Cutoff energies

March 13, 2018

Low-energy model

1 Galactic plane, $b \in (-2°, 2°)$, latitude = 7

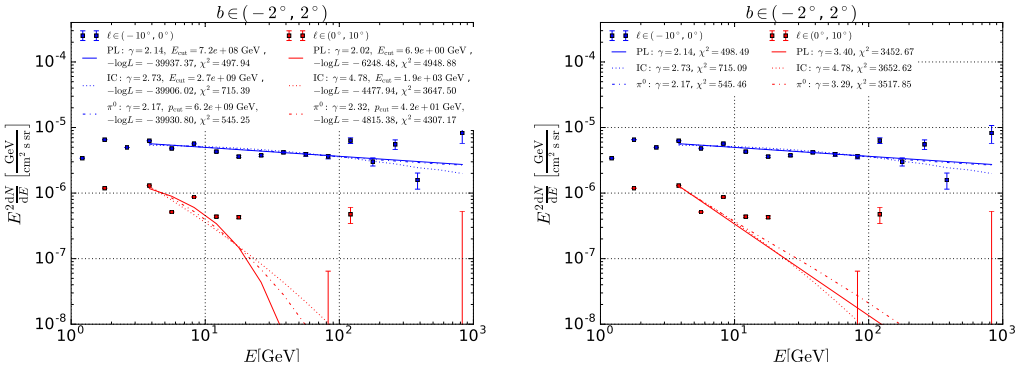

Figure 1: Fit with and without cutoff.

1.1 Right of GC, $\ell \in (-10°, 0°)$, blue

1.1.1 PL

Best-fit value $1/E_{\rm cut}$: 1.387E-09 1/GeV
Parameter error printed by MIGRAD: 0.0003918 1/GeV
Best-fit value $E_{\rm cut}$: 721 PeV
Upper limit for $1/E_{\rm cut}$: 0.00064445503804 1/GeV
Lower limit for $E_{\rm cut}$: 1.55 TeV

1.1.2 IC

Best-fit value $1/E_{\rm cut}$: 3.744E-10 1/GeV
Parameter error printed by MIGRAD: 4.072E-05 1/GeV
Best-fit value $E_{\rm cut}$: 2671 PeV
Upper limit for $1/E_{\rm cut}$: 6.69788140895e-05 1/GeV
Lower limit for $E_{\rm cut}$: 14.9 TeV

1.1.3 Pi0

Best-fit value $1/E_{\rm cut}$: 1.61E-10 1/GeV
Parameter error printed by MIGRAD: 7.208E-06 1/GeV
Best-fit value $E_{\rm cut}$: 6211 PeV
Upper limit for $1/E_{\rm cut}$: 1.18562659431e-05 1/GeV
Lower limit for $E_{\rm cut}$: 84.3 TeV

1.2 Left of GC, $\ell \in (0°, 10°)$, red

1.2.1 PL

Best-fit value $1/E_{\rm cut}$: 0.1458 1/GeV
Parameter error printed by MIGRAD: 0.7778 1/GeV
Best-fit value $E_{\rm cut}$: 6.859 GeV
Upper limit for $1/E_{\rm cut}$: 1.42516715104 1/GeV
Lower limit for $E_{\rm cut}$: 0.70 GeV

1.2.2 IC

Best-fit value$1/E_{\rm cut}$: 0.0005131 1/GeV
Parameter error printed by MIGRAD: 0.03755 1/GeV
Best-fit value $E_{\rm cut}$: 1949 GeV
Upper limit for $1/E_{\rm cut}$: 0.062277353692 1/GeV
Lower limit for $E_{\rm cut}$: 16.1 GeV

1.2.3 Pi0

Best-fit value $1/E_{\rm cut}$: 0.02393 1/GeV
Parameter error printed by MIGRAD: 0.03823 1/GeV
Best-fit value $E_{\rm cut}$: 41.8 GeV
Upper limit for $1/E_{\rm cut}$: 0.087 1/GeV
Lower limit for $E_{\rm cut}$: 11.52 GeV

2 Slightly below GP, $b \in (-6°, -2°)$, latitude = 6

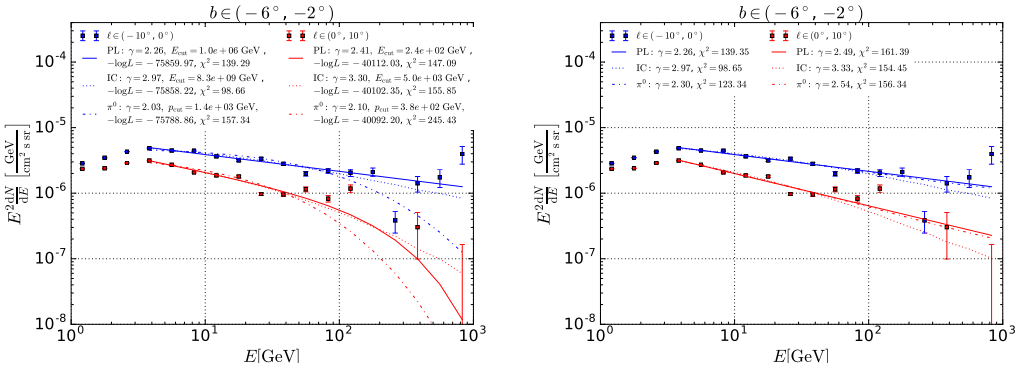

Figure 2: Fit with and without cutoff.

