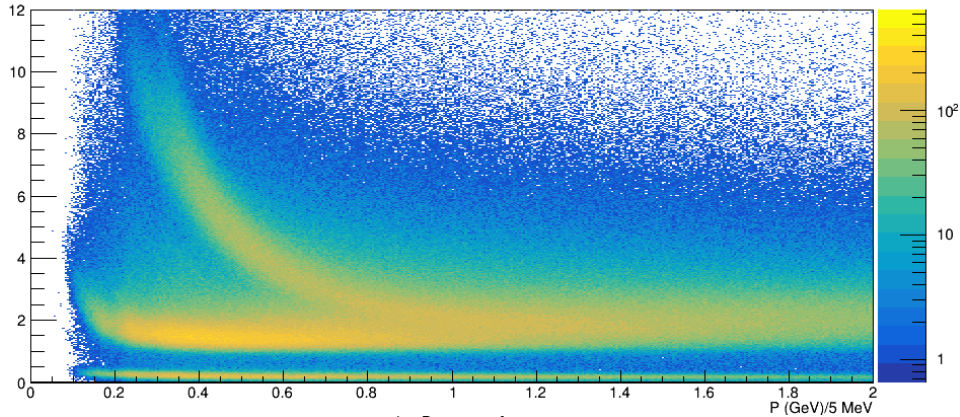


Start Counter Attenuation Update

Mahmoud Kamel

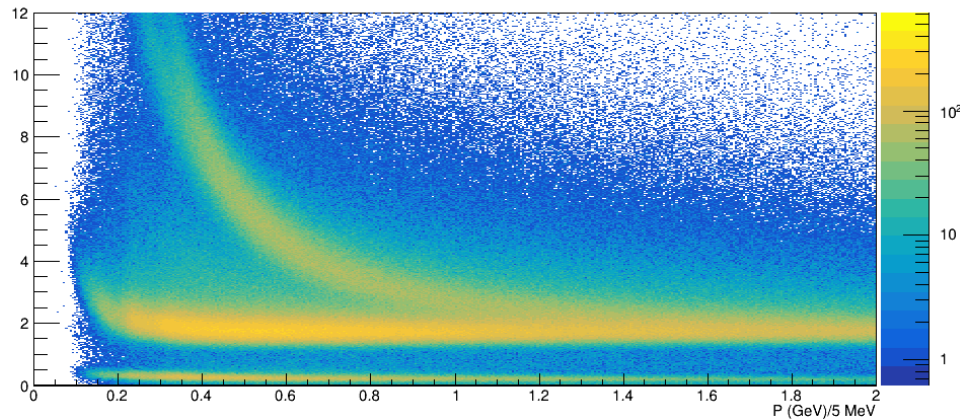
Proton-Pion Separation comparison (16 files of run 30279)

