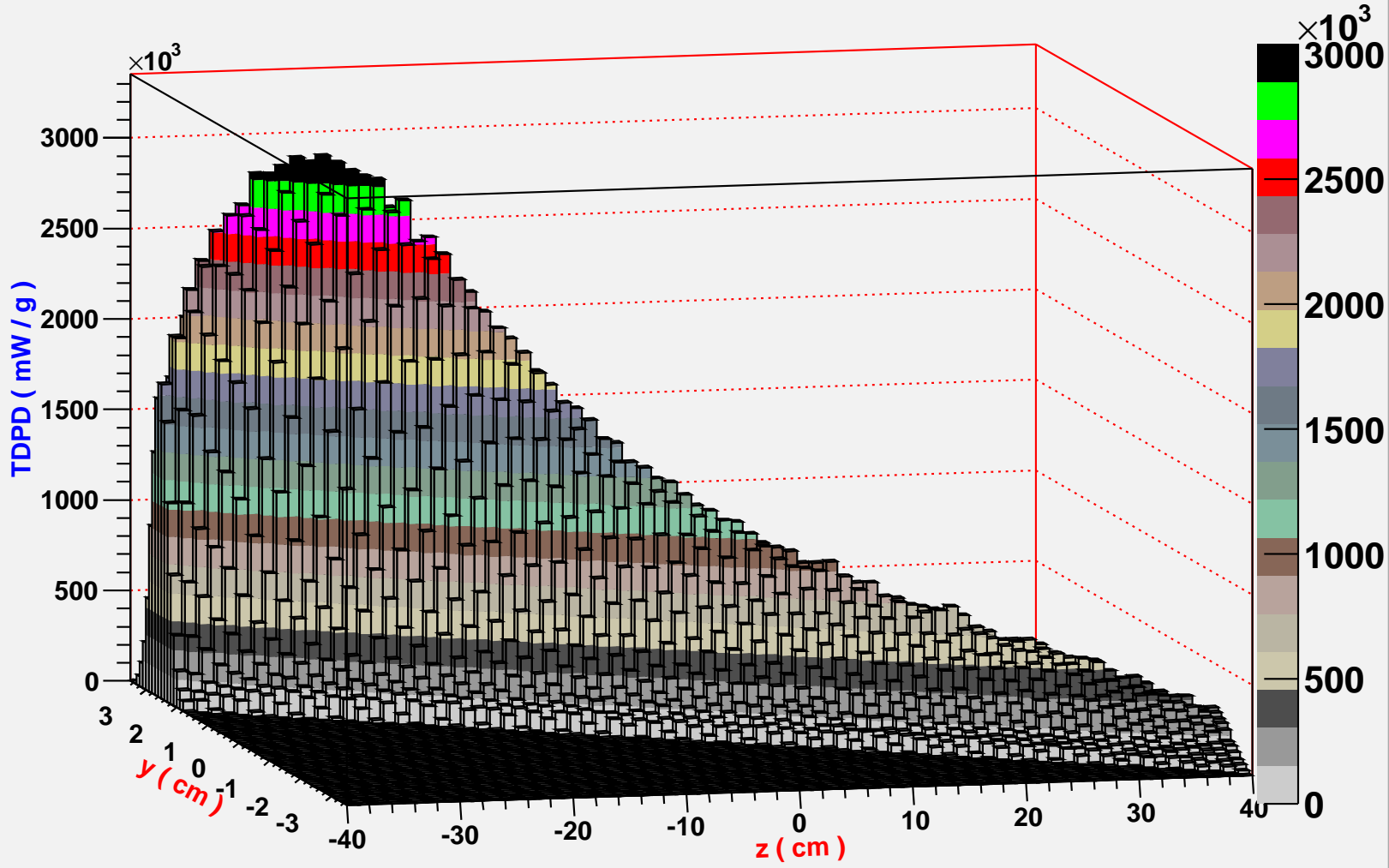
TDPD (mW/g) $-0.1 < x < 0.0$ cm

Entries	332210-07
Mean x	-0.364
Mean y	0.6023
RMS x	15.18
RMS y	1.261



