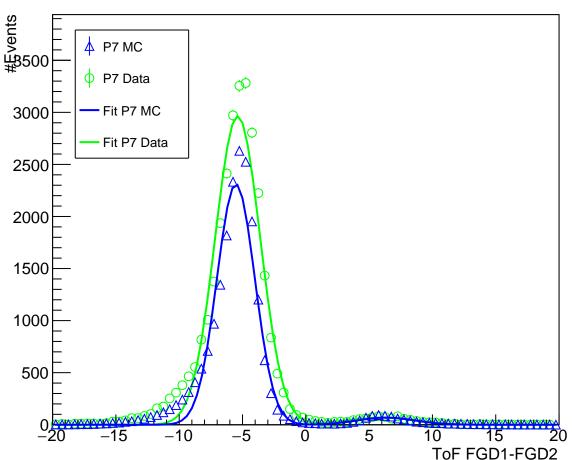
Fgd1Fwd_ToF_FGD1_FGD2



p1 -5.381 ± 0.012 p2 1.777 ± 0.011 p3 67.81 ± 2.93 p4 5.978 ± 0.102 p5

1950 / 73

 2966 ± 26.0

 χ^2 / ndf

p0

p0

p4

p5

 2.723 ± 0.098

 χ^2 / ndf 3.649e+04 / 74 2311 ± 5.7

 -5.523 ± 0.003

p1 p2 p3

 1.502 ± 0.003

 68.26 ± 0.99

 6.336 ± 0.019

 -2.258 ± 0.027

Fgd1Fwd_ToF_ECal_FGD1_track χ^2 / ndf p0 #Events ▲ P7 MC 700 P7 Data 600 Fit P7 MC Fit P7 Data 500 400 300 200 100 p4 **p5** 10 15 -10

p1 -8.359 ± 0.136 p2 2.812 ± 0.133 p3 609.7 ± 8.5 p4 8.755 ± 0.031 p5 2.724 ± 0.024 χ^2 / ndf 1669 / 74 p0 30.79 ± 0.46 -8.028 ± 0.029 **p1** p2 2.534 ± 0.026 501.9 ± 1.8 p3 9.002 ± 0.007