π/p Separation



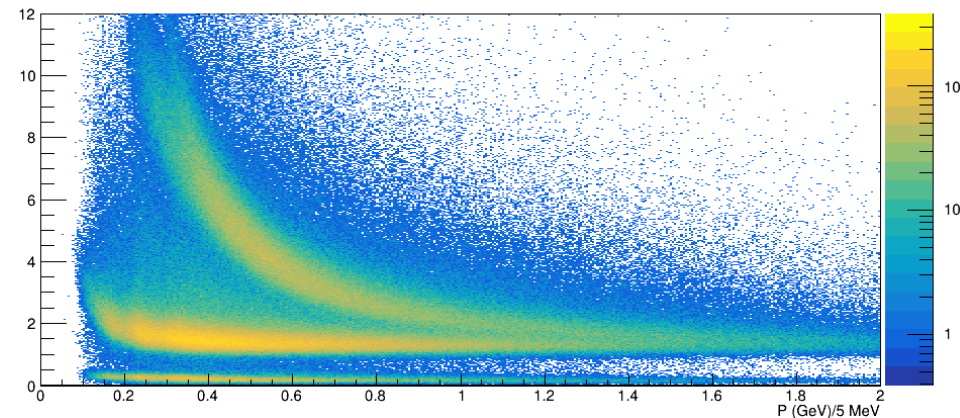
No Attenuation Correction

π/p Separation



Attenuation Correction using bench data

π/p Separation

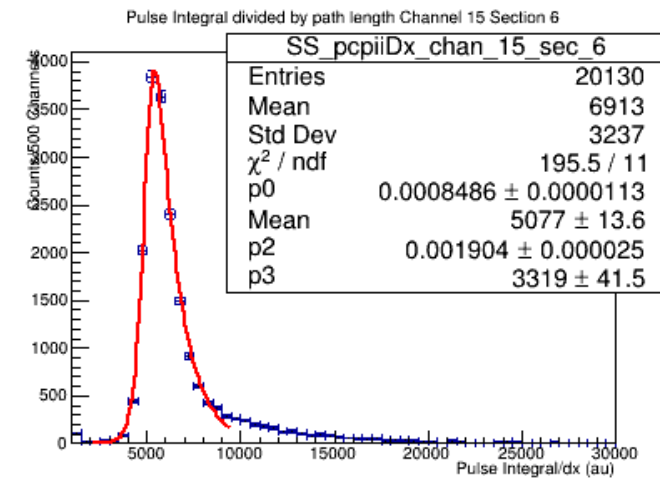