2.1 Right of GC, $\ell \in (-10°, 0°)$, blue

2.1.1 PL

Best-fit value $1/E_{\rm cut}$: 9.537E-07 1/GeV
Parameter error printed by MIGRAD: 0.01005 1/GeV
Best-fit value $E_{\rm cut}$: 1049 TeV
Upper limit for $1/E_{\rm cut}$: 0.0165317326509 1/GeV
Lower limit for $E_{\rm cut}$: 60.49 GeV

2.1.2 IC

Best-fit value $1/E_{\rm cut}$: 1.203E-10 1/GeV
Parameter error printed by MIGRAD: 2.761E-05 1/GeV
Best-fit value $E_{\rm cut}$: 8312.6 PeV
Upper limit for $1/E_{\rm cut}$: 4.54145289401e-05 1/GeV
Lower limit for $E_{\rm cut}$: 22.0 TeV

2.1.3 Pi0

Best-fit value $1/E_{\rm cut}$: 0.0007014 1/GeV
Parameter error printed by MIGRAD: 0.0001887 1/GeV
Best-fit value $E_{\rm cut}$: 1426 GeV
Upper limit for $1/E_{\rm cut}$: 0.00101178387941 1/GeV
Lower limit for $E_{\rm cut}$: 988.4 GeV

2.2 Left of GC, $\ell \in (0°, 10°)$, red

2.2.1 PL

Best-fit value $1/E_{\rm cut}$: 0.004113 1/GeV
Parameter error printed by MIGRAD: 0.003641 1/GeV
Best-fit value $E_{\rm cut}$: 243.1 GeV
Upper limit for $1/E_{\rm cut}$: 0.0101019120557 1/GeV
Lower limit for $E_{\rm cut}$: 98.99 GeV

2.2.2 IC

Best-fit value1$/E_{\rm cut}$: 0.0002016 1/GeV
Parameter error printed by MIGRAD: 0.0006471 1/GeV
Best-fit value $E_{\rm cut}$: 4960.3 GeV
Upper limit for $1/E_{\rm cut}$: 0.001265984782 1/GeV
Lower limit for $E_{\rm cut}$: 789.9 GeV

2.2.3 Pi0

Best-fit value $1/E_{\rm cut}$: 0.002605 1/GeV
Parameter error printed by MIGRAD: 0.0009566 1/GeV
Best-fit value $E_{\rm cut}$: 383.9 GeV
Upper limit for $1/E_{\rm cut}$: 0.00417846697954 1/GeV
Lower limit for $E_{\rm cut}$: 239.3 GeV

3 Slightly above GP, $b \in (2°, 6°)$, latitude = 8

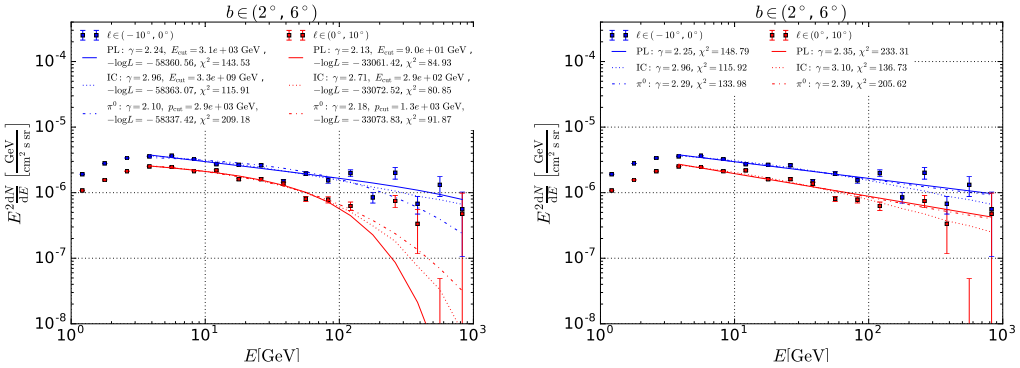

Figure 3: Fit with and without cutoff.