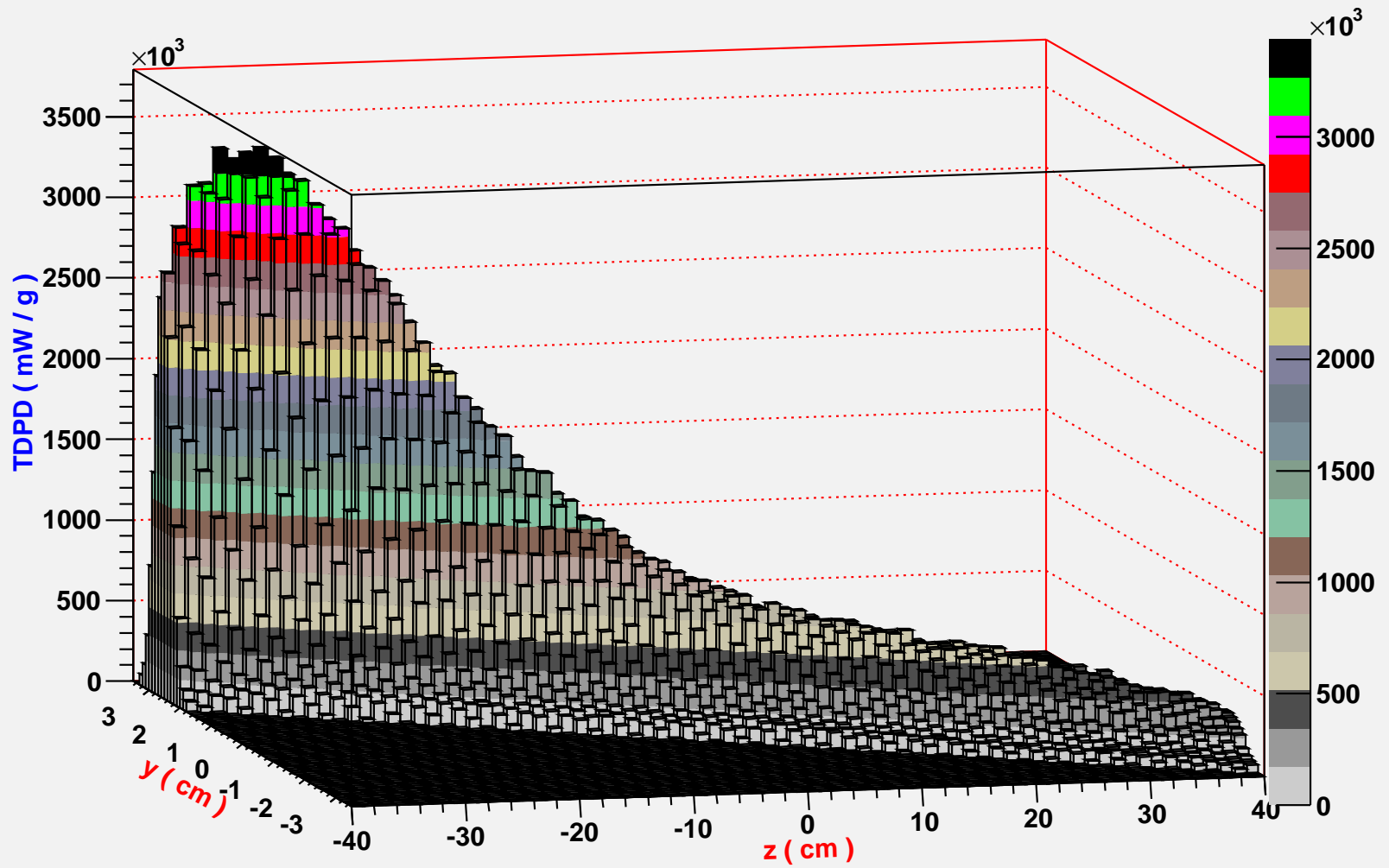
TDPD (mW/g) $-0.2 < x < -0.1$ cm

Entries	3241	3.513832e+07
Mean x	-11.45	
Mean y	0.7935	
RMS x	20.01	
RMS y	1.000	