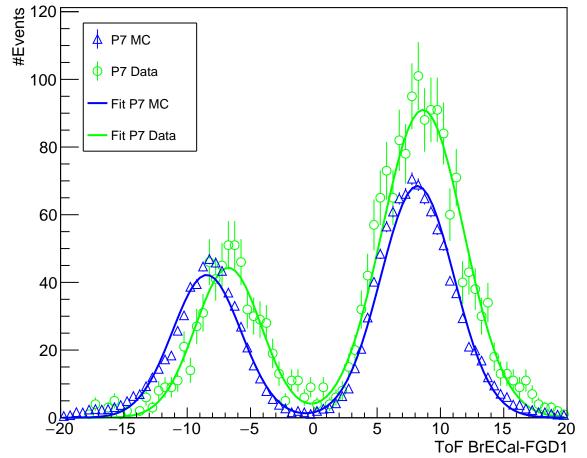
 2.449 ± 0.005

ToF BrECal-FGD1

164.1 / 71

 31.91 ± 2.13

Fgd1Fwd_ToF_ECal_FGD1_shower



96.7 / 68

908.7 / 74

 42.22 ± 0.54 -8.456 ± 0.028

 2.702 ± 0.024

 68.49 ± 0.64

 8.182 ± 0.022

 2.904 ± 0.017

 44.33 ± 2.53

 -6.744 ± 0.114

 χ^2 / ndf

 χ^2 / ndf

p0

p1 p2

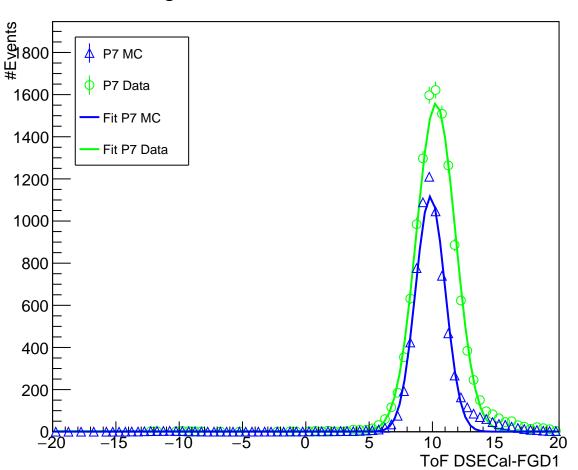
р3

p4

p5

p0

Fgd1Fwd_ToF_DSECal_FGD1_track



 $-1.442e-05 \pm 1.999e+01$ p2 238.8 ± 3.4 p3 1556 ± 18.9 10.28 ± 0.01 **p5** 1.537 ± 0.012 χ^2 / ndf 1.045e+04 / 70 p0 0.401 ± 0.018 -1.357e-05 ± 1.377e+01 p2 847.9 ± 1.4 p3 1116 ± 1.3 p4 9.837 ± 0.003

 1.171 ± 0.002

364.2 / 46

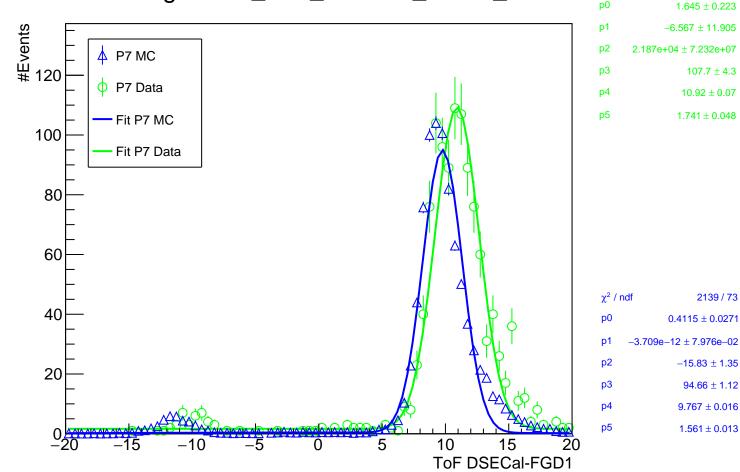
 2.783 ± 0.290

 χ^2 / ndf

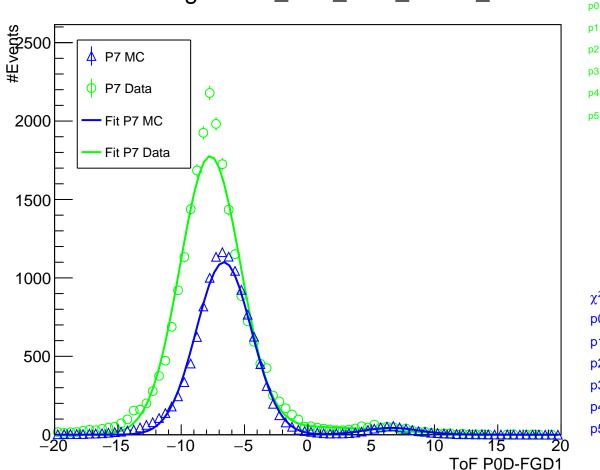
p0

Fgd1Fwd_ToF_DSECal_FGD1_shower

118.7 / 48



Fgd1Bwd_ToF_P0D_FGD1_track



 -7.72 ± 0.02 2.375 ± 0.017 p2 p3 48.54 ± 2.03 $5.174e-09 \pm 4.792e-02$ p4 p5 6.126 ± 0.157 χ^2 / ndf 6511 / 74 p0 1101 ± 3.0 p1 -6.631 ± 0.005 p2 2.18 ± 0.00 р3 43.49 ± 0.68 p4 6.611 ± 0.023 **p5** 2.206 ± 0.027

785.3 / 69

1755 ± 17.0

 χ^2 / ndf

Fgd1Bwd_ToF_P0D_FGD1_shower χ^2 / ndf 143.8 / 62 p0 248.8 ± 5.1 p1 -8.038 ± 0.056 #Events p2 3.328 ± 0.049 ▲ P7 MC p3 14.8 ± 1.4 300 P7 Data p4 4.741 ± 0.285 **p5** 2.818 ± 0.254 Fit P7 MC 250 Fit P7 Data 200 150 χ^2 / ndf 3975 / 74 100 p0 225 ± 1.3 -6.765 ± 0.013 p1 p2 2.608 ± 0.011 50 р3 10.84 ± 0.28 p4 5.751 ± 0.066 **p5** 2.688 ± 0.062 -10-5 5