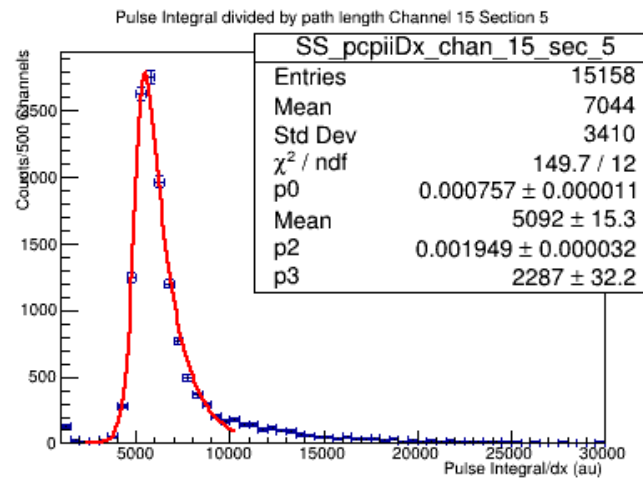
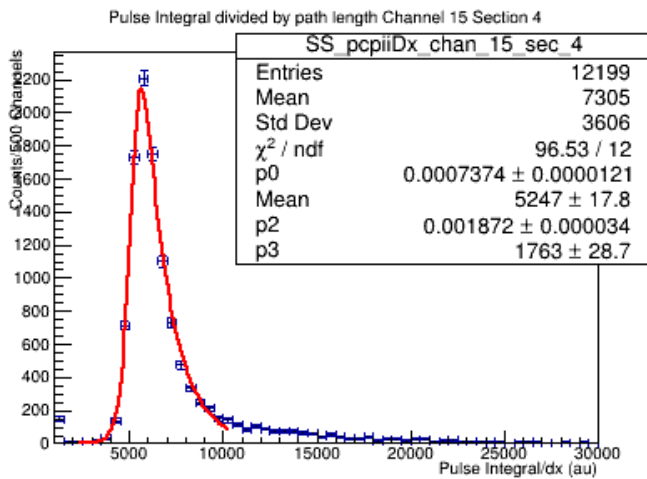
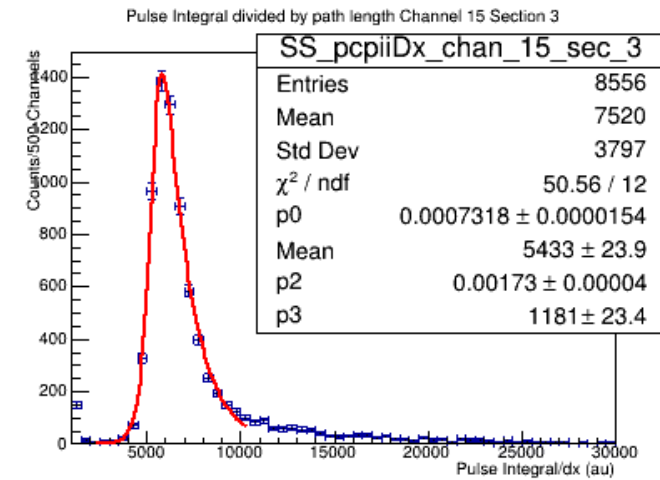
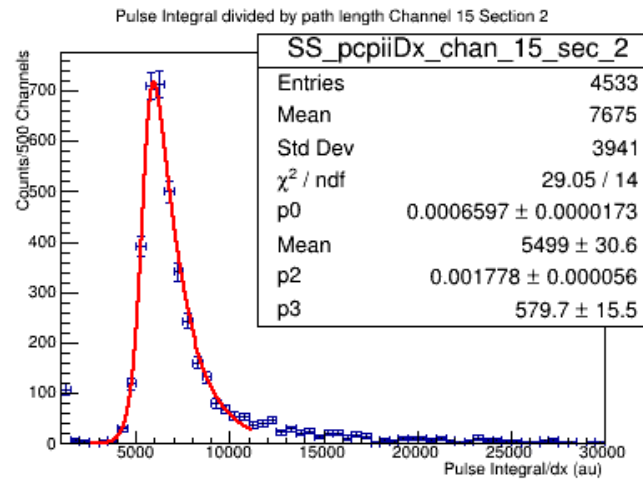
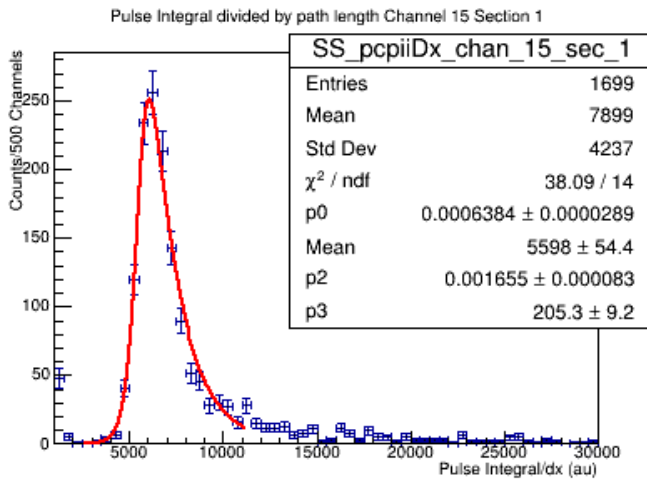