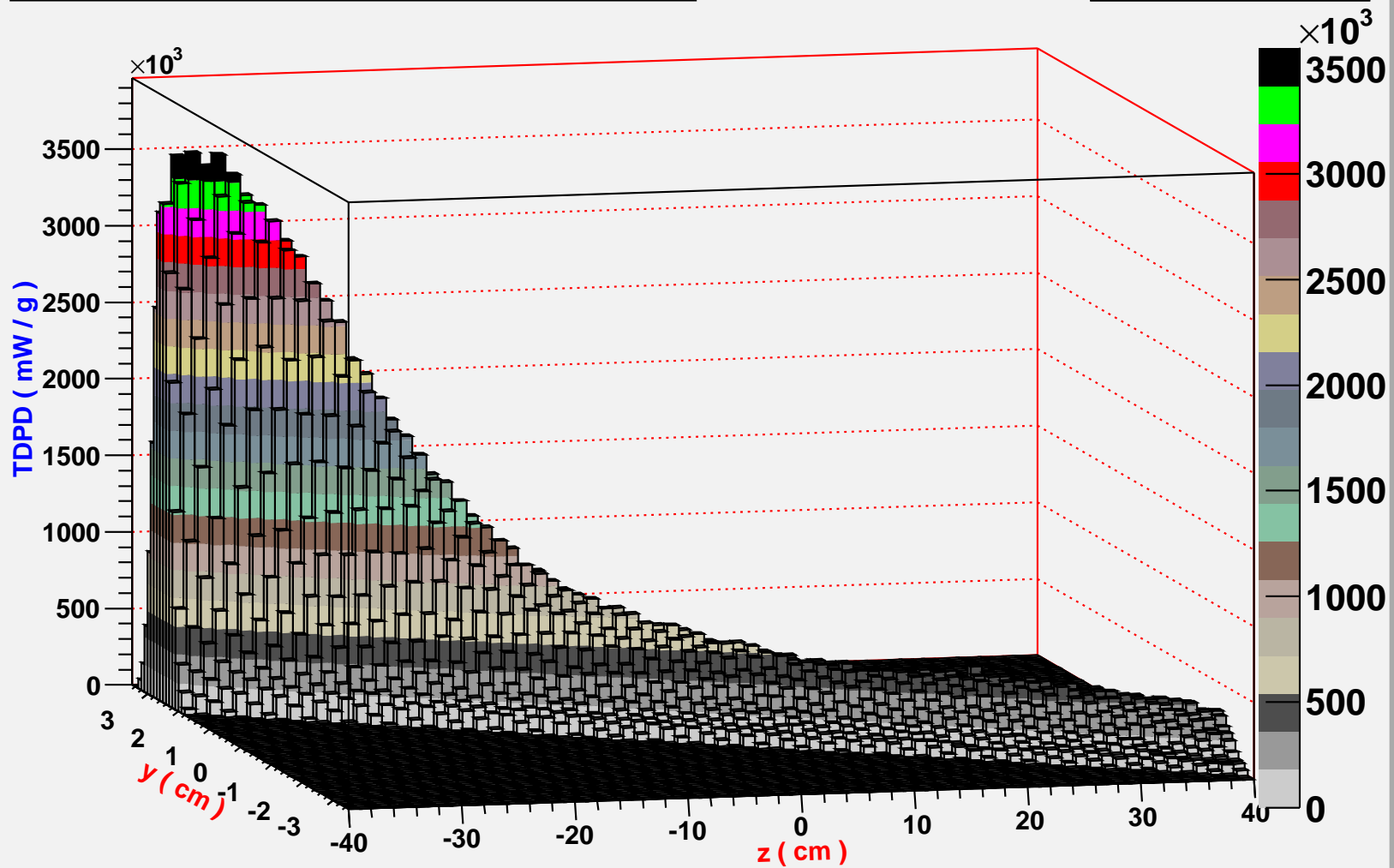
TDPD (mW/g) $-0.3 < x < -0.2$ cm

Entries	2721
Mean x	3.320968e+07
Mean y	-13.44
Mean z	0.92001
RMS x	29.81
RMS y	1.338