3.1 Right of GC, $\ell \in (-10°, 0°)$, blue

3.1.1 PL

Best-fit value $1/E_{\text{cut}}$: 0.000318 1/GeV
Parameter error printed by MIGRAD: 0.0008268 1/GeV
Best-fit value E_{cut}: 3144.65 GeV
Upper limit for $1/E_{\text{cut}}$: 0.00167796497876 1/GeV
Lower limit for E_{cut}: 595.959994789 GeV

3.1.2 IC

Best-fit value $1/E_{\text{cut}}$: 2.995E-10 1/GeV
Parameter error printed by MIGRAD: 7.637E-05 1/GeV
Best-fit value E_{cut}: 3338898163.61 GeV
Upper limit for $1/E_{\text{cut}}$: 0.00012561777099 1/GeV
Lower limit for E_{cut}: 7960.65709586 GeV

3.1.3 Pi0

Best-fit value $1/E_{\text{cut}}$: 0.0003408 1/GeV
Parameter error printed by MIGRAD: 0.0001545 1/GeV
Best-fit value E_{cut}: 2934.27230047 GeV
Upper limit for $1/E_{\text{cut}}$: 0.000594929885364 1/GeV
Lower limit for E_{cut}: 1680.87034221 GeV

3.2 Left of GC, $\ell \in (0°, 10°)$, red

3.2.1 PL

Best-fit value $1/E_{\text{cut}}$: 0.01105 1/GeV
Parameter error printed by MIGRAD: 0.006745 1/GeV
Best-fit value E_{cut}: 90.4977375566 GeV
Upper limit for $1/E_{\text{cut}}$: 0.0221445377138 1/GeV
Lower limit for E_{cut}: 45.1578629875 GeV

3.2.2 IC

Best-fit value1/$E_{\rm cut}$: 0.003454 1/GeV
Parameter error printed by MIGRAD: 0.001583 1/GeV
Best-fit value $E_{\rm cut}$: 289.5193978 GeV
Upper limit for 1/$E_{\rm cut}$: 0.00605780329146 1/GeV
Lower limit for $E_{\rm cut}$: 165.076340694 GeV

3.2.3 Pi0

Best-fit value 1/$E_{\rm cut}$: 0.0007884 1/GeV
Parameter error printed by MIGRAD: 0.0004543 1/GeV
Best-fit value $E_{\rm cut}$: 1268.39167935 GeV
Upper limit for 1/$E_{\rm cut}$: 0.00153565700272 1/GeV
Lower limit for $E_{\rm cut}$: 651.187080335 GeV

Rectangles model

4 Galactic plane, $b \in (-2°, 2°)$, latitude = 7

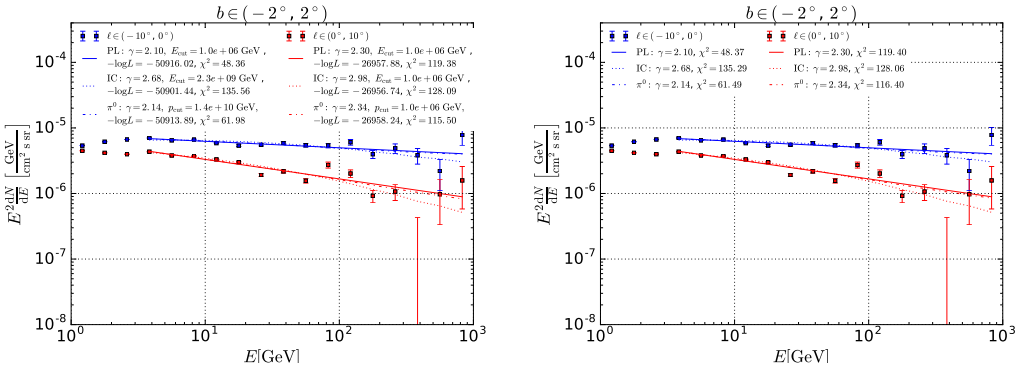

Figure 4: Fit with and without cutoff.

4.1 Right of GC, $\ell \in (-10°, 0°)$, blue

4.1.1 PL

Best-fit value $1/E_{\rm cut}$: 9.5367401326e-07 1/GeV
Parameter error printed by MIGRAD: 0.190883605899 1/GeV
Best-fit value $E_{\rm cut}$: 1048576.33331 GeV
Upper limit for $1/E_{\rm cut}$: 0.313976545162 1/GeV
Lower limit for $E_{\rm cut}$: 3.1849512819 GeV

4.1.2 IC

Best-fit value $1/E_{\rm cut}$: 4.34377811498e-10 1/GeV
Parameter error printed by MIGRAD: 4.58513598241e-05 1/GeV
Best-fit value $E_{\rm cut}$: 2302143372.73 GeV
Upper limit for $1/E_{\rm cut}$: 7.54192098851e-05 1/GeV
Lower limit for $E_{\rm cut}$: 13259.2213777 GeV

