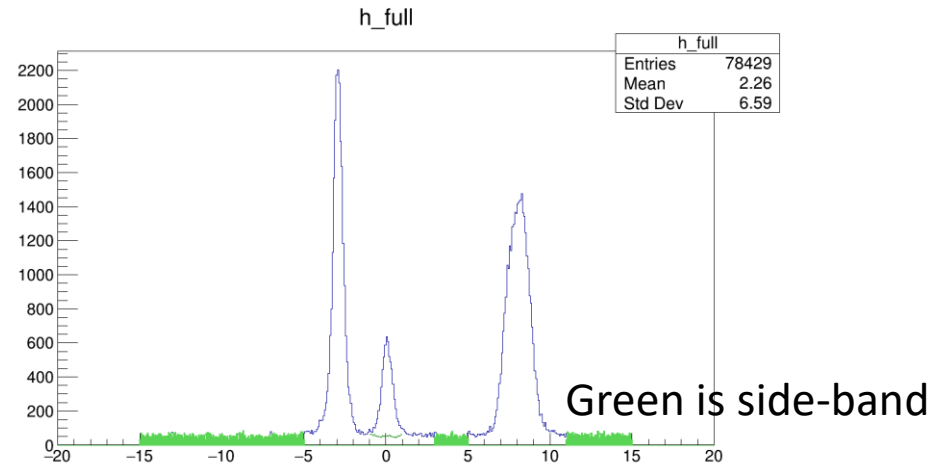


2019 09 28

h2.root H2 data H2 kinematics
BG is estimated by side-band data



```
TCut c_ctime_min = Form("ctime[0] > %1f", pro_param[0]);
TCut c_ctime_max = Form("ctime[0] < %1f", pro_param[1]);
TCut c_a1_max = Form("R.a1.asum_c[0] < %1f", pro_param[2]);
TCut c_a2_max = Form("R.a2.asum_c[0] < %1f", pro_param[3]);
TCut c_a2_min = Form("R.a2.asum_c[0] > %1f", pro_param[4]);
TCut c_zsum_max = Form("abs(R.tr.vz[0]+L.tr.vz[0]) < %1f", pro_param[5]);
TCut c_zsub_max = Form("abs(L.tr.vz[0]-R.tr.vz[0]) < %1f", pro_param[6]);
TCut c_gasche_min = Form("L.cer.asum_c[0] > %1f", pro_param[7]);
```

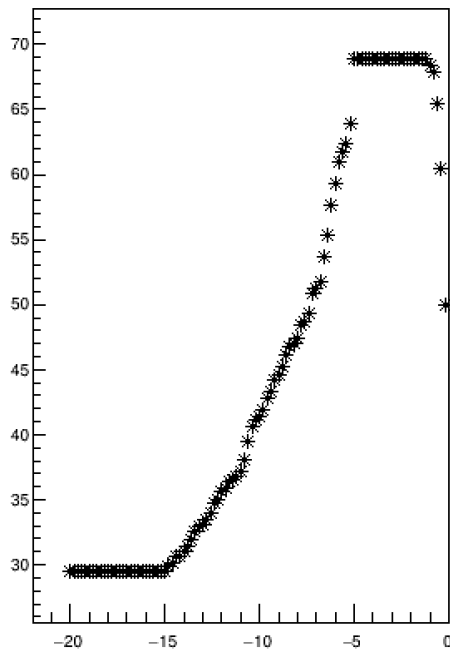
default
min
max

```
////////// 0 1 2 3 4 5 6 7
double pro_param[8] = {-20, 20, 0.40, 18.8, 5.00, 0.200, 0.035, 1500};
double scan_min[8] = {-20, 0, 0.05, 10.0, 0.00, 0.100, 0.010, 0};
double scan_max[8] = {0, 20, 0.80, 25.0, 10.0, 0.250, 0.040, 5000};
```

