Hypothesis plots summary

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February 21, 2022

Plots

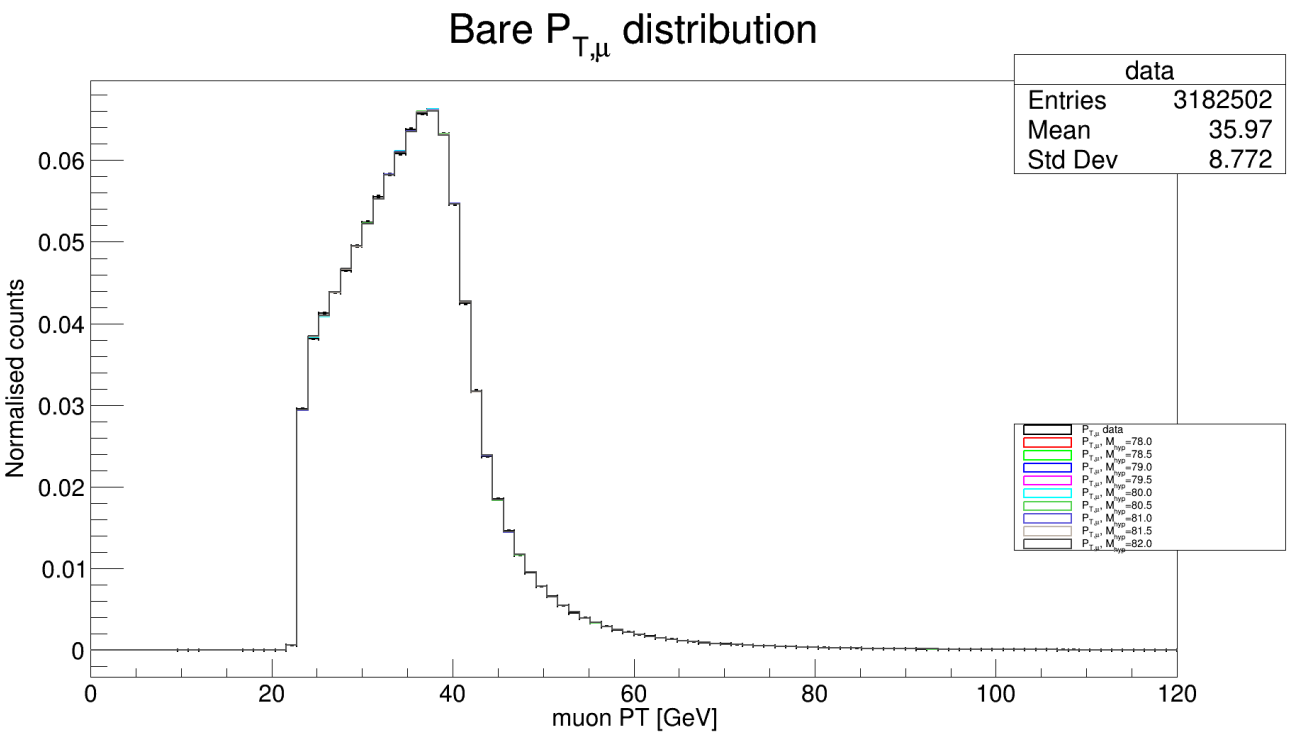

Figure 1: Hypothesis masses [78. 78.5 79. 79.5 80. 80.5 81. 81.5 82.].