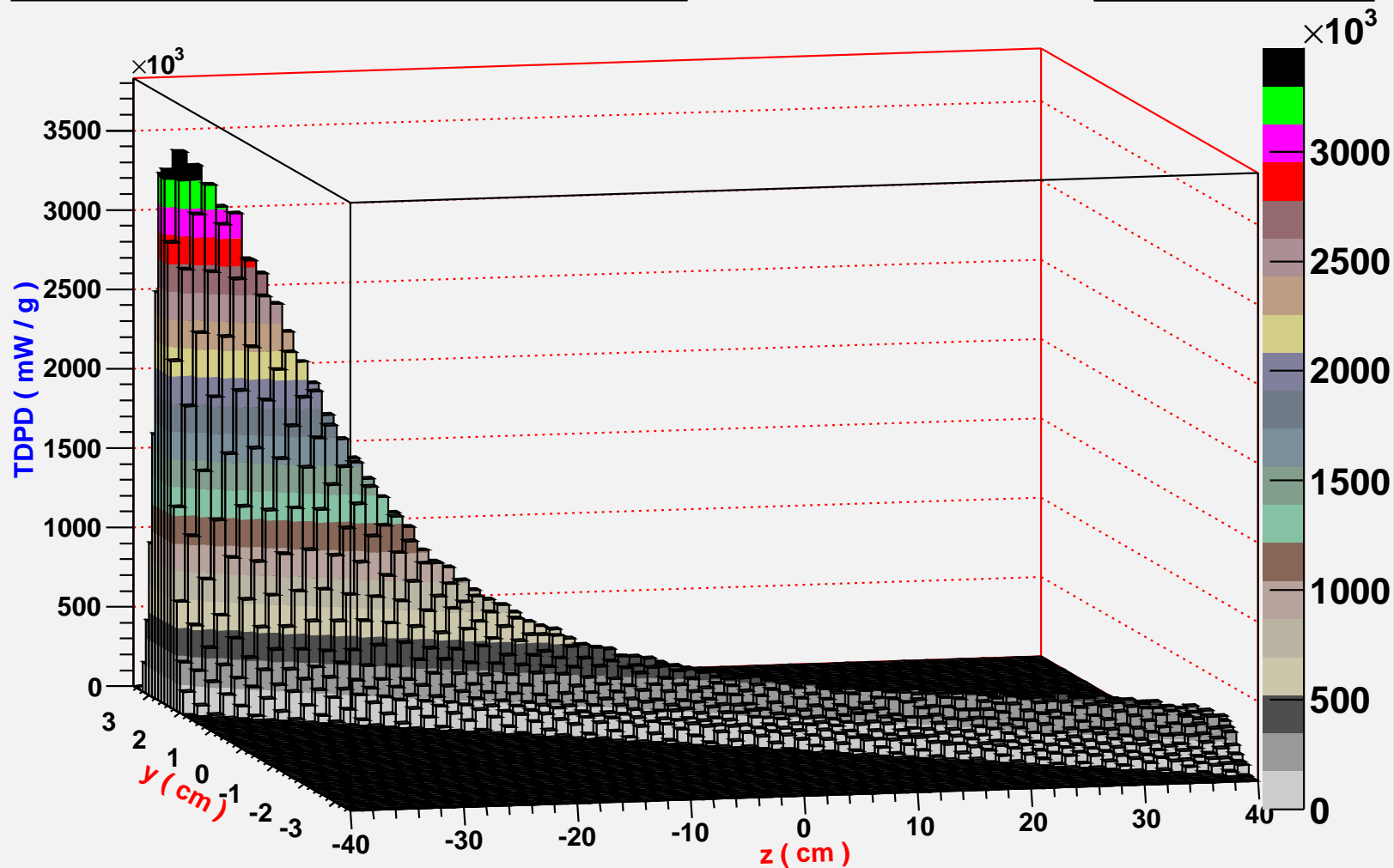
TDPD (mW/g) $-0.4 < x < -0.3$ cm

Entries	1329	2.827956e+07
Mean x	14.97	
Mean y	1.016	
Mean z	21.62	
RMS x		
RMS y		