4.1.3 Pi0

Best-fit value $1/E_{\rm cut}$: 7.26762539138e-11 1/GeV
Parameter error printed by MIGRAD: 2.12856069686e-05 1/GeV
Best-fit value $E_{\rm cut}$: 13759652515.7 GeV
Upper limit for $1/E_{\rm cut}$: 3.50117805004e-05 1/GeV
Lower limit for $E_{\rm cut}$: 28561.8150722 GeV

4.2 Left of GC, $\ell \in (0°, 10°)$, red

4.2.1 PL

Best-fit value $1/E_{\rm cut}$: 9.5367401326e-07 1/GeV
Parameter error printed by MIGRAD: 0.188291992899 1/GeV
Best-fit value $E_{\rm cut}$: 1048576.33331 GeV
Upper limit for $1/E_{\rm cut}$: 0.30971372112 1/GeV
Lower limit for $E_{\rm cut}$: 3.22878817374 GeV

4.2.2 IC

Best-fit value $1/E_{\rm cut}$: 9.5367401326e-07 1/GeV
Parameter error printed by MIGRAD: 0.00123842417057 1/GeV
Best-fit value $E_{\rm cut}$: 1048576.33331 GeV
Upper limit for $1/E_{\rm cut}$: 0.00203798016268 1/GeV
Lower limit for $E_{\rm cut}$: 490.681910605 GeV

4.2.3 Pi0

Best-fit value $1/E_{\rm cut}$: 9.99999999973e-07 1/GeV
Parameter error printed by MIGRAD: 0.000328953672773 1/GeV
Best-fit value $E_{\rm cut}$: 1000000.00003 GeV
Upper limit for $1/E_{\rm cut}$: 0.000542080641759 1/GeV
Lower limit for $E_{\rm cut}$: 1844.74397897 GeV

5 Slightly below GP, $b \in (-6°, -2°)$, latitude = 6

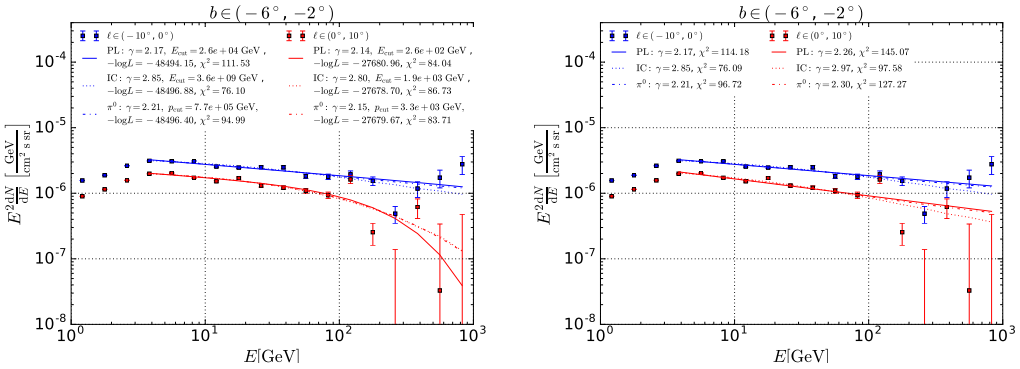

Figure 5: Fit with and without cutoff.

5.1 Right of GC, $\ell \in (-10°, 0°)$, blue

5.1.1 PL

Best-fit value $1/E_{\rm cut}$: 3.83818472842e-05 1/GeV
Parameter error printed by MIGRAD: 0.00193695568196 1/GeV
Best-fit value $E_{\rm cut}$: 26053.9830872 GeV
Upper limit for $1/E_{\rm cut}$: 0.00322439042599 1/GeV
Lower limit for $E_{\rm cut}$: 310.136139823 GeV

5.1.2 IC

Best-fit value $1/E_{\rm cut}$: 2.76227374307e-10 1/GeV
Parameter error printed by MIGRAD: 8.81892808615e-05 1/GeV
Best-fit value $E_{\rm cut}$: 3620206007.85 GeV
Upper limit for $1/E_{\rm cut}$: 0.000145058734711 1/GeV
Lower limit for $E_{\rm cut}$: 6893.75928995 GeV

5.1.3 Pi0

Best-fit value $1/E_{\rm cut}$: 1.29142558558e-06 1/GeV
Parameter error printed by MIGRAD: 2.4932561996e-05 1/GeV
Best-fit value $E_{\rm cut}$: 774338.073494 GeV
Upper limit for $1/E_{\rm cut}$: 4.23018406138e-05 1/GeV
Lower limit for $E_{\rm cut}$: 23639.6332994 GeV