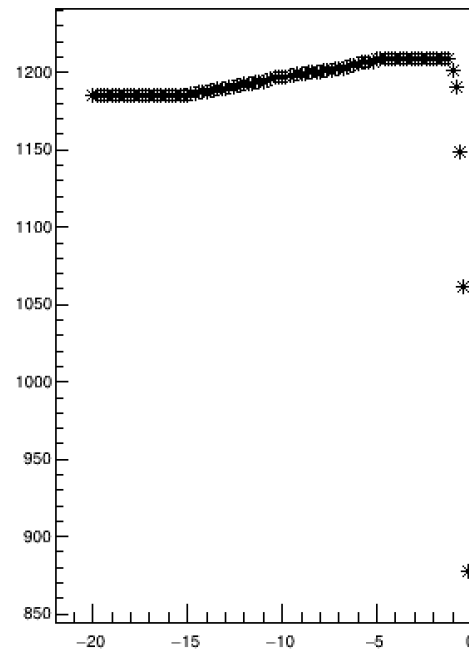
ctime > par

no meaning

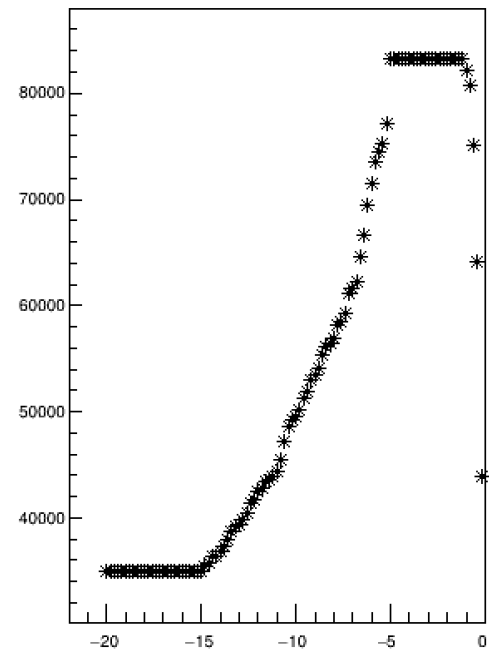
K/BG



Number of K



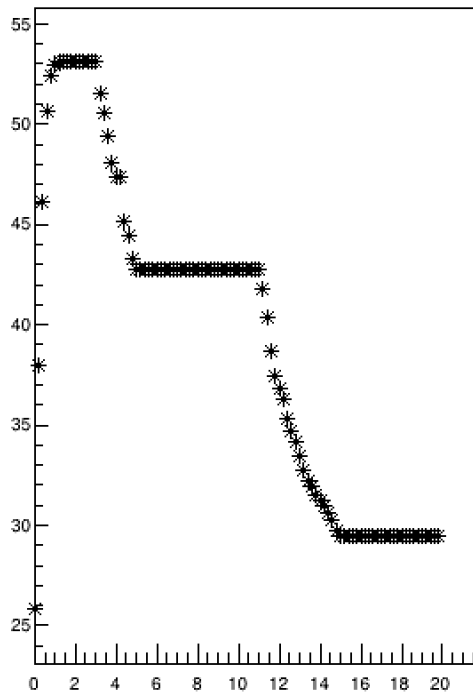
K/BG * K



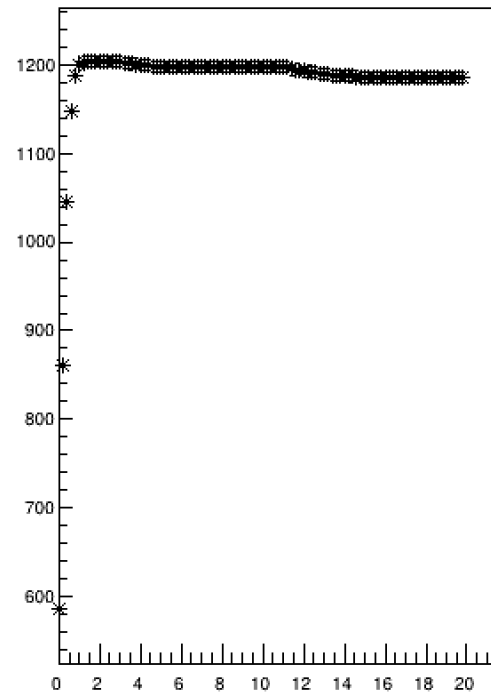
ctime < par

no meaning

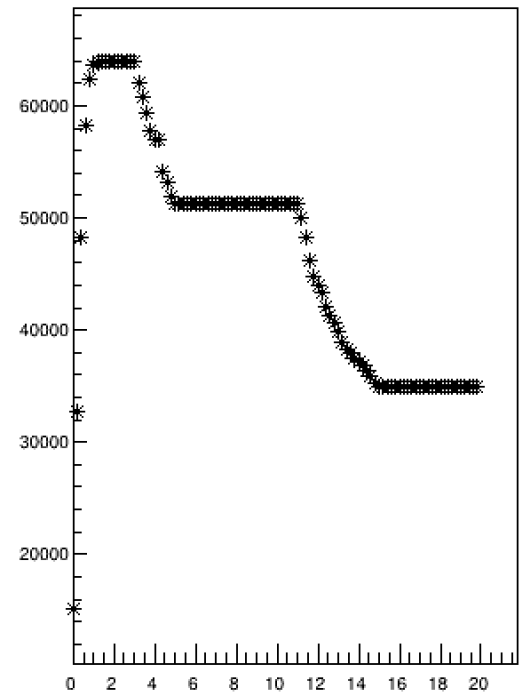
K/BG



Number of K



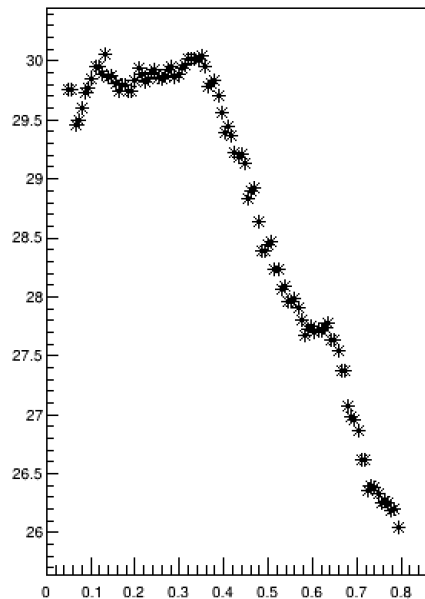
K/BG * K



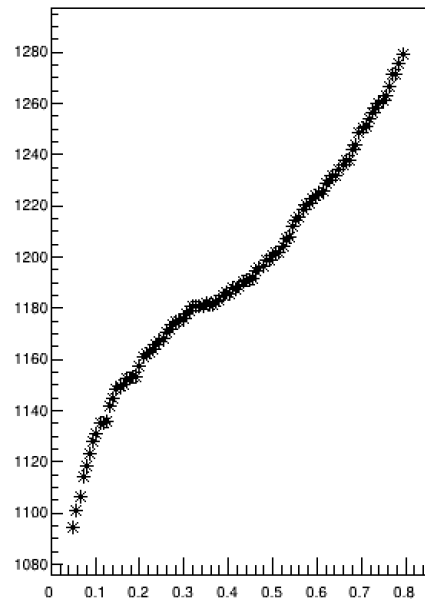
R.a1.asum_c < par

```
param = 0.35 NK = 1181.67 NBG = 39.3333 r = 30.0424 my_par = 35500.1
param = 0.3275 NK = 1180.67 NBG = 39.3333 r = 30.0169 my_par = 35440
param = 0.335 NK = 1180.67 NBG = 39.3333 r = 30.0169 my_par = 35440
param = 0.3425 NK = 1180.67 NBG = 39.3333 r = 30.0169 my_par = 35440
param = 0.32 NK = 1180.67 NBG = 39.3333 r = 30.0169 my_par = 35440
param = 0.3575 NK = 1181.56 NBG = 39.4444 r = 29.9549 my_par = 35393.4
param = 0.3125 NK = 1178.67 NBG = 39.3333 r = 29.9661 my_par = 35320
param = 0.38 NK = 1183.33 NBG = 39.6667 r = 29.8319 my_par = 35301.1
param = 0.305 NK = 1177.67 NBG = 39.3333 r = 29.9407 my_par = 35260.1
param = 0.3725 NK = 1182.33 NBG = 39.6667 r = 29.8067 my_par = 35241.5
```