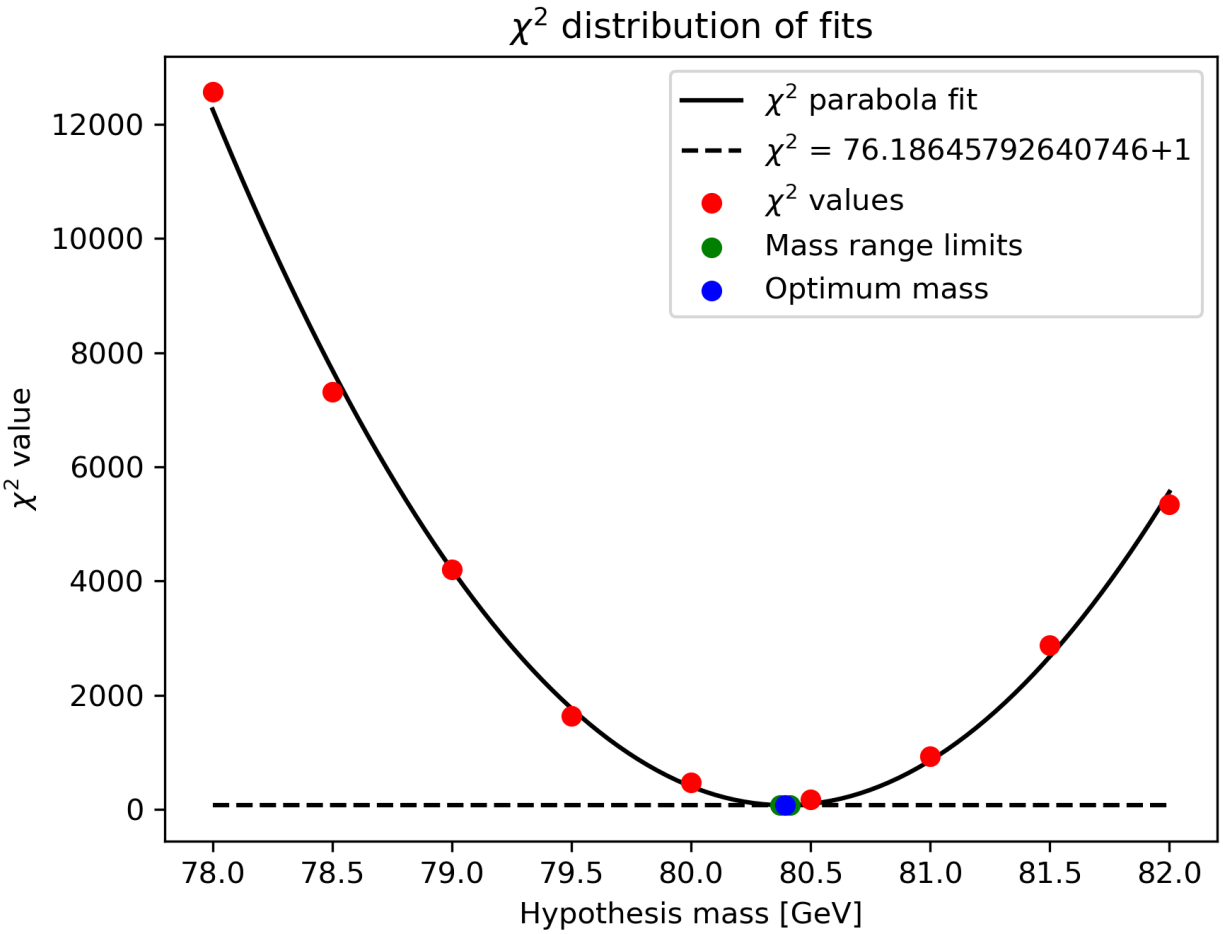

Figure 2: χ^2 of hypothesis masses.