Attenuation Correction using beam data??? (first set of constants)

Pulse integral/dx Plots for paddle 15 using several runs

Each paddle is divided into 12 intervals along z starting from z=55.8 cm. Each interval is about 3.5 cm in length.

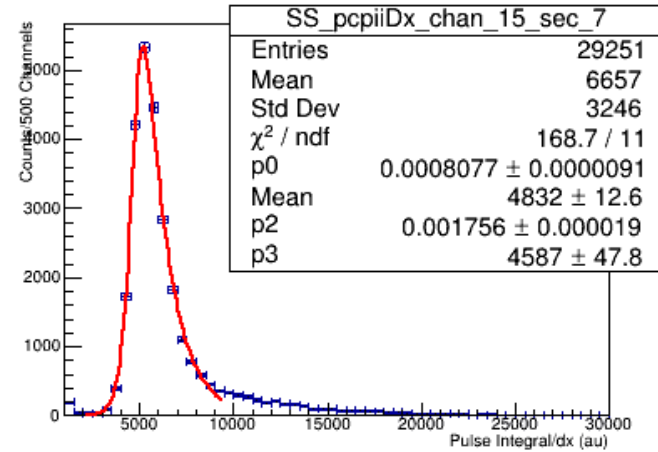
Fit the empirical function $f(x) = P_3 (e^{-p_0(x-\text{Mean})}) (1 + \tanh(p_2(x-\text{Mean})))$ to the data