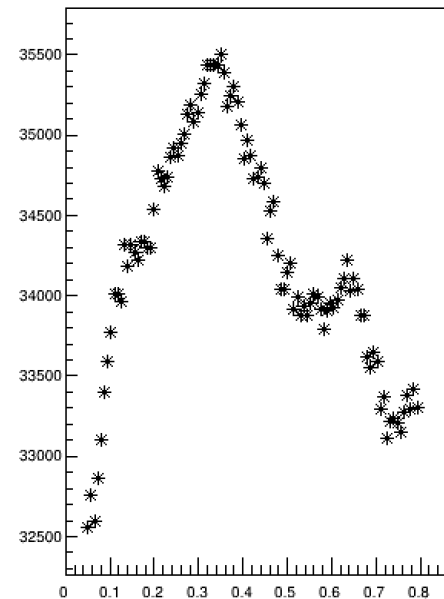
K/BG



Number of K



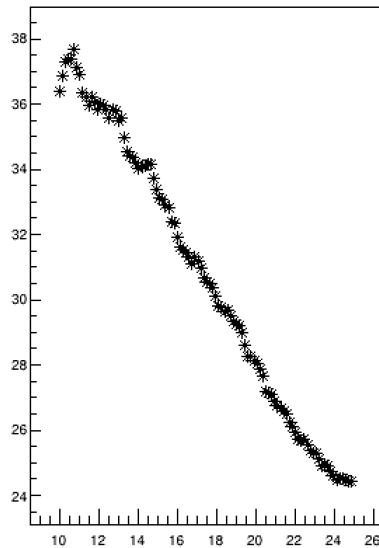
K/BG * K



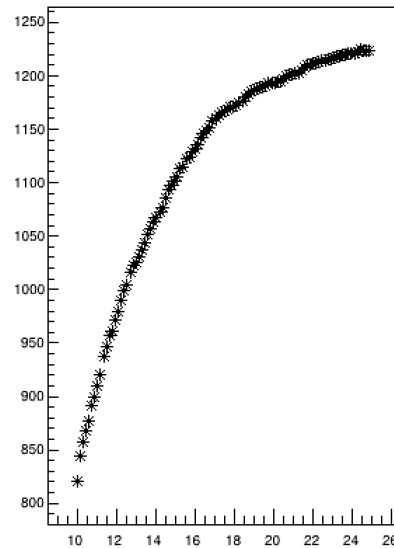
R.a2.asum_c < par

```
param = 14.65 NK = 1093 NBG = 32 r = 34.1562 my_par = 37332.8  
param = 14.5 NK = 1085.22 NBG = 31.7778 r = 34.1503 my_par = 37060.7  
param = 14.8 NK = 1097.44 NBG = 32.5556 r = 33.7099 my_par = 36994.7  
param = 15.55 NK = 1122.78 NBG = 34.2222 r = 32.8084 my_par = 36836.6  
param = 15.25 NK = 1113.33 NBG = 33.6667 r = 33.0693 my_par = 36817.2  
param = 14.95 NK = 1101 NBG = 33 r = 33.3636 my_par = 36733.4  
param = 14.35 NK = 1076.44 NBG = 31.5556 r = 34.1127 my_par = 36720.4  
param = 15.4 NK = 1115.11 NBG = 33.8889 r = 32.9049 my_par = 36692.6  
param = 13.15 NK = 1031 NBG = 29 r = 35.5517 my_par = 36653.8  
param = 12.85 NK = 1022.44 NBG = 28.5556 r = 35.8054 my_par = 36609.1
```

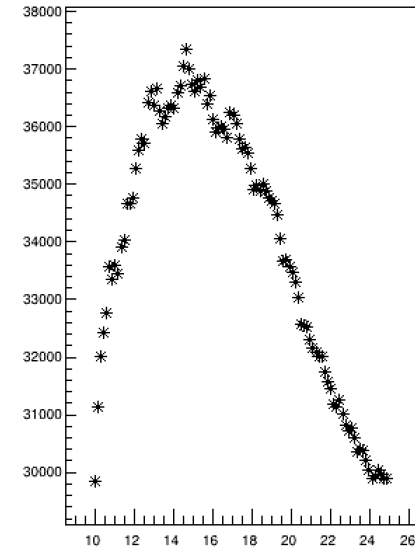
K/BG



Number of K

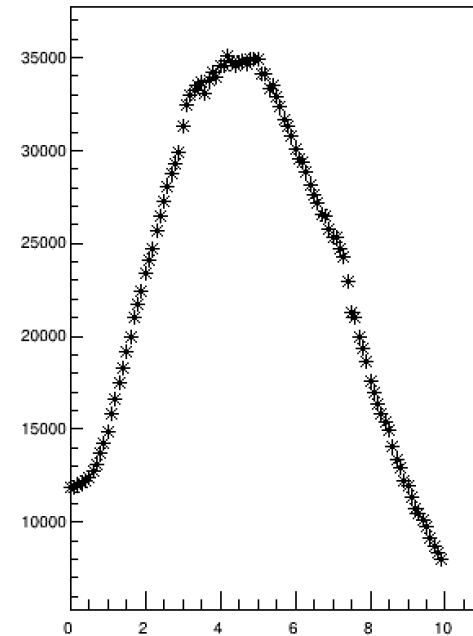
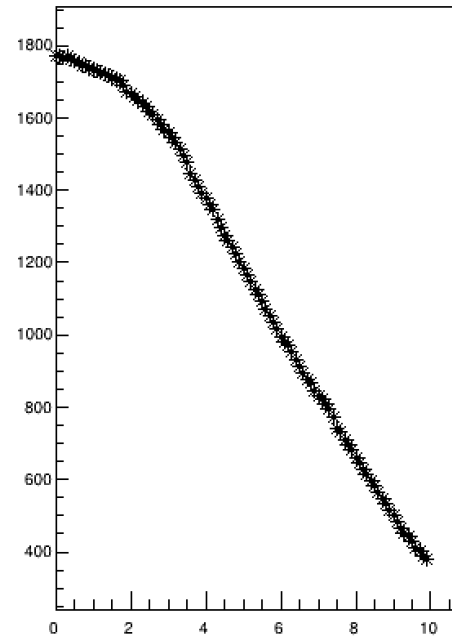
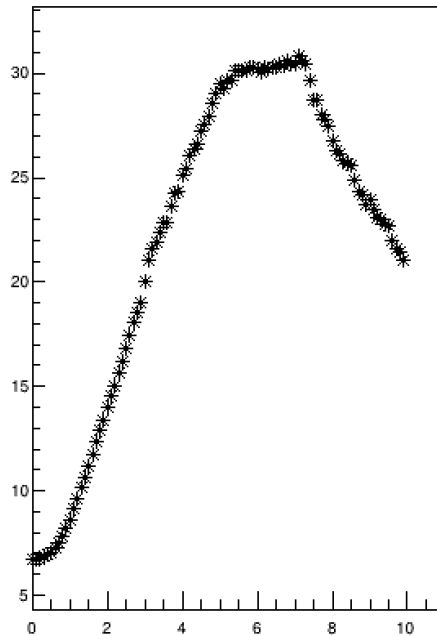


K/BG * K



R.a2.asum_c > par

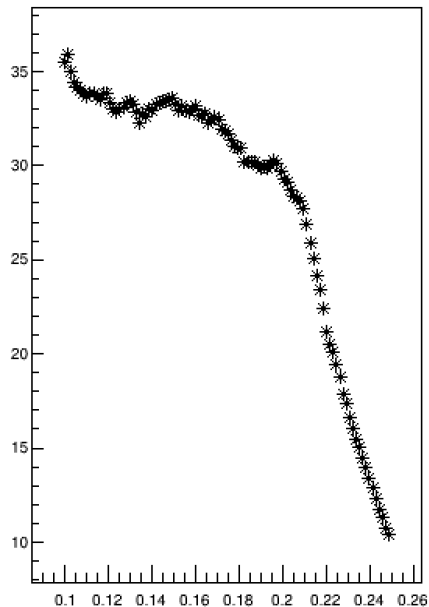
```
param = 4.2 NK = 1344.44 NBG = 51.5556 r = 26.0776 my_par = 35059.9  
param = 5 NK = 1185.78 NBG = 40.2222 r = 29.4807 my_par = 34957.5  
param = 4.8 NK = 1224.11 NBG = 42.8889 r = 28.5415 my_par = 34937.9  
param = 4.9 NK = 1202.56 NBG = 41.4444 r = 29.0161 my_par = 34893.5  
param = 4.6 NK = 1262.22 NBG = 45.7778 r = 27.5728 my_par = 34803  
param = 4.3 NK = 1318 NBG = 50 r = 26.36 my_par = 34742.5  
param = 4.5 NK = 1276.11 NBG = 46.8889 r = 27.2156 my_par = 34730.2  
param = 4.7 NK = 1240.56 NBG = 44.4444 r = 27.9125 my_par = 34627  
param = 4.1 NK = 1359.56 NBG = 53.4444 r = 25.4387 my_par = 34585.3  
param = 4 NK = 1377.11 NBG = 54.8889 r = 25.0891 my_par = 34550.4
```