5.2 Left of GC, $\ell \in (0^\circ, 10^\circ)$, red

5.2.1 PL

Best-fit value $1/E_{\rm cut}$: 0.00389756304094 1/GeV
Parameter error printed by MIGRAD: 0.00253902341621 1/GeV
Best-fit value $E_{\rm cut}$: 256.570577434 GeV
Upper limit for $1/E_{\rm cut}$: 0.00807388491602 1/GeV
Lower limit for $E_{\rm cut}$: 123.856112689 GeV

5.2.2 IC

Best-fit value $1/E_{\rm cut}$: 0.000518757561799 1/GeV
Parameter error printed by MIGRAD: 0.000427704056336 1/GeV
Best-fit value $E_{\rm cut}$: 1927.68274362 GeV
Upper limit for $1/E_{\rm cut}$: 0.00122226813013 1/GeV
Lower limit for $E_{\rm cut}$: 818.151087599 GeV

5.2.3 Pi0

Best-fit value $1/E_{\rm cut}$: 0.000300063580161 1/GeV
Parameter error printed by MIGRAD: 0.000205963286151 1/GeV
Best-fit value $E_{\rm cut}$: 3332.62703679 GeV
Upper limit for $1/E_{\rm cut}$: 0.000638843038406 1/GeV
Lower limit for $E_{\rm cut}$: 1565.32972872 GeV

6 Slightly above GP, $b \in (2^\circ, 6^\circ)$, latitude = 8

6.1 Right of GC, $\ell \in (-10^\circ, 0^\circ)$, blue

6.1.1 PL

Best-fit value $1/E_{\rm cut}$: 7.51248647077e-05 1/GeV
Parameter error printed by MIGRAD: 0.00203266385808 1/GeV
Best-fit value $E_{\rm cut}$: 13311.1720586 GeV
Upper limit for $1/E_{\rm cut}$: 0.00341855938404 1/GeV

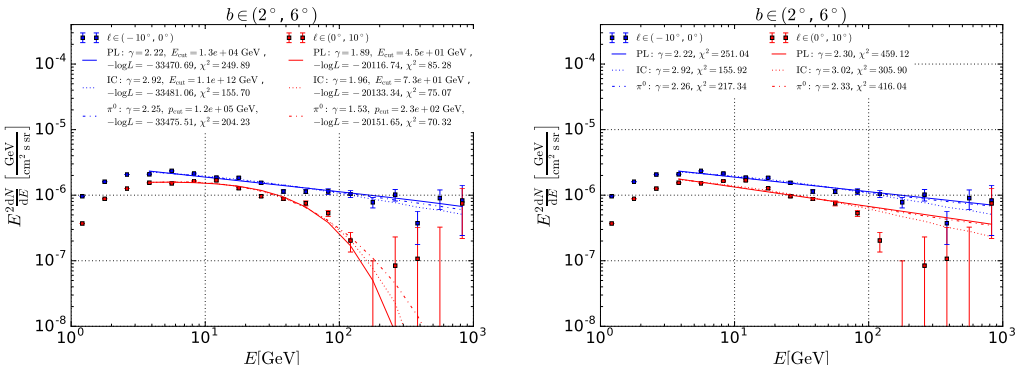

Figure 6: Fit with and without cutoff.

Lower limit for $E_{\rm cut}$: 292.52088019 GeV

6.1.2 IC

Best-fit value $1/E_{\rm cut}$: 9.3958174574e-13 1/GeV
Parameter error printed by MIGRAD: 0.000140991183805 1/GeV
Best-fit value $E_{\rm cut}$: 1.06430335044e+12 GeV
Upper limit for $1/E_{\rm cut}$: 0.000231909860989 1/GeV
Lower limit for $E_{\rm cut}$: 4312.02017773 GeV

6.1.3 Pi0

Best-fit value $1/E_{\rm cut}$: 8.4863034705e-06 1/GeV
Parameter error printed by MIGRAD: 9.05967258004e-05 1/GeV
Best-fit value $E_{\rm cut}$: 117836.936126 GeV
Upper limit for $1/E_{\rm cut}$: 0.000157504656493 1/GeV
Lower limit for $E_{\rm cut}$: 6349.01864024 GeV

6.2 Left of GC, $\ell \in (0^\circ, 10^\circ)$, red

6.2.1 PL

Best-fit value $1/E_{\rm cut}$: 0.0222712272295 1/GeV
Parameter error printed by MIGRAD: 0.010863524827 1/GeV
Best-fit value $E_{\rm cut}$: 44.9009832145 GeV
Upper limit for $1/E_{\rm cut}$: 0.0401401354427 1/GeV
Lower limit for $E_{\rm cut}$: 24.9127211199 GeV

6.2.2 IC

Best-fit value $1/E_{\rm cut}$: 0.0137200161498 1/GeV
Parameter error printed by MIGRAD: 0.00369179624966 1/GeV
Best-fit value $E_{\rm cut}$: 72.8862115821 GeV
Upper limit for $1/E_{\rm cut}$: 0.019792480601 1/GeV
Lower limit for $E_{\rm cut}$: 50.5242379751 GeV