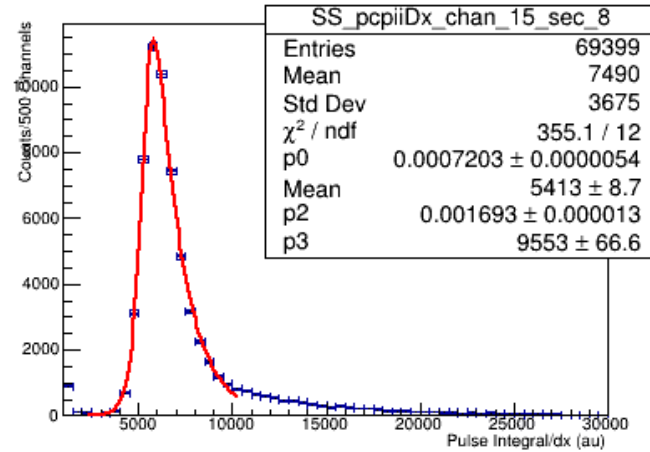
Pulse integral/dx Plots for paddle 15

Last 6 intervals

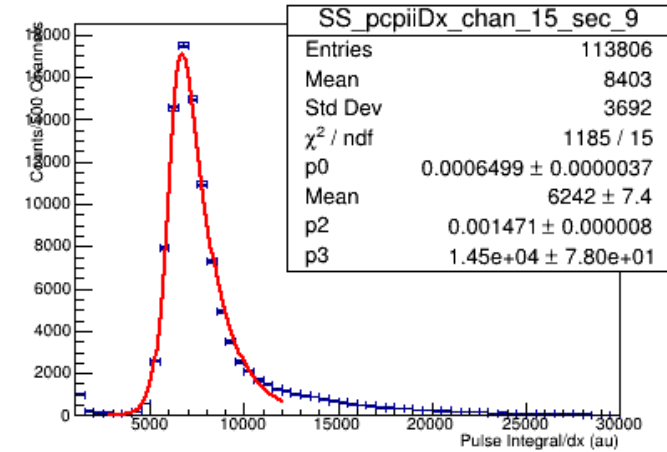
Pulse Integral divided by path length Channel 15 Section 7



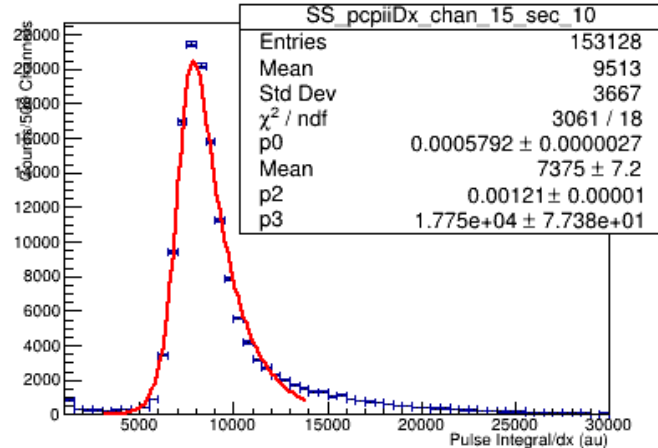
Pulse Integral divided by path length Channel 15 Section 8



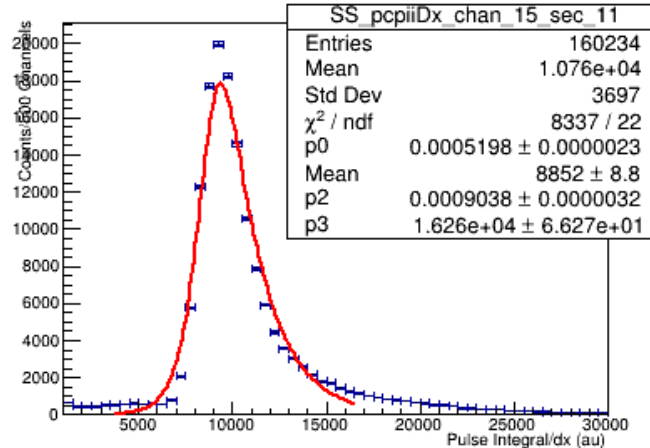
Pulse Integral divided by path length Channel 15 Section 9



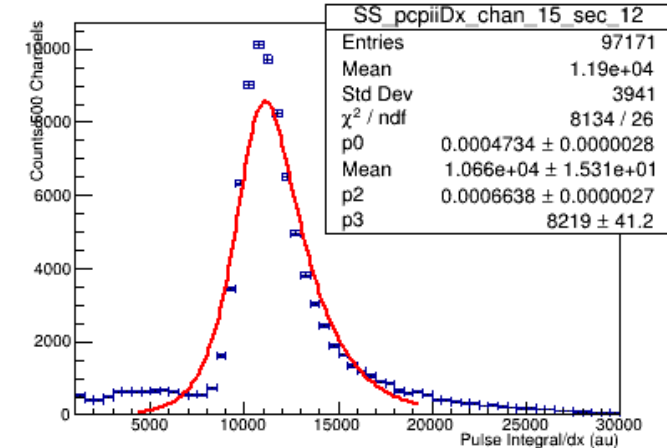
Pulse Integral divided by path length Channel 15 Section 10