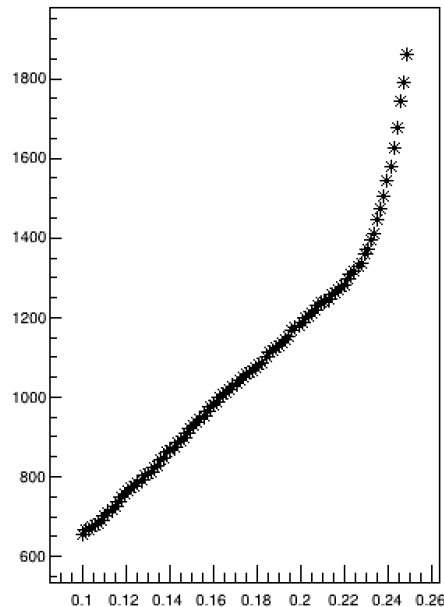
$$\text{abs}(R.\text{tr.vz}[0]+L.\text{tr.vz}[0]) < \text{par}$$

```
param = 0.1975 NK = 1175 NBG = 39 r = 30.1282 my_par = 35400.6
param = 0.196 NK = 1166.44 NBG = 38.5556 r = 30.2536 my_par = 35289.1
param = 0.199 NK = 1179.33 NBG = 39.6667 r = 29.7311 my_par = 35062.9
param = 0.202 NK = 1198.78 NBG = 41.2222 r = 29.0809 my_par = 34861.5
param = 0.2005 NK = 1188.44 NBG = 40.5556 r = 29.3041 my_par = 34826.3
param = 0.1945 NK = 1151.67 NBG = 38.3333 r = 30.0435 my_par = 34600.1
param = 0.2035 NK = 1205 NBG = 42 r = 28.6905 my_par = 34572
param = 0.208 NK = 1230.22 NBG = 43.7778 r = 28.1015 my_par = 34571.1
param = 0.2065 NK = 1217.89 NBG = 43.1111 r = 28.25 my_par = 34405.4
param = 0.205 NK = 1211.33 NBG = 42.6667 r = 28.3906 my_par = 34390.5
```

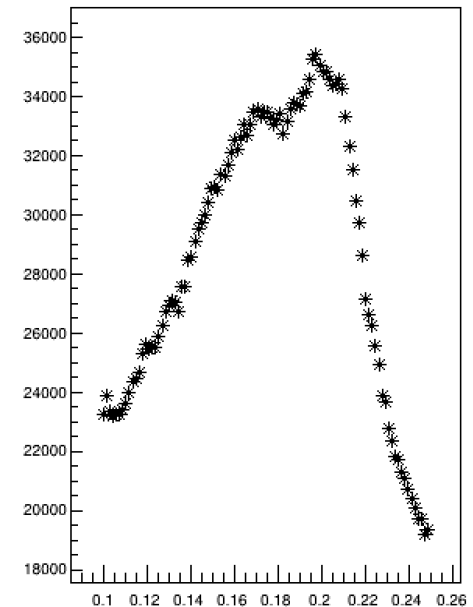
K/BG



Number of K



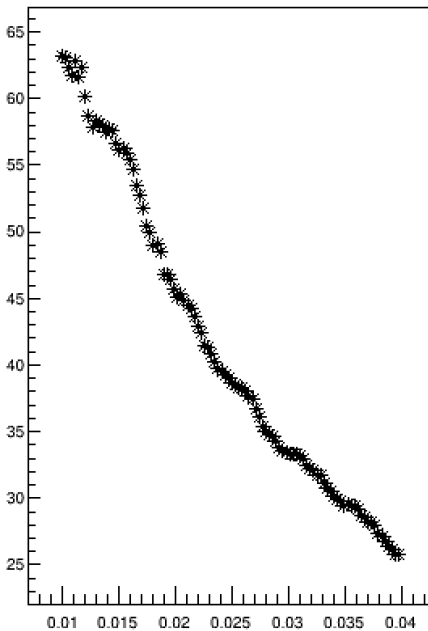
K/BG * K



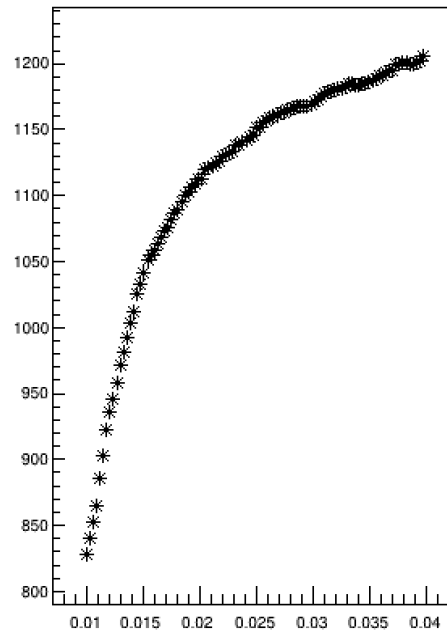
$\text{abs}(\text{L.tr.vz}[0] - \text{R.tr.vz}[0])$

```
param = 0.0154 NK = 1051.33 NBG = 18.6667 r = 56.3214 my_par = 59212.6  
param = 0.0145 NK = 1025.22 NBG = 17.7778 r = 57.6688 my_par = 59123.3  
param = 0.0157 NK = 1055.11 NBG = 18.8889 r = 55.8588 my_par = 58937.3  
param = 0.016 NK = 1058.89 NBG = 19.1111 r = 55.407 my_par = 58669.8  
param = 0.0148 NK = 1032.78 NBG = 18.2222 r = 56.6768 my_par = 58534.6  
param = 0.0151 NK = 1041.44 NBG = 18.5556 r = 56.1257 my_par = 58451.8  
param = 0.0142 NK = 1012.44 NBG = 17.5556 r = 57.6709 my_par = 58388.6  
param = 0.0163 NK = 1063.56 NBG = 19.4444 r = 54.6971 my_par = 58173.5  
param = 0.0139 NK = 1003.56 NBG = 17.4444 r = 57.5287 my_par = 57733.2  
param = 0.0136 NK = 992.889 NBG = 17.1111 r = 58.026 my_par = 57613.3
```