ToF P0D-FGD1

Fgd1Bwd_ToF_ECal_FGD1_track χ^2 / ndf p0 #Events p1 90 p2 ▲ P7 MC p3 80 P7 Data p4 **p5** 70 Fit P7 MC Fit P7 Data 60 50 40 χ^2 / ndf 30 p0 20 **p1** p2 p3 10 p4 **p5** -10-5 5 ToF BrECal-FGD1

2.266 ± 0.147

67.93 / 61

 59.3 ± 2.7

 14.6 ± 1.4

658.2 / 74

 64.68 ± 0.74 -6.756 ± 0.019

 2.098 ± 0.016 13.03 ± 0.32

 6.897 ± 0.047

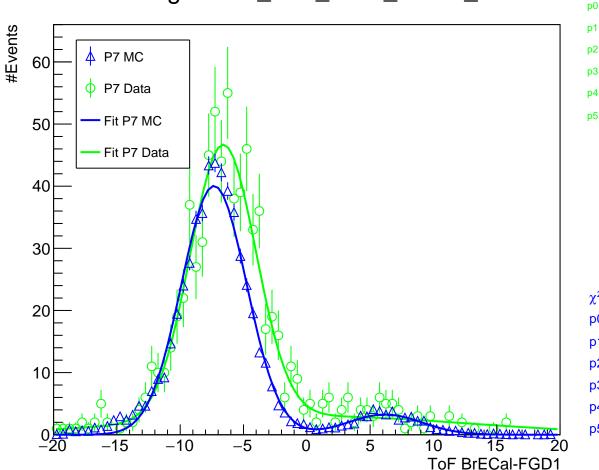
 2.452 ± 0.043

 -8.059 ± 0.102

 2.697 ± 0.084

 5.394 ± 0.188

Fgd1Bwd_ToF_ECal_FGD1_shower



 χ^2 / ndf 353.1 / 72 p0 40.06 ± 0.53 p1 -7.325 ± 0.026 p2 2.57 ± 0.02 3.254 ± 0.149 p3 p4 6.174 ± 0.107 **p5** 2.919 ± 0.106

 χ^2 / ndf

p4

45.42 / 58

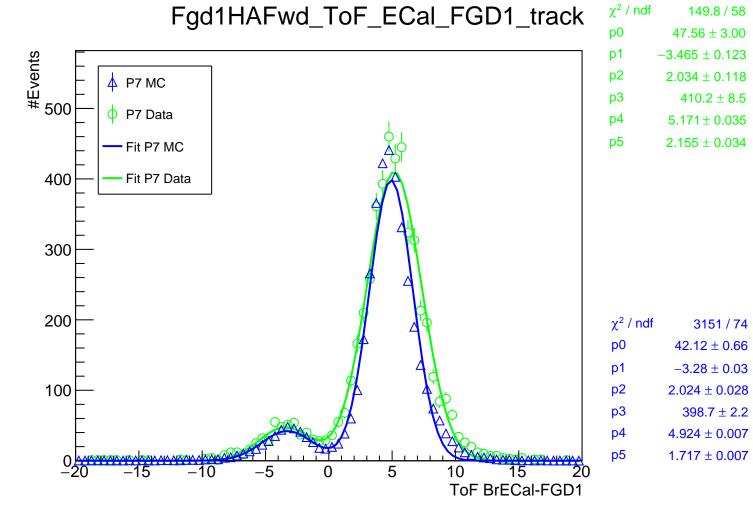
 44.09 ± 2.45 -6.617 ± 0.129

 2.592 ± 0.110

 2.991 ± 0.494

 12.77 ± 2.39

2.166e-09 ± 1.677e+00



χ^2 / ndf Fgd1HAFwd_ToF_ECal_FGD1_shower 81.25 / 54 p0 42.34 ± 2.63 #Events **p1** -2.637 ± 0.164 80 p2 2.523 ± 0.160 ▲ P7 MC 53.82 ± 3.01 p3 P7 Data 70 p4 5.532 ± 0.135 p5 2.403 ± 0.132 Fit P7 MC 60 Fit P7 Data 50 40 30 χ^2 / ndf 999.9 / 74 p0 56.74 ± 0.75 20 -4.107 ± 0.021 **p1** p2 2.008 ± 0.021 10 51.54 ± 0.71 p3 p4 4.668 ± 0.023 **p5** 2.038 ± 0.023 -10-5 -15 ToF BrECal-FGD1