Pulse Integral divided by path length Channel 15 Section 11

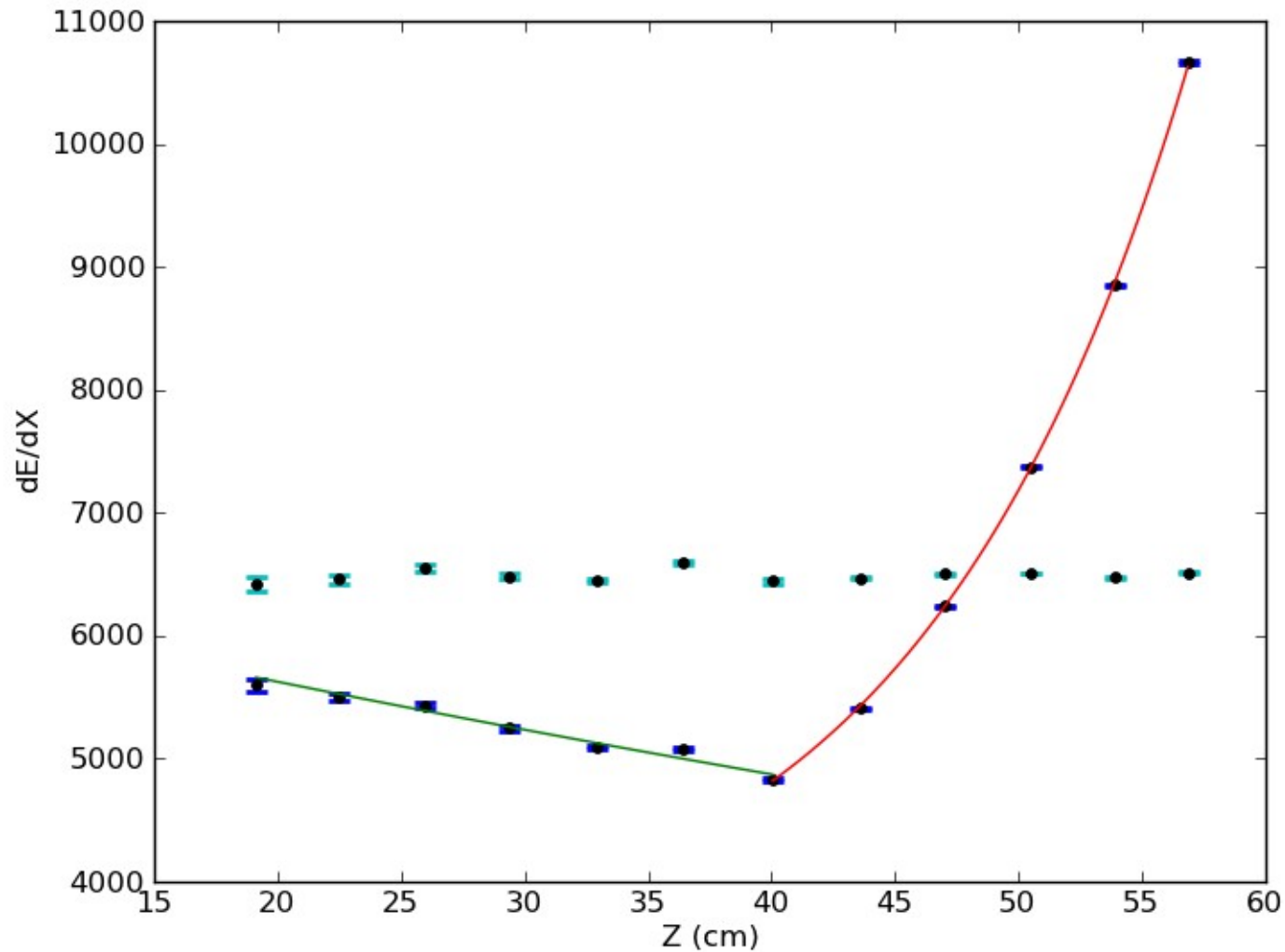


Pulse Integral divided by path length Channel 15 Section 12



MPV of PCPI/dx Vs Z

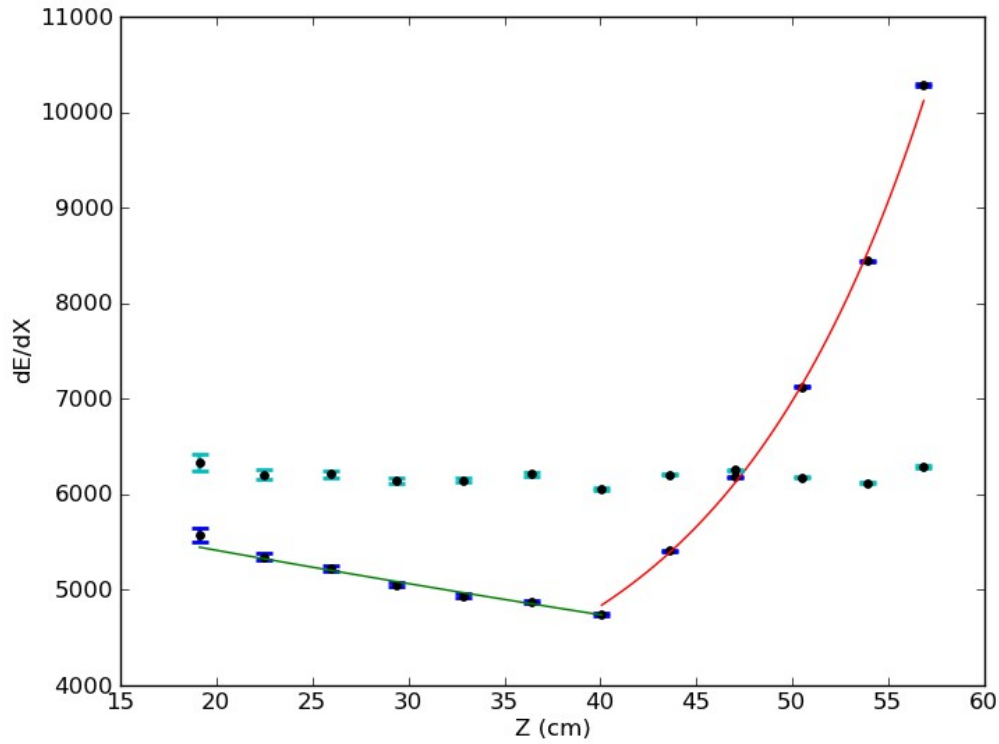
Fit exponential function to get the attenuation constants for each paddle (paddle 15 is an example), dE/dx after correction is shown.