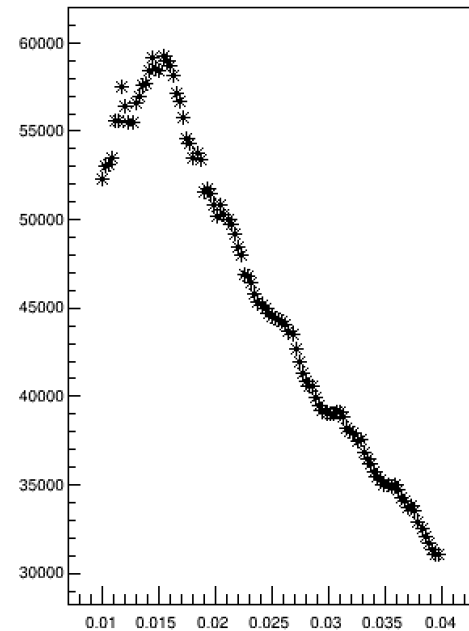
K/BG



Number of K



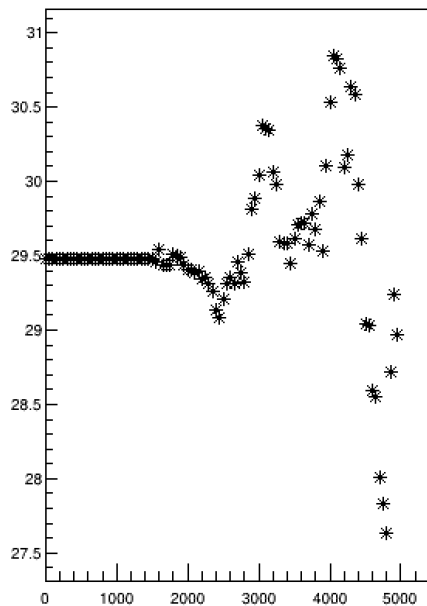
K/BG * K



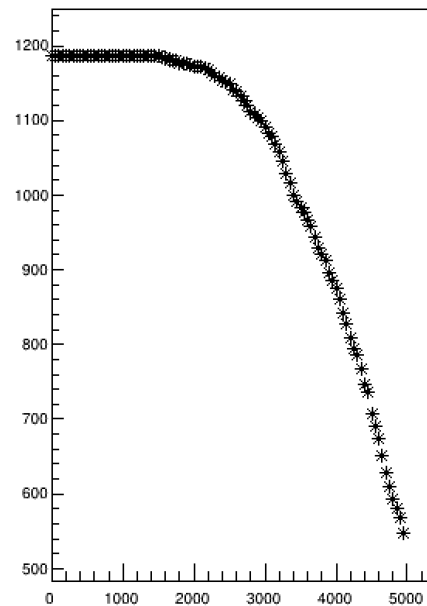
L.cer.asum_c[0] > par

```
param = 1600 NK = 1184.89 NBG = 40.1111 r = 29.5402 my_par = 35001.8  
param = 50 NK = 1185.78 NBG = 40.2222 r = 29.4807 my_par = 34957.5  
param = 100 NK = 1185.78 NBG = 40.2222 r = 29.4807 my_par = 34957.5  
param = 150 NK = 1185.78 NBG = 40.2222 r = 29.4807 my_par = 34957.5  
param = 200 NK = 1185.78 NBG = 40.2222 r = 29.4807 my_par = 34957.5  
param = 250 NK = 1185.78 NBG = 40.2222 r = 29.4807 my_par = 34957.5  
param = 300 NK = 1185.78 NBG = 40.2222 r = 29.4807 my_par = 34957.5  
param = 350 NK = 1185.78 NBG = 40.2222 r = 29.4807 my_par = 34957.5  
param = 400 NK = 1185.78 NBG = 40.2222 r = 29.4807 my_par = 34957.5  
param = 450 NK = 1185.78 NBG = 40.2222 r = 29.4807 my_par = 34957.5
```

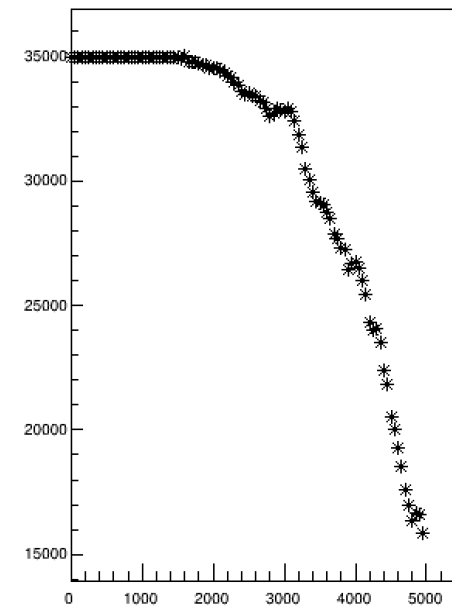
K/BG



Number of K



K/BG * K



result

$\text{abs}(L.\text{tr.vz}-R.\text{tr.vz})$ is more important.

Parameter is changed to the following value.

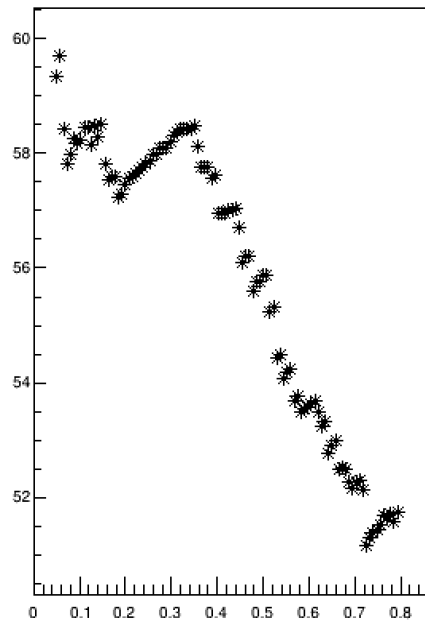
```
////////// 0 1 2 3 4 5 6 7  
double pro_param[8] = {-20, 20, 0.35, 14.65, 4.20, 0.1975, 0.0154, 1600};  
double scan_min[8] = {-20, 0, 0.05, 10.00, 0.00, 0.1000, 0.0050, 0};  
double scan_max[8] = {0, 20, 0.80, 25.00, 10.0, 0.2500, 0.0400, 5000};
```

I tried scanning again with these parameters.