Fgd1HABwd_ToF_ECal_FGD1_track χ^2 / ndf 199.8 / 70 p0 233.3 ± 6.2 p1 -4.407 ± 0.054 #Events 400 p2 2.181 ± 0.049 ▲ P7 MC 49.74 ± 3.31 p3 P7 Data p4 3.708 ± 0.161 350 **p5** 2.543 ± 0.208 Fit P7 MC 300 Fit P7 Data 250 200 150 χ^2 / ndf 3090 / 74 p0 298.1 ± 1.9 100 -3.862 ± 0.008 p1 p2 1.685 ± 0.008 64.65 ± 0.90 50 p3 p4 3.848 ± 0.018 **p5** 1.656 ± 0.019 -5-10-15ToF BrECal-FGD1

Fgd1HABwd_ToF_ECal_FGD1_shower

91.14 / 61 127 ± 4.8 -3.287 ± 0.095

 2.451 ± 0.082

 13.21 ± 3.07

 5.88 ± 0.64

1104 / 73

 157.4 ± 1.2

 -4.233 ± 0.012

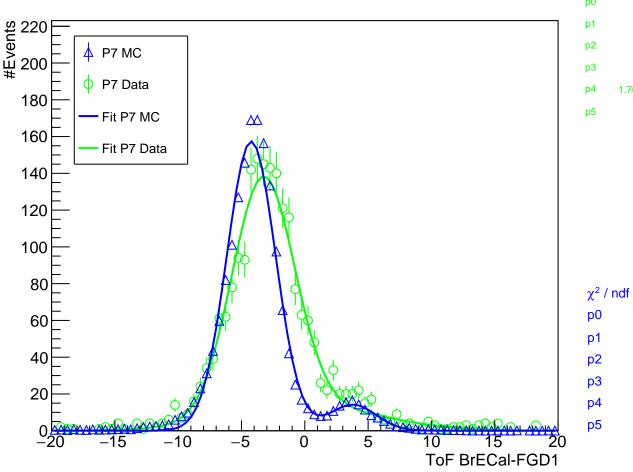
 1.925 ± 0.011

 14.17 ± 0.38

 3.785 ± 0.046

 1.846 ± 0.048

 $1.703e-09 \pm 9.407e-02$



Fgd2Fwd_ToF_ECal_FGD2_track χ^2 / ndf p0 #Events ▲ P7 MC P7 Data p4 **p5** Fit P7 MC 250 Fit P7 Data 200 150 100 p0 50 **p5** -1010 15 ToF BrECal-FGD2