6.2.3 Pi0

Best-fit value $1/E_{\mathrm{cut}}$: 0.00426550159871 1/GeV
Parameter error printed by MIGRAD: 0.00119132518244 1/GeV
Best-fit value E_{cut}: 234.439016575 GeV
Upper limit for $1/E_{\mathrm{cut}}$: 0.00622505714593 1/GeV
Lower limit for E_{cut}: 160.641095585 GeV

7 Galactic plane, $b \in (-2°, 2°)$, latitude = 7

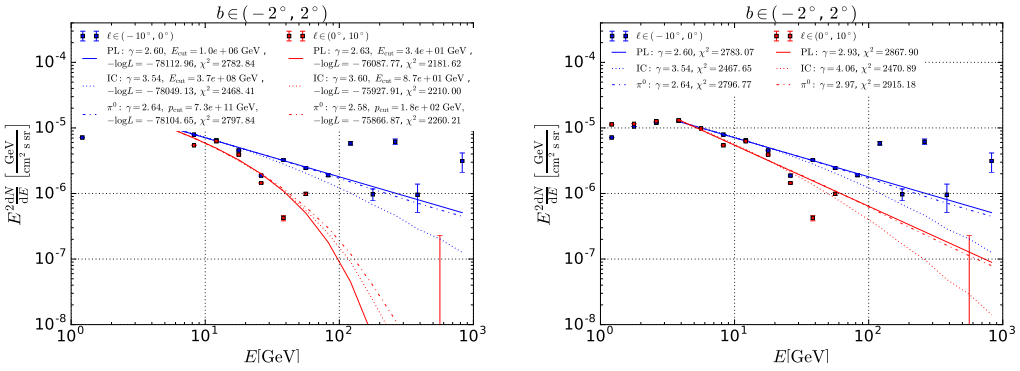

Figure 7: Fit with and without cutoff.

7.1 Right of GC, $\ell \in (-10°, 0°)$, blue

7.1.1 PL

Best-fit value $1/E_{\rm cut}$: 9.5367401326e-07 1/GeV
Parameter error printed by MIGRAD: 0.000406848048537 1/GeV
Best-fit value $E_{\rm cut}$: 1048576.33331 GeV
Upper limit for $1/E_{\rm cut}$: 0.000670159162268 1/GeV
Lower limit for $E_{\rm cut}$: 1492.18283701 GeV

7.1.2 IC

Best-fit value $1/E_{\rm cut}$: 2.69300887146e-09 1/GeV
Parameter error printed by MIGRAD: 0.000206632396889 1/GeV
Best-fit value $E_{\rm cut}$: 371331862.512 GeV
Upper limit for $1/E_{\rm cut}$: 0.000339882740478 1/GeV
Lower limit for $E_{\rm cut}$: 2942.19117627 GeV

7.1.3 Pi0

Best-fit value $1/E_{\rm cut}$: 1.3614665051e-12 1/GeV
Parameter error printed by MIGRAD: 2.69222520553e-05 1/GeV
Best-fit value $E_{\rm cut}$: 7.34502094804e+11 GeV
Upper limit for $1/E_{\rm cut}$: 4.42831653004e-05 1/GeV
Lower limit for $E_{\rm cut}$: 22581.9449269 GeV

7.2 Left of GC, $\ell \in (0°, 10°)$, red

7.2.1 PL

Best-fit value $1/E_{\rm cut}$: 0.0296840147755 1/GeV
Parameter error printed by MIGRAD: 0.0223808758654 1/GeV
Best-fit value $E_{\rm cut}$: 33.688165417 GeV
Upper limit for $1/E_{\rm cut}$: 0.0664972796171 1/GeV
Lower limit for $E_{\rm cut}$: 15.0382091682 GeV

7.2.2 IC

Best-fit value $1/E_{\rm cut}$: 0.011526966874 1/GeV
Parameter error printed by MIGRAD: 0.00379243126439 1/GeV
Best-fit value $E_{\rm cut}$: 86.7530904643 GeV
Upper limit for $1/E_{\rm cut}$: 0.0177649611942 1/GeV
Lower limit for $E_{\rm cut}$: 56.2905817282 GeV

7.2.3 Pi0

Best-fit value $1/E_{\rm cut}$: 0.00556106431412 1/GeV
Parameter error printed by MIGRAD: 0.0014436175957 1/GeV
Best-fit value $E_{\rm cut}$: 179.821693028 GeV
Upper limit for $1/E_{\rm cut}$: 0.00793560395233 1/GeV
Lower limit for $E_{\rm cut}$: 126.014353288 GeV