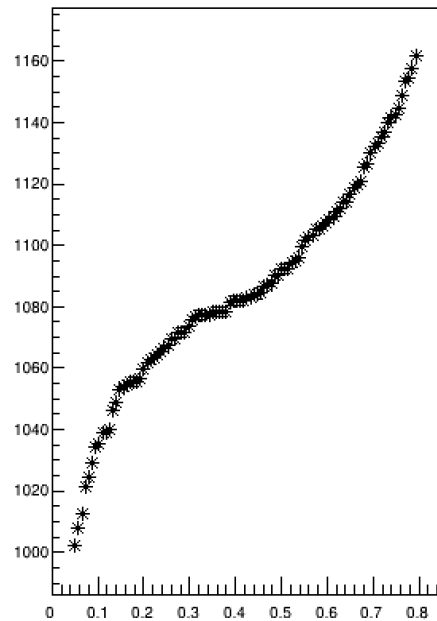
R.a1.asum_c < par

```
param = 0.35 NK = 1078.56 NBG = 18.4444 r = 58.4759 my_par = 63069.5  
param = 0.3275 NK = 1077.56 NBG = 18.4444 r = 58.4217 my_par = 62952.6  
param = 0.335 NK = 1077.56 NBG = 18.4444 r = 58.4217 my_par = 62952.6  
param = 0.3425 NK = 1077.56 NBG = 18.4444 r = 58.4217 my_par = 62952.6  
param = 0.32 NK = 1077.56 NBG = 18.4444 r = 58.4217 my_par = 62952.6  
param = 0.3125 NK = 1076.56 NBG = 18.4444 r = 58.3675 my_par = 62835.8  
param = 0.305 NK = 1075.56 NBG = 18.4444 r = 58.3133 my_par = 62719.1  
param = 0.3575 NK = 1078.44 NBG = 18.5556 r = 58.1198 my_par = 62678.9  
param = 0.2975 NK = 1073.56 NBG = 18.4444 r = 58.2048 my_par = 62486.1  
param = 0.395 NK = 1082.22 NBG = 18.7778 r = 57.6331 my_par = 62371.9
```

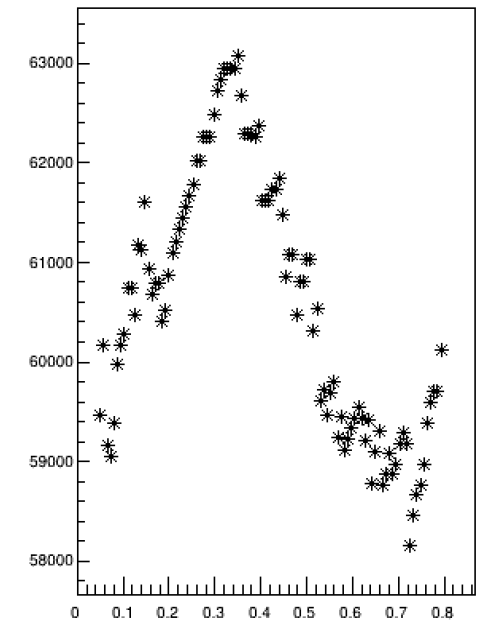
K/BG



Number of K



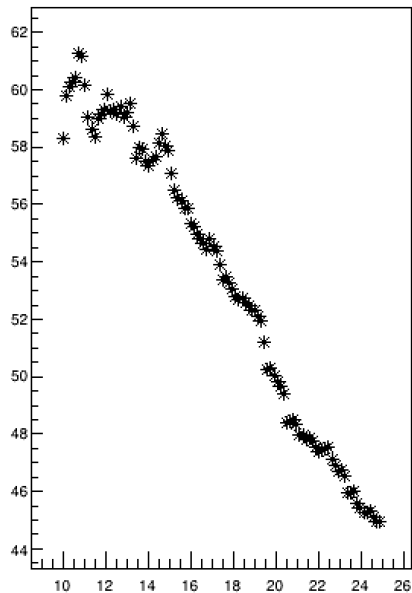
K/BG * K



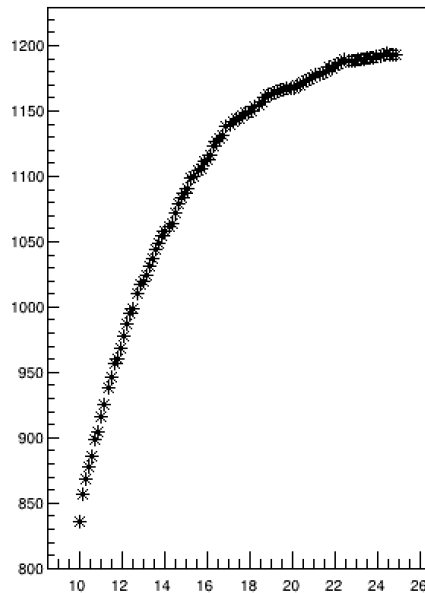
R.a2.asum_c < par

```
param = 14.65 NK = 1078.56 NBG = 18.4444 r = 58.4759 my_par = 63069.5  
param = 14.95 NK = 1087.22 NBG = 18.7778 r = 57.8994 my_par = 62949.5  
param = 14.8 NK = 1083.33 NBG = 18.6667 r = 58.0357 my_par = 62872  
param = 14.5 NK = 1072.56 NBG = 18.4444 r = 58.1506 my_par = 62369.8  
param = 16.9 NK = 1138.22 NBG = 20.7778 r = 54.7807 my_par = 62352.7  
param = 15.1 NK = 1090.89 NBG = 19.1111 r = 57.0814 my_par = 62269.5  
param = 17.05 NK = 1139.11 NBG = 20.8889 r = 54.5319 my_par = 62117.9  
param = 17.2 NK = 1142 NBG = 21 r = 54.381 my_par = 62103  
param = 15.85 NK = 1111.11 NBG = 19.8889 r = 55.8659 my_par = 62073.2  
param = 15.25 NK = 1098.56 NBG = 19.4444 r = 56.4971 my_par = 62065.3
```