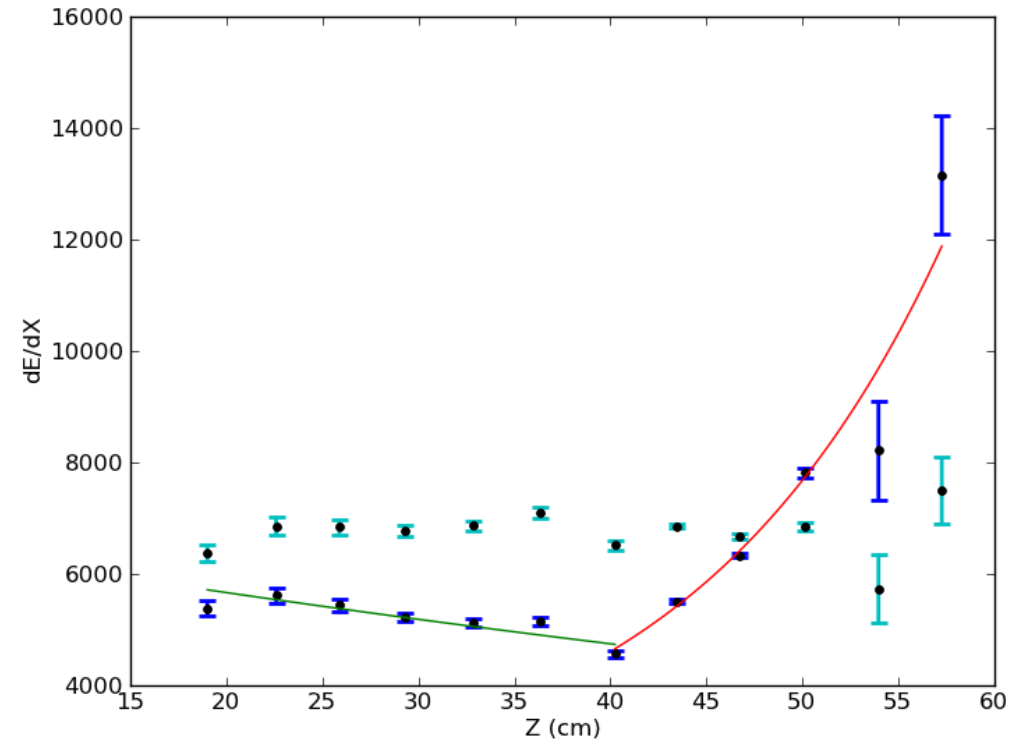
MPV of PCPI/dx Vs Z

paddles 10, 13, 25, and 29 are not problems any more

Paddle 13



Paddle 29



My Local CCDB Constants

| As double | Bs double | An double | Bn double | Cn double | Zc double | GM double |
|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 6999.70055 | -0.01247 | 21.82650 | 0.10178 | 2989.80813 | 39.89598 | 1.07766 |
| 7430.47510 | -0.01090 | 50.44675 | 0.09130 | 2947.73319 | 39.61658 | 1.14398 |
| 7257.66807 | -0.01045 | 23.77085 | 0.10454 | 3297.21174 | 39.64471 | 1.11738 |
| 6850.45291 | -0.01036 | 4.97718 | 0.12979 | 3818.10286 | 38.79044 | 1.05468 |
| 7306.38249 | -0.01374 | 12.03450 | 0.11275 | 3288.17155 | 39.06053 | 1.12488 |
| 6569.43955 | -0.01237 | 5.44954 | 0.12441 | 3349.81866 | 39.05571 | 1.01142 |
| 6308.86060 | -0.00844 | 10.26812 | 0.11525 | 3586.07650 | 39.23363 | 0.97130 |
| 6297.58801 | -0.00903 | 17.59390 | 0.10592 | 3171.42318 | 39.99905 | 0.96957 |
| 6044.22527 | -0.00930 | 15.47619 | 0.10677 | 3097.27522 | 39.74884 | 0.93056 |
| 6150.12298 | -0.00740 | 39.78100 | 0.09232 | 2911.30949 | 40.35323 | 0.94686 |
| 6722.76151 | -0.00891 | 14.68749 | 0.10817 | 3608.31562 | 39.92179 | 1.03503 |
| 6494.00997 | -0.00695 | 4.89424 | 0.12941 | 4079.74299 | 39.80289 | 0.99981 |
| 6185.60629 | -0.00666 | 34.93726 | 0.09249 | 3419.80553 | 39.41603 | 0.95233 |
| 6424.27314 | -0.00639 | 27.01988 | 0.09879 | 3596.31253 | 39.84642 | 0.98907 |
| 6495.26276 | -0.00718 | 41.25926 | 0.09129 | 3224.41108 | 40.32259 | 1.00000 |
| 5892.10924 | -0.00646 | 8.17330 | 0.11652 | 3709.23489 | 39.82730 | 0.90714 |
| 6128.56818 | -0.00900 | 11.03781 | 0.10983 | 3392.66943 | 39.92169 | 0.94354 |
| 7033.03146 | -0.00611 | 23.00749 | 0.10204 | 4109.49406 | 40.20336 | 1.08279 |
| 6051.66782 | -0.00535 | 22.34991 | 0.10193 | 3427.60508 | 40.84354 | 0.93170 |
| 5861.48804 | -0.00817 | 15.90258 | 0.10572 | 3136.29473 | 39.99892 | 0.90243 |
| 6285.81954 | -0.00971 | 22.68157 | 0.09806 | 3112.67237 | 40.02146 | 0.96775 |
| 6336.70231 | -0.00828 | 8.94759 | 0.11763 | 3572.48658 | 39.93233 | 0.97559 |
| 6862.37818 | -0.00953 | 20.28097 | 0.10525 | 3287.25686 | 40.18055 | 1.05652 |
| 7321.92169 | -0.01008 | 55.34815 | 0.08865 | 2922.48407 | 40.22813 | 1.12727 |
| 7286.73660 | -0.01256 | 31.01377 | 0.09764 | 2889.52976 | 39.89186 | 1.12185 |
| 7272.40389 | -0.01062 | 15.73442 | 0.10986 | 3587.32189 | 39.43225 | 1.11965 |
| 7514.65356 | -0.01215 | 19.83125 | 0.10655 | 3241.37747 | 39.86766 | 1.15694 |
| 7134.51530 | -0.01431 | 40.36033 | 0.09058 | 2554.25987 | 39.79079 | 1.09842 |
| 6761.94068 | -0.00885 | 139.44241 | 0.07469 | 1841.60395 | 40.54891 | 1.04106 |
| 6628.51663 | -0.01266 | 8.74252 | 0.11669 | 3217.92228 | 38.99916 | 1.02052 |