p1 -7.955 ± 0.157 p2 2.865 ± 0.148 p3 217.3 ± 5.6

183.6 / 69

 28.1 ± 1.9

 6.787 ± 0.053 2.759 ± 0.051

 χ^2 / ndf

 29.92 ± 0.47 -7.808 ± 0.030

2261 / 74

p1

 2.404 ± 0.026

p2 р3

p4

 230.2 ± 1.4

 7.301 ± 0.011

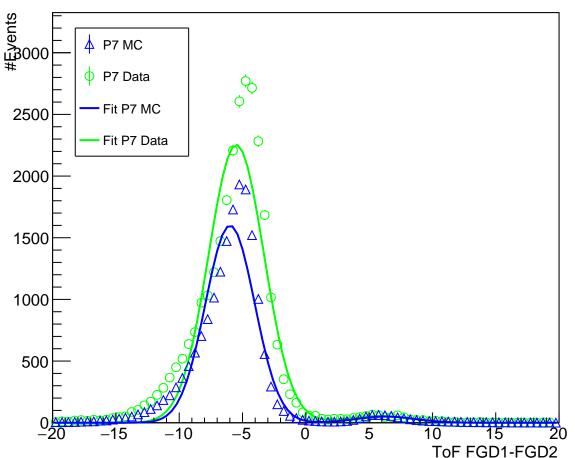
 2.204 ± 0.009

Fgd2Fwd_ToF_ECal_FGD2_shower χ^2 / ndf 92.62 / 69 p0 36.4 ± 2.1 p1 -6.591 ± 0.137 90 #Events p2 2.8 ± 0.1 ▲ P7 MC 57.21 ± 2.70 p3 80 P7 Data p4 6.455 ± 0.108 **p5** 2.882 ± 0.100 70 Fit P7 MC Fit P7 Data 60 50 40 χ^2 / ndf 940.1 / 74 30 p0 36.85 ± 0.51 -8.029 ± 0.028 20 **p1** p2 2.591 ± 0.026 р3 42.7 ± 0.5 10 p4 6.708 ± 0.028 **p5** 2.649 ± 0.023 0<mark>™</mark> −20 -10-5 10 15 ToF BrECal-FGD2

Fgd2Fwd_ToF_DSECal_FGD2_track χ^2 / ndf 1023 / 61 p0 29.36 ± 2.41 Events **p1** -5.888 ± 0.122 p2 -2.003 ± 0.115 ▲ P7 MC p3 2191 ± 21.6 P7 Data p4 5.706 ± 0.013 p5 1.723 ± 0.012 Fit P7 MC 2000 Fit P7 Data 1500 1000 χ^2 / ndf 1.997e+04 / 74 p0 37.26 ± 0.65 -6.504 ± 0.024 **p1** 500 p2 -1.86 ± 0.02 1614 ± 4.6 p3 p4 5.488 ± 0.004 **p5** 1.509 ± 0.003 ToF DSECal-FGD2

χ^2 / ndf Fgd2Fwd_ToF_DSECal_FGD2_shower 289.2 / 63 p0 41.03 ± 2.73 #Events 000 **p1** -4.928 ± 0.112 p2 2.181 ± 0.112 ▲ P7 MC 429.1 ± 9.3 p3 P7 Data p4 6.033 ± 0.035 500 **p5** 1.933 ± 0.029 Fit P7 MC Fit P7 Data 400 300 χ^2 / ndf 5141 / 74 200 p0 46.09 ± 0.73 -6.874 ± 0.026 p1 p2 2.114 ± 0.026 100 367.6 ± 2.1 p3 p4 4.985 ± 0.008 **p5** 1.659 ± 0.007 -10ToF DSECal-FGD2

Fgd2Bwd_ToF_FGD1_FGD2



 2254 ± 21.8 -5.488 ± 0.019 2.183 ± 0.016 54.68 ± 2.77 5.809 ± 0.116 2.578 ± 0.108

 χ^2 / ndf 3.578e+04 / 74

 1600 ± 4.2

 1.94 ± 0.00

 49.74 ± 0.79

 6.291 ± 0.024

 -2.308 ± 0.031

 -5.981 ± 0.005

2768 / 73

 χ^2 / ndf

p0

p1

p2

p3

p4

p5

p0

p1

p2

p3 p4

Fgd2Bwd_ToF_ECal_FGD2_track χ^2 / ndf p0 p1 #Events p2 450 ▲ P7 MC p3 P7 Data 400 p4 **p5** Fit P7 MC 350 Fit P7 Data 300 250 200 χ^2 / ndf 150 100 50 -10 -5 ToF BrECal-FGD2

 -8.686 ± 0.039 2.62 ± 0.03 29.27 ± 2.08 7.416 ± 0.137 2.731 ± 0.149

132.3 / 65

 338.8 ± 6.6

1944 / 74

 356.6 ± 1.6

 -8.543 ± 0.008

 2.278 ± 0.007

 29.65 ± 0.47

 2.451 ± 0.026

 7.61 ± 0.03

p0

p1

p2

р3

p4

Fgd2Bwd_ToF_ECal_FGD2_shower χ^2 / ndf p0 240 220 # p1 p2 ▲ P7 MC p3 P7 Data p4 200 p5 Fit P7 MC 180 Fit P7 Data 160 140 120 100 80 χ^2 / ndf 60 40 20 -15 -10-5 ToF BrECal-FGD2