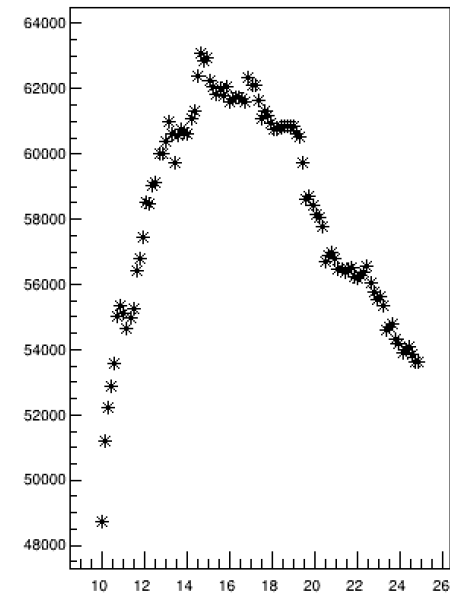
K/BG



Number of K

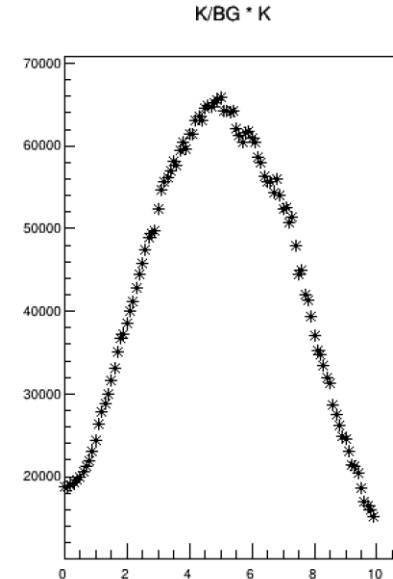
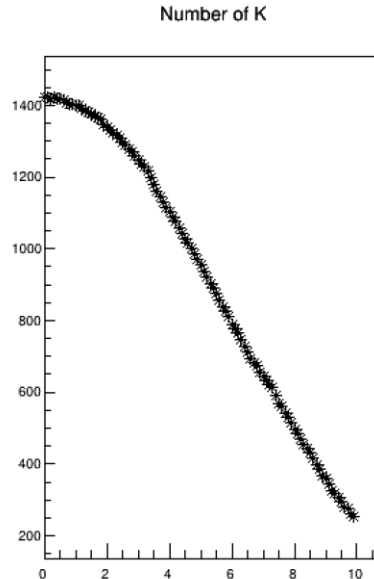
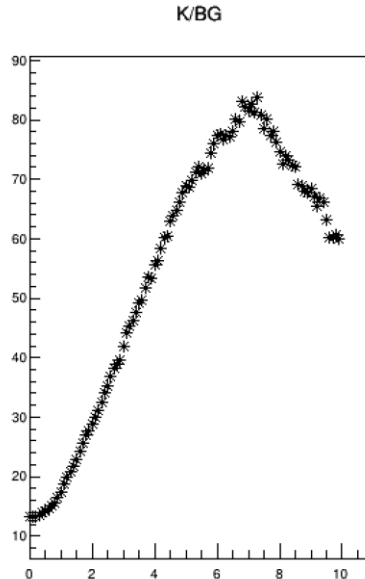


K/BG * K



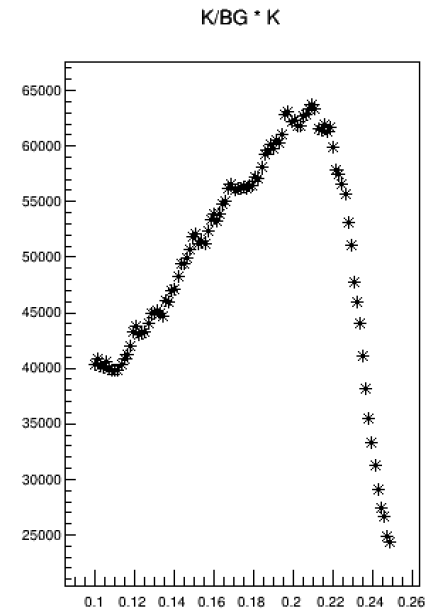
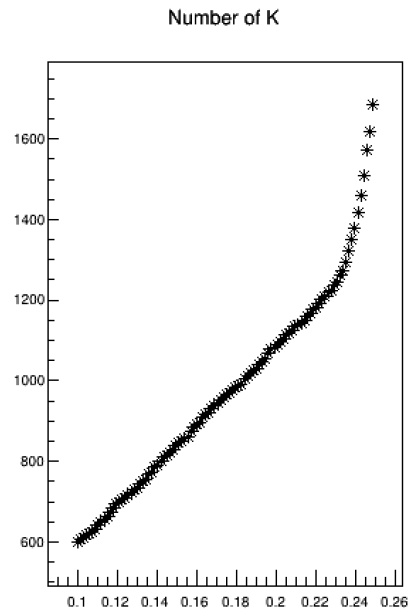
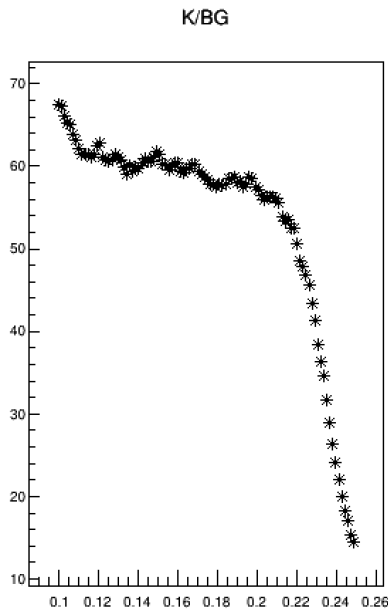
R.a2.asum_c > par

```
param = 5 NK = 956.111 NBG = 13.8889 r = 68.84 my_par = 65818.7  
param = 4.9 NK = 969.667 NBG = 14.3333 r = 67.6512 my_par = 65599.1  
param = 4.8 NK = 986.111 NBG = 14.8889 r = 66.2313 my_par = 65311.5  
param = 4.6 NK = 1016.11 NBG = 15.8889 r = 63.951 my_par = 64981.4  
param = 4.7 NK = 999.556 NBG = 15.4444 r = 64.7194 my_par = 64690.7  
param = 4.5 NK = 1026.67 NBG = 16.3333 r = 62.8571 my_par = 64533.3  
param = 5.1 NK = 937.333 NBG = 13.6667 r = 68.5854 my_par = 64287.3  
param = 5.2 NK = 921.778 NBG = 13.2222 r = 69.7143 my_par = 64261.1  
param = 5.4 NK = 889.667 NBG = 12.3333 r = 72.1351 my_par = 64176.2  
param = 5.3 NK = 901.333 NBG = 12.6667 r = 71.1579 my_par = 64137
```



$$\text{abs}(\text{R.tr.vz}[0] + \text{L.tr.vz}[0]) < \text{par}$$

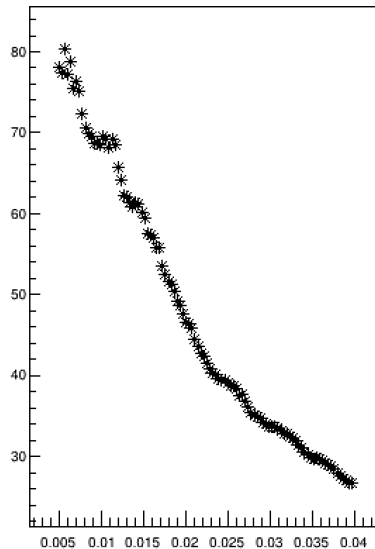
```
param = 0.2095 NK = 1134.78 NBG = 20.2222 r = 56.1154 my_par = 63678.5  
param = 0.208 NK = 1126 NBG = 20 r = 56.3 my_par = 63393.8  
param = 0.211 NK = 1137.56 NBG = 20.4444 r = 55.6413 my_par = 63295.1  
param = 0.1975 NK = 1078.56 NBG = 18.4444 r = 58.4759 my_par = 63069.5  
param = 0.2065 NK = 1118.11 NBG = 19.8889 r = 56.2179 my_par = 62857.8  
param = 0.196 NK = 1069.78 NBG = 18.2222 r = 58.7073 my_par = 62803.8  
param = 0.205 NK = 1113.22 NBG = 19.7778 r = 56.2865 my_par = 62659.4  
param = 0.2005 NK = 1090.89 NBG = 19.1111 r = 57.0814 my_par = 62269.5  
param = 0.199 NK = 1081.22 NBG = 18.7778 r = 57.5799 my_par = 62256.6  
param = 0.2155 NK = 1158.33 NBG = 21.6667 r = 53.4615 my_par = 61926.3
```