8 Slightly below GP, $b \in (-6°, -2°)$, latitude = 6

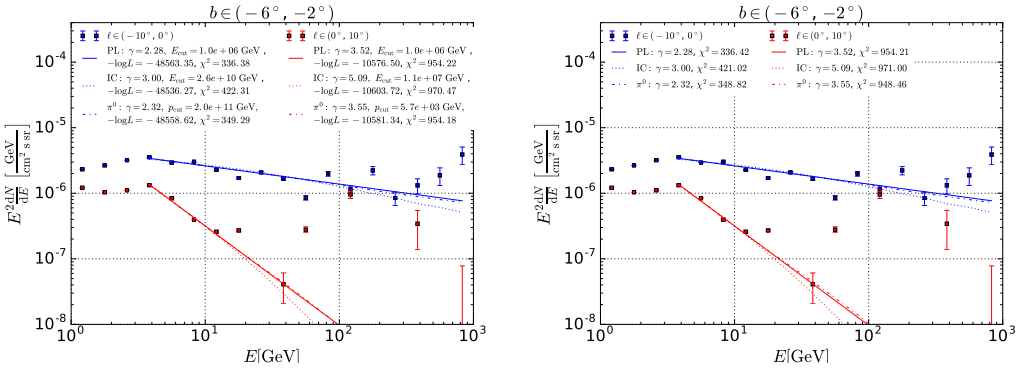

Figure 8: Fit with and without cutoff.

8.1 Right of GC, $\ell \in (-10°, 0°)$, blue

8.1.1 PL

Best-fit value $1/E_{\rm cut}$: 9.5367401326e-07 1/GeV
Parameter error printed by MIGRAD: 0.000290913002867 1/GeV
Best-fit value $E_{\rm cut}$: 1048576.33331 GeV
Upper limit for $1/E_{\rm cut}$: 0.000479462981906 1/GeV
Lower limit for $E_{\rm cut}$: 2085.66675163 GeV

8.1.2 IC

Best-fit value $1/E_{\rm cut}$: 3.82876508276e-11 1/GeV
Parameter error printed by MIGRAD: 2.0074184711e-05 1/GeV
Best-fit value $E_{\rm cut}$: 26118081898.1 GeV
Upper limit for $1/E_{\rm cut}$: 3.30191338177e-05 1/GeV
Lower limit for $E_{\rm cut}$: 30285.470404 GeV

8.1.3 Pi0

Best-fit value $1/E_{\rm cut}$: 4.9638071531e-12 1/GeV
Parameter error printed by MIGRAD: 4.42006027518e-06 1/GeV
Best-fit value $E_{\rm cut}$: 2.01458269662e+11 GeV
Upper limit for $1/E_{\rm cut}$: 7.27035713878e-06 1/GeV
Lower limit for $E_{\rm cut}$: 137544.824953 GeV

8.2 Left of GC, $\ell \in (0^\circ, 10^\circ)$, red

8.2.1 PL

Best-fit value $1/E_{\rm cut}$: 9.5367401326e-07 1/GeV
Parameter error printed by MIGRAD: 0.165443570573 1/GeV
Best-fit value $E_{\rm cut}$: 1048576.33331 GeV
Upper limit for $1/E_{\rm cut}$: 0.272131410787 1/GeV
Lower limit for $E_{\rm cut}$: 3.67469524047 GeV

8.2.2 IC

Best-fit value $1/E_{\rm cut}$: 9.51285037409e-08 1/GeV
Parameter error printed by MIGRAD: 0.765976542828 1/GeV
Best-fit value $E_{\rm cut}$: 10512096.382 GeV
Upper limit for $1/E_{\rm cut}$: 1.25991938976 1/GeV
Lower limit for $E_{\rm cut}$: 0.793701571806 GeV

8.2.3 Pi0

Best-fit value $1/E_{\rm cut}$: 0.000174891693383 1/GeV
Parameter error printed by MIGRAD: 0.0150881710686 1/GeV
Best-fit value $E_{\rm cut}$: 5717.82444699 GeV
Upper limit for $1/E_{\rm cut}$: 0.0249927245997 1/GeV
Lower limit for $E_{\rm cut}$: 40.0116440292 GeV

9 Slightly above GP, $b \in (2^\circ, 6^\circ)$, latitude = 8

9.1 Right of GC, $\ell \in (-10^\circ, 0^\circ)$, blue

9.1.1 PL

Best-fit value $1/E_{\rm cut}$: 9.5367401326e-07 1/GeV
Parameter error printed by MIGRAD: 0.0048274377905 1/GeV
Best-fit value $E_{\rm cut}$: 1048576.33331 GeV
Upper limit for $1/E_{\rm cut}$: 0.0079413822326 1/GeV