 -3.288 ± 0.420

p0

p1 p2

p3

p4

p5

135.9 / 66

 169.3 ± 4.2

 -7.675 ± 0.067

 3.428 ± 0.059

 6.525 ± 0.876

 8.026 ± 0.410

1485 / 73

 172.9 ± 1.0

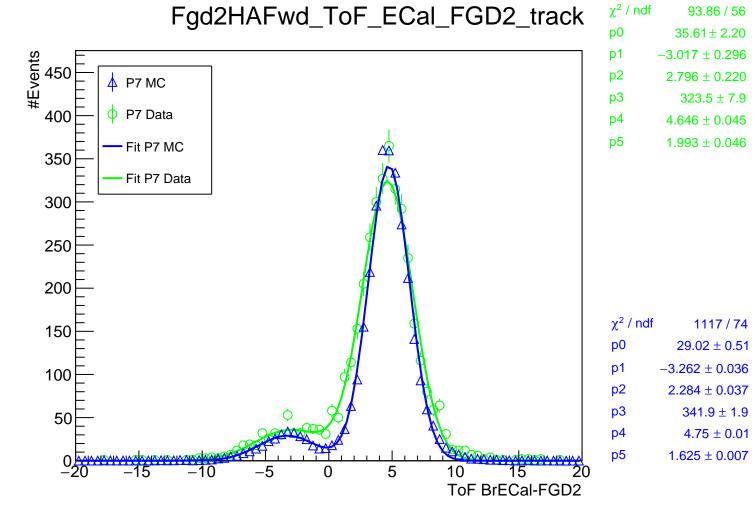
 -8.936 ± 0.014

 2.847 ± 0.011

 8.065 ± 0.227

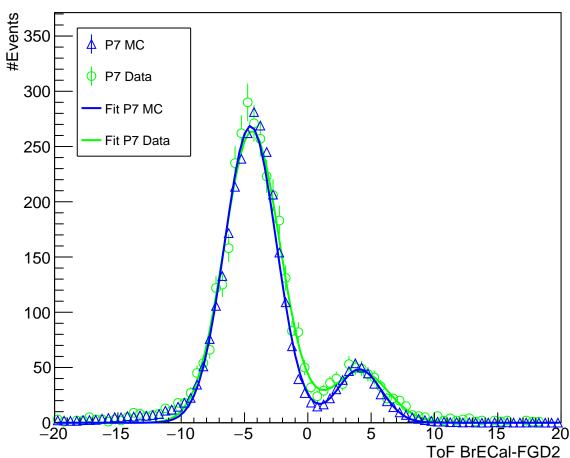
 7.166 ± 0.062

 2.824 ± 0.057



χ^2 / ndf Fgd2HAFwd_ToF_ECal_FGD2_shower 55.6 / 52 p0 26.55 ± 1.94 #Events **p1** -3.494 ± 0.196 50 p2 2.575 ± 0.178 ▲ P7 MC 35.97 ± 2.51 p3 P7 Data p4 5.175 ± 0.143 40 p5 2.248 ± 0.141 Fit P7 MC Fit P7 Data 30 20 χ^2 / ndf 473.9 / 73 p0 31.34 ± 0.53 -4.576 ± 0.028 **p1** 10 p2 2.03 ± 0.03 35.73 ± 0.60 p3 p4 4.592 ± 0.025 **p5** 1.902 ± 0.024 -5 ToF BrECal-FGD2

Fgd2HABwd_ToF_ECal_FGD2_track ▲ P7 MC



p4 4.149 ± 0.137 **p5** 2.187 ± 0.121

155.1 / 67

 264.5 ± 6.7

 -4.399 ± 0.046

 2.208 ± 0.044

 46.72 ± 2.79

2539 / 74

 268.7 ± 1.5

 -4.523 ± 0.009

 2.041 ± 0.008

 4.079 ± 0.022

 1.736 ± 0.022

 48.4 ± 0.7

 χ^2 / ndf

p0

p1

p2

p3

 χ^2 / ndf

p0

p1 p2

p3 p4

χ^2 / ndf Fgd2HABwd_ToF_ECal_FGD2_shower p0 **p1** #Events ▲ P7 MC 140 P7 Data 120 Fit P7 MC Fit P7 Data 100 80 60 40

20

-10

-5



ToF BrECal-FGD2

98.57 / 56

 106.7 ± 4.1

 -3.756 ± 0.073