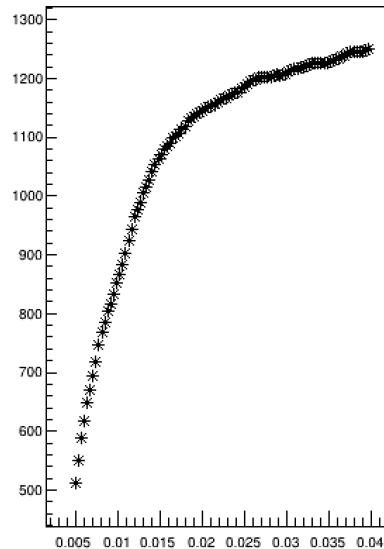
$\text{abs}(\text{L.tr.vz}[0] - \text{R.tr.vz}[0])$

```
param = 0.01165 NK = 944.222 NBG = 13.7778 r = 68.5323 my_par = 64709.7  
param = 0.01445 NK = 1053.78 NBG = 17.2222 r = 61.1871 my_par = 64477.6  
param = 0.0113 NK = 923.667 NBG = 13.3333 r = 69.275 my_par = 63987  
param = 0.0148 NK = 1062.33 NBG = 17.6667 r = 60.1321 my_par = 63880.3  
param = 0.0141 NK = 1042 NBG = 17 r = 61.2941 my_par = 63868.5  
param = 0.01515 NK = 1071 NBG = 18 r = 59.5 my_par = 63724.5  
param = 0.012 NK = 964.333 NBG = 14.6667 r = 65.75 my_par = 63404.9  
param = 0.01235 NK = 976.778 NBG = 15.2222 r = 64.1679 my_par = 62677.8  
param = 0.01375 NK = 1027.11 NBG = 16.8889 r = 60.8158 my_par = 62464.6  
param = 0.01305 NK = 1005.78 NBG = 16.2222 r = 62 my_par = 62358.2
```

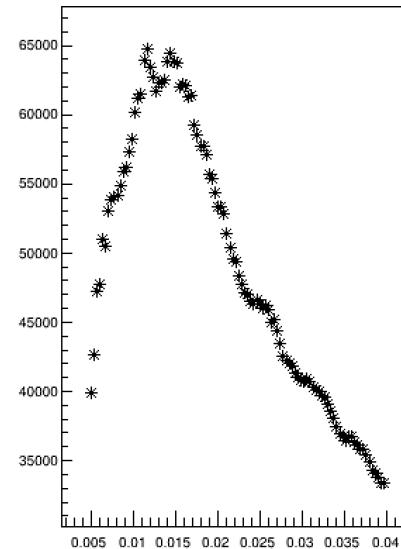
K/BG



Number of K



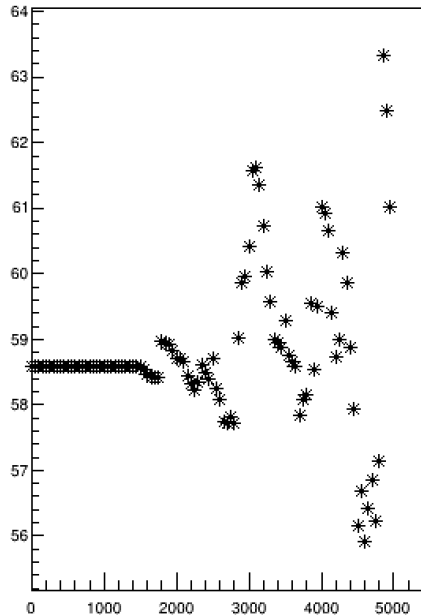
K/BG * K



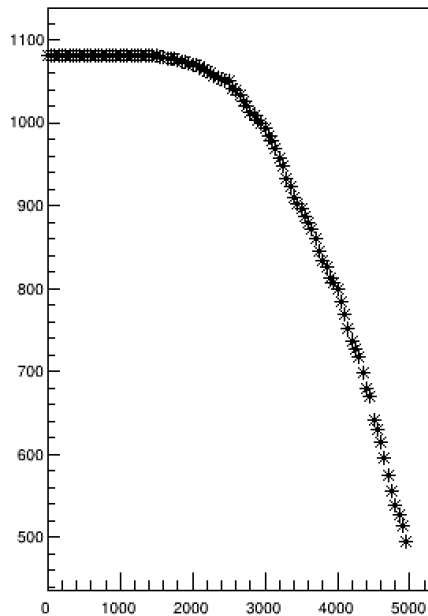
L.cer.asum_c[0] > par

```
param = 1800 NK = 1074.78 NBG = 18.2222 r = 58.9817 my_par = 63392.2  
param = 50 NK = 1080.56 NBG = 18.4444 r = 58.5843 my_par = 63303.6  
param = 100 NK = 1080.56 NBG = 18.4444 r = 58.5843 my_par = 63303.6  
param = 150 NK = 1080.56 NBG = 18.4444 r = 58.5843 my_par = 63303.6  
param = 200 NK = 1080.56 NBG = 18.4444 r = 58.5843 my_par = 63303.6  
param = 250 NK = 1080.56 NBG = 18.4444 r = 58.5843 my_par = 63303.6  
param = 300 NK = 1080.56 NBG = 18.4444 r = 58.5843 my_par = 63303.6  
param = 350 NK = 1080.56 NBG = 18.4444 r = 58.5843 my_par = 63303.6  
param = 400 NK = 1080.56 NBG = 18.4444 r = 58.5843 my_par = 63303.6  
param = 450 NK = 1080.56 NBG = 18.4444 r = 58.5843 my_par = 63303.6
```

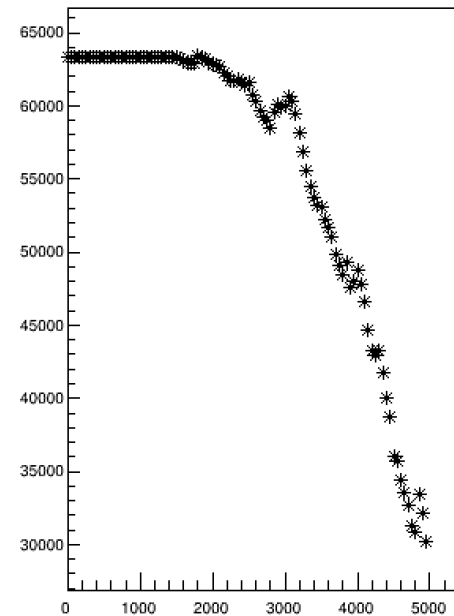
K/BG



Number of K



K/BG * K



result

```
//////////////////////////////////// 0 1 2 3 4 5 6 7  
double pro_param[8] = {-20, 20, 0.35, 14.65, 5.00, 0.2095, 0.01515, 1800};  
double scan_min[8] = {-20, 0, 0.05, 10.00, 0.00, 0.1000, 0.00500, 0};  
double scan_max[8] = {0, 20, 0.80, 25.00, 10.0, 0.2500, 0.04000, 5000};
```