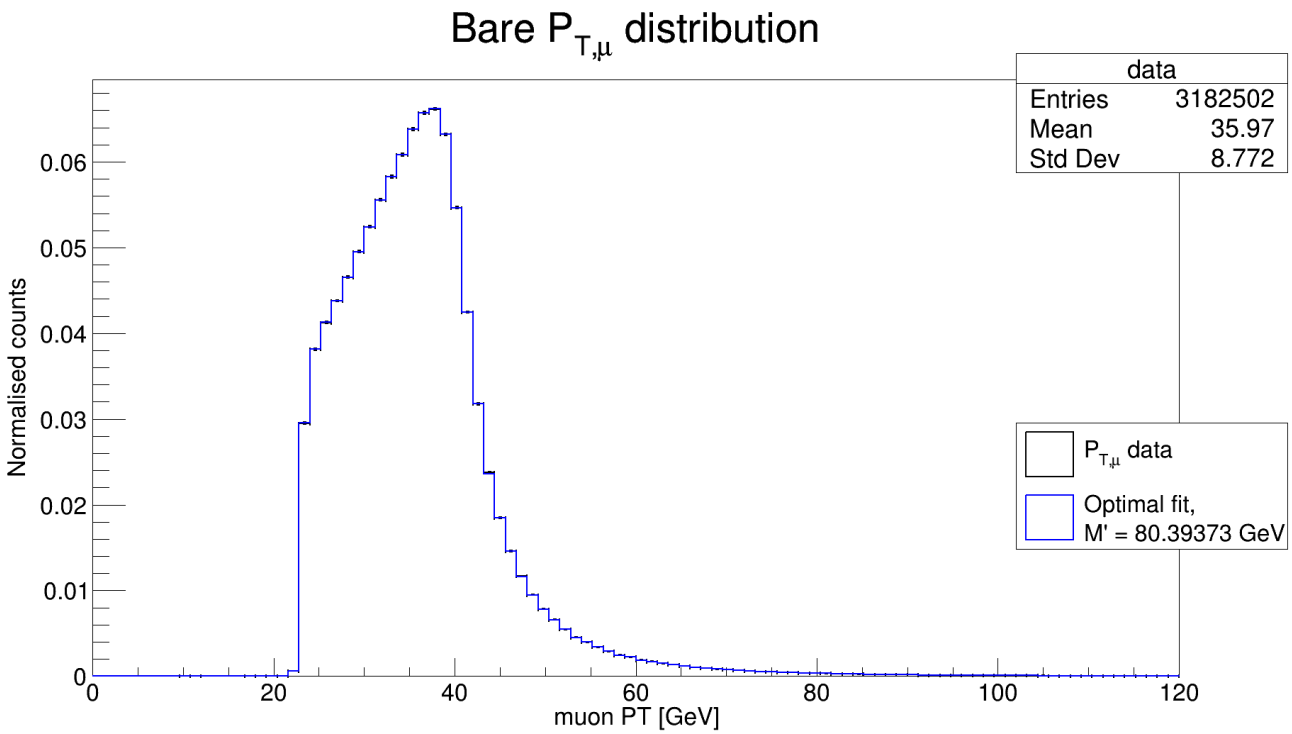

Figure 3: Data and optimum fit with $\chi^2/DoF(n\_hist\_bins - parms\_fit) = 4.026651150289455/98$. Used the hypothesis mass of 80.39373±0.02168 $[GeV/c^2]$.