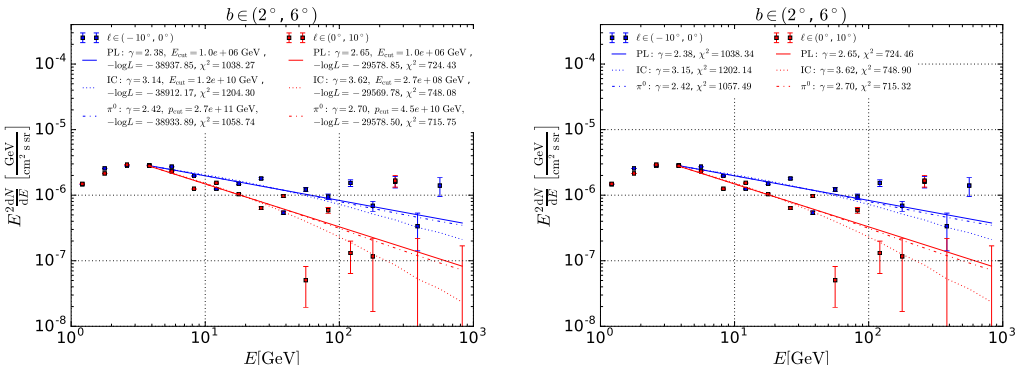

Figure 9: Fit with and without cutoff.

Lower limit for $E_{\rm cut}$: 125.922663173 GeV

9.1.2 IC

Best-fit value $1/E_{\rm cut}$: 8.19596057688e-11 1/GeV
Parameter error printed by MIGRAD: 7.3222325353e-05 1/GeV
Best-fit value $E_{\rm cut}$: 12201132382.5 GeV
Upper limit for $1/E_{\rm cut}$: 0.00012044008939 1/GeV
Lower limit for $E_{\rm cut}$: 8302.88324313 GeV

9.1.3 Pi0

Best-fit value $1/E_{\rm cut}$: 3.7218561666e-12 1/GeV
Parameter error printed by MIGRAD: 2.02724493604e-05 1/GeV
Best-fit value $E_{\rm cut}$: 2.68683139605e+11 GeV
Upper limit for $1/E_{\rm cut}$: 3.33452155795e-05 1/GeV
Lower limit for $E_{\rm cut}$: 29989.3097892 GeV

9.2 Left of GC, $\ell \in (0^\circ, 10^\circ)$, red

9.2.1 PL

Best-fit value $1/E_{\rm cut}$: 9.5367401326e-07 1/GeV
Parameter error printed by MIGRAD: 0.0335911054408 1/GeV
Best-fit value $E_{\rm cut}$: 1048576.33331 GeV
Upper limit for $1/E_{\rm cut}$: 0.0552534052917 1/GeV
Lower limit for $E_{\rm cut}$: 18.0984320282 GeV

9.2.2 IC

Best-fit value $1/E_{\rm cut}$: 3.65223401522e-09 1/GeV
Parameter error printed by MIGRAD: 0.00127125681022 1/GeV
Best-fit value $E_{\rm cut}$: 273805017.924 GeV
Upper limit for $1/E_{\rm cut}$: 0.00209103502731 1/GeV
Lower limit for $E_{\rm cut}$: 478.232065433 GeV

9.2.3 Pi0

Best-fit value $1/E_{\mathrm{cut}}$: 2.24313900887e-11 1/GeV
Parameter error printed by MIGRAD: 0.000434090314935 1/GeV
Best-fit value E_{cut}: 44580384721.8 GeV
Upper limit for $1/E_{\mathrm{cut}}$: 0.000714015051376 1/GeV
Lower limit for E_{cut}: 1400.5307004 GeV

How I calculate 95 %-confidence lower limit for E_{cut}

Assume

$$\ln L(x) = \frac{1}{\sqrt{2\pi\sigma^2}}\, e^{\frac{(x-x_0)^2}{2\sigma^2}},$$

where $x == E_{\mathrm{cut}}$ and $x_0 ==$ best-fit E_{cut}, $\sigma ==$ parameter error given by MIGRAD.

$$\begin{aligned} 0.05 &= \int_{x_0+k\sigma}^{\infty} \frac{1}{\sqrt{2\pi\sigma^2}}\, e^{\frac{(x-x_0)^2}{\sqrt{2}\sigma^2}}\, dx \\ &= \frac{1}{2}\left[\mathrm{erf}\left(\frac{x-x_0}{2\sigma^2}\right)\right]_{x_0+k\sigma}^{\infty} \\ &= \frac{1}{2}\left(1-\mathrm{erf}\left(\frac{k}{\sqrt{2}}\right)\right) \end{aligned} \tag{1}$$

$$\rightarrow k = \sqrt{2}\cdot \mathrm{erf}^{-1}(0.9) = 1.64485 \tag{2}$$

The lower limit for $1/E_{\mathrm{cut}}$ is

$$x_0 + k\ \sigma. \tag{3}$$