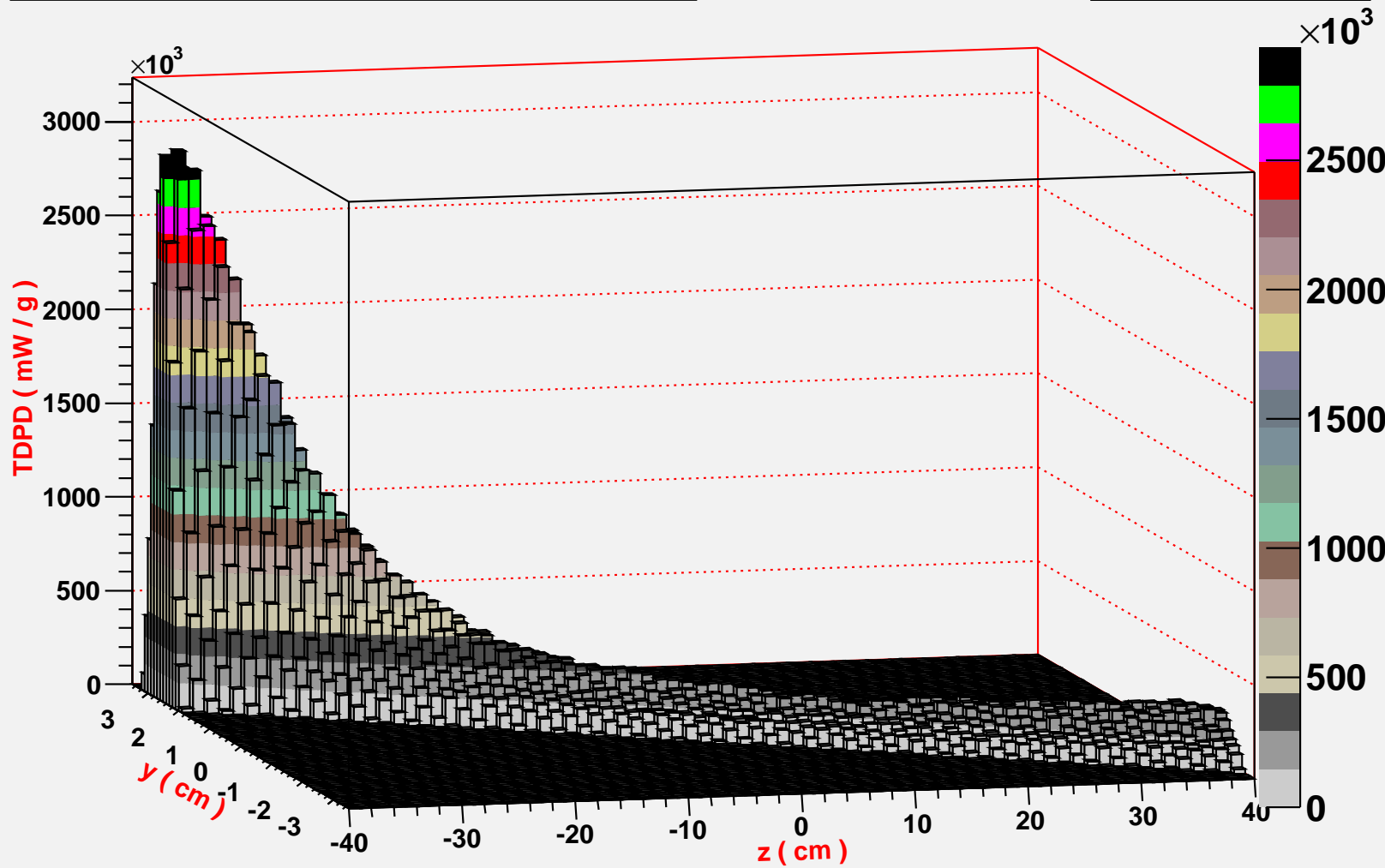
TDPD (mW/g) $-0.5 < x < -0.4$ cm

Entries	2,170,736+07
Mean x	-15.87
Mean y	1.87
Mean z	22.41
Min	
Max	



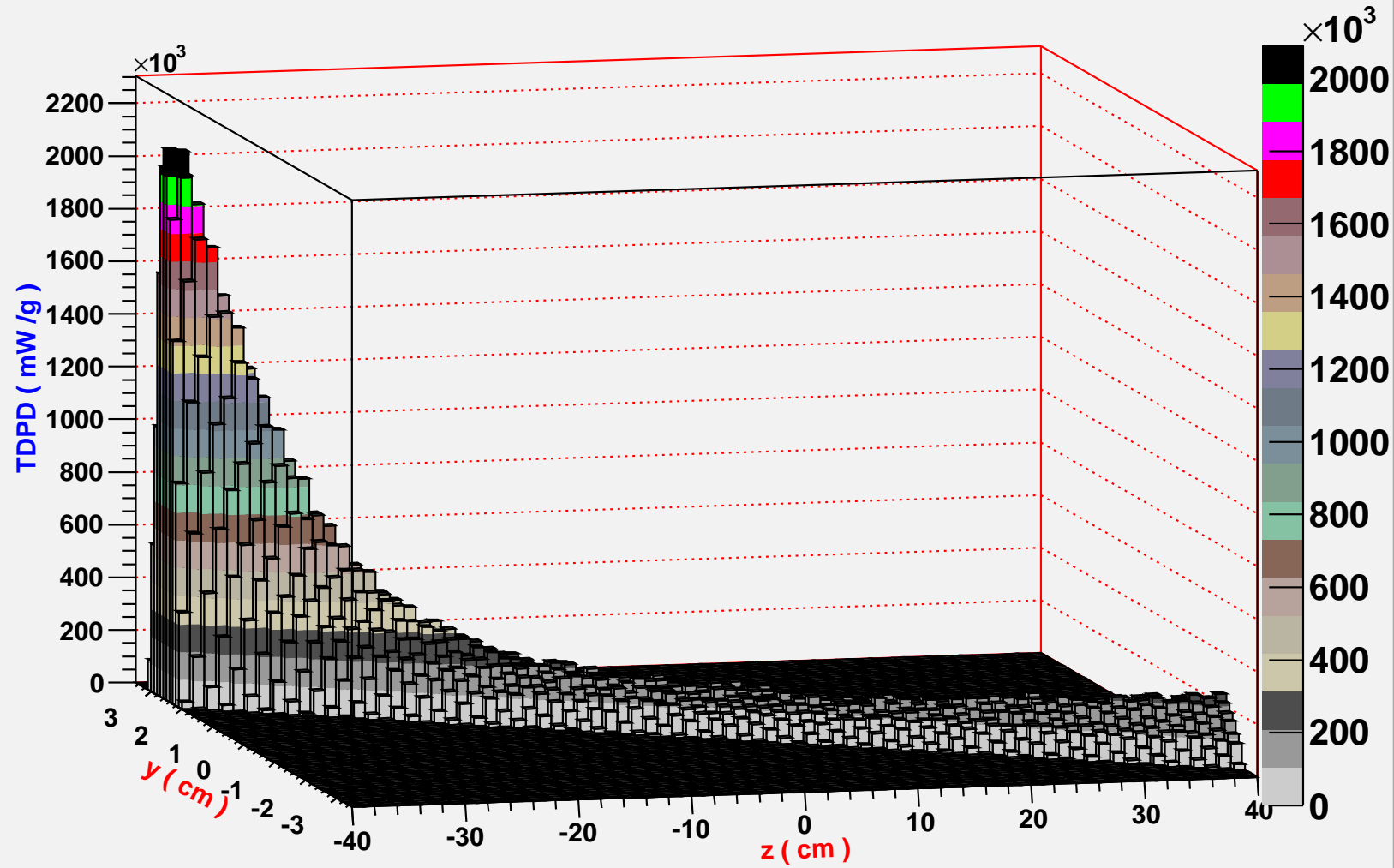
TDPD (mW/g) $-0.6 < x < -0.5$ cm

Entries	1.517655e+07
Mean x	16.1
Mean y	1.079
Mean z	22.24
RMS x	2.221



TDPD (mW/g) $-0.7 < x < -0.6$ cm

Entries	9230071
Mean x	-15.64
Mean y	1.042
RMS x	24.03
RMS y	1.576



TDPD (mW/g) $-0.8 < x < -0.7$ cm

Entries	3341134
Mean x	-14.75
Mean y	0.9745
Mean z	24.43
RMSE	1.923