Summary and Metadata

Found optimal massses (χ^2 roots): [80.39373] $[GeV/c^2]$ Uncertainty $[GeV/c^2]$: 0.02168
mean expected W mass: 80.379 $[GeV/c^2]$,
mean hypothesis masses: [78. 78.5 79. 79.5 80. 80.5 81. 81.5 82.] $[GeV/c^2]$,
mass width: 0.02 $[GeV/c^2]$,
chi_square value of hypothesis fit: 5340.751457853637
Absolute path to figure: /home/physics/phuxdp/Desktop/PX402 Physics Project/WBosonProject/T2W7/1_F
Next lines are the data of the shown histograms (if needed):
All quantities: 80.379, [78. 78.5 79. 79.5 80. 80.5 81. 81.5 82.], 20, 5340.751457853637
X_energ_vls = [0.6, 1.7999999999999998, 3.0, 4.199999999999999, 5.4, 6.6, 7.8, 9.0, 10.2,
11.399999999999999, 12.6, 13.799999999999999, 15.0, 16.2, 17.4, 18.6, 19.799999999999997,
21.0, 22.2, 23.4, 24.6, 25.799999999999997, 27.0, 28.199999999999996, 29.4, 30.6, 31.7999999999999
33.0, 34.2, 35.4, 36.599999999999994, 37.8, 39.0, 40.2, 41.4, 42.599999999999994, 43.8,
45.0, 46.2, 47.4, 48.599999999999994, 49.8, 51.0, 52.2, 53.4, 54.599999999999994, 55.8,
57.0, 58.199999999999996, 59.4, 60.599999999999994, 61.8, 63.0, 64.19999999999999, 65.4,
66.6, 67.8, 69.0, 70.19999999999999, 71.4, 72.6, 73.8, 75.0, 76.19999999999999, 77.4, 78.6,
79.8, 81.0, 82.19999999999999, 83.4, 84.6, 85.8, 87.0, 88.19999999999999, 89.4, 90.6, 91.8,
93.0, 94.19999999999999, 95.4, 96.6, 97.8, 99.0, 100.19999999999999, 101.4, 102.6, 103.8,
105.0, 106.19999999999999, 107.4, 108.6, 109.8, 111.0, 112.19999999999999, 113.4, 114.6,
115.79999999999998, 117.0, 118.19999999999999, 119.4]
Y_data_bin_cnts = [0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 1.0, 2.0, 0.0, 0.0, 0.0, 0.0, 1.0, 4.0,
4.0, 28.0, 1865.0, 93874.0, 121319.0, 131199.0, 139269.0, 147982.0, 157498.0, 166725.0,
176675.0, 185347.0, 193461.0, 202954.0, 209012.0, 210448.0, 201048.0, 173801.0, 135049.0,
101003.0, 75565.0, 58865.0, 46409.0, 37069.0, 30201.0, 24860.0, 20943.0, 17349.0, 14399.0,
12602.0, 10770.0, 9213.0, 7835.0, 7066.0, 5986.0, 5430.0, 4726.0, 4255.0, 3694.0, 3229.0,
2931.0, 2609.0, 2414.0, 2124.0, 1904.0, 1710.0, 1617.0, 1407.0, 1317.0, 1132.0, 1042.0, 1003.0,
897.0, 868.0, 754.0, 645.0, 599.0, 540.0, 574.0, 510.0, 442.0, 407.0, 427.0, 342.0, 294.0, 319.0,
295.0, 279.0, 259.0, 220.0, 223.0, 205.0, 190.0, 169.0, 167.0, 146.0, 131.0, 157.0, 113.0, 123.0,
124.0, 111.0, 96.0, 78.0]
Y_model_bin_cnts = [0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 1.921636581420898
1.921630859375, 24.98122215270996, 1803.4508056640625, 89818.4921875, 117377.21875,
125099.3125, 133923.296875, 142644.390625, 151058.578125, 159474.671875, 168560.8125,
177685.078125, 186196.484375, 193786.203125, 201002.3125, 201667.59375, 192611.9375,
166903.296875, 130498.7734375, 96704.5, 72890.546875, 56189.46484375, 44199.83203125,
35806.0546875, 29169.814453125, 23958.650390625, 19850.64453125, 16688.19921875, 14272.40917
12073.7763671875, 10264.3466796875, 8776.818359375, 7765.916015625, 6755.0107421875,
5874.78857421875, 5093.552734375, 4468.9501953125, 4004.820556640625, 3559.9228515625,
3160.1962890625, 2845.98828125, 2509.6845703125, 2240.633544921875, 2045.5760498046875,
1876.472412109375, 1722.7420654296875, 1512.3236083984375, 1337.455078125, 1235.6086425781
1133.76220703125, 1004.0520629882812, 918.53955078125, 855.1256713867188, 782.103698730468
747.514404296875, 665.8450927734375, 569.7635498046875, 597.627197265625, 507.310546875,
497.7023620605469, 486.1726379394531, 433.3277282714844, 388.1694030761719, 355.5016784667
313.2257995605469, 323.7947998046875, 283.4405517578125, 250.77284240722656, 237.32139587
217.1442413330078, 222.90916442871094, 203.69281005859375, 196.9672393798828, 166.22105407
148.92637634277344, 140.27908325195312, 128.7493133544922, 127.78839874267578, 126.8276824
99.92477416992188, 109.5329818725586, 110.49380493164062, 96.08155059814453, 81.6693191528