Hypothesis plots summary

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Plots

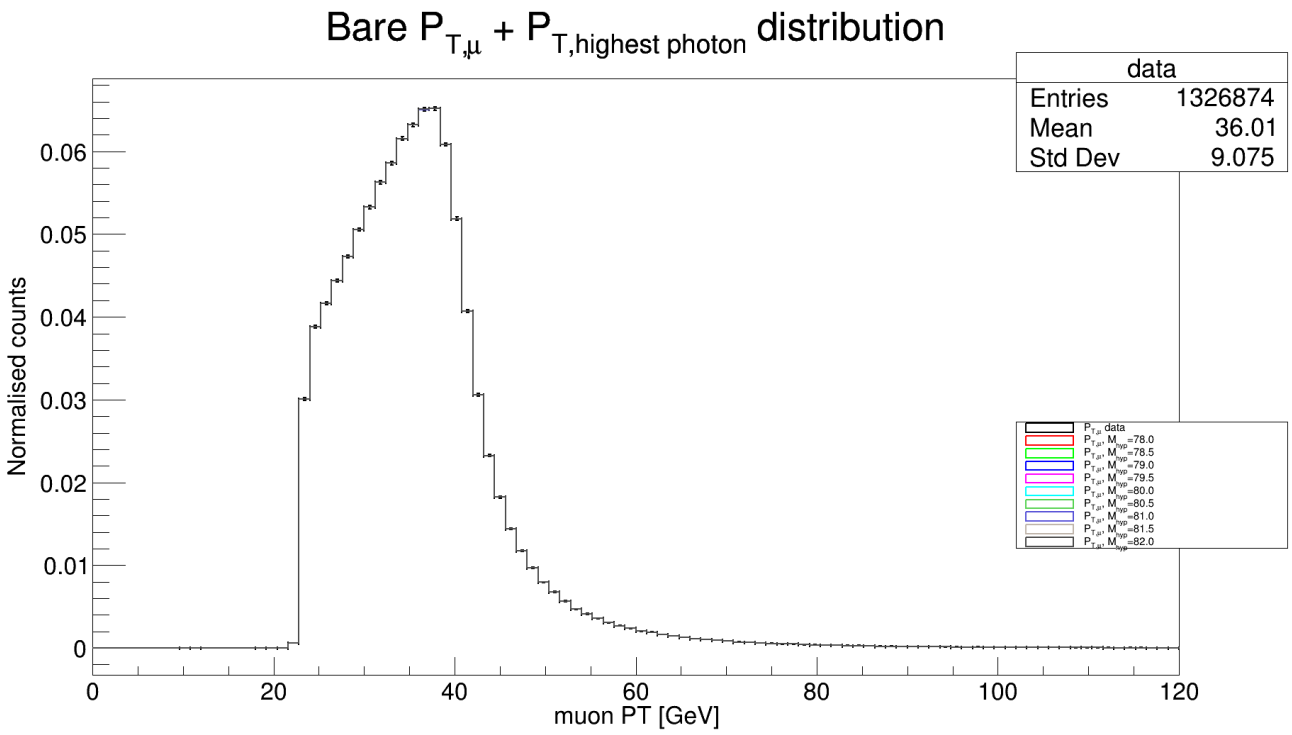

Figure 1: Hypothesis masses [78. 78.5 79. 79.5 80. 80.5 81. 81.5 82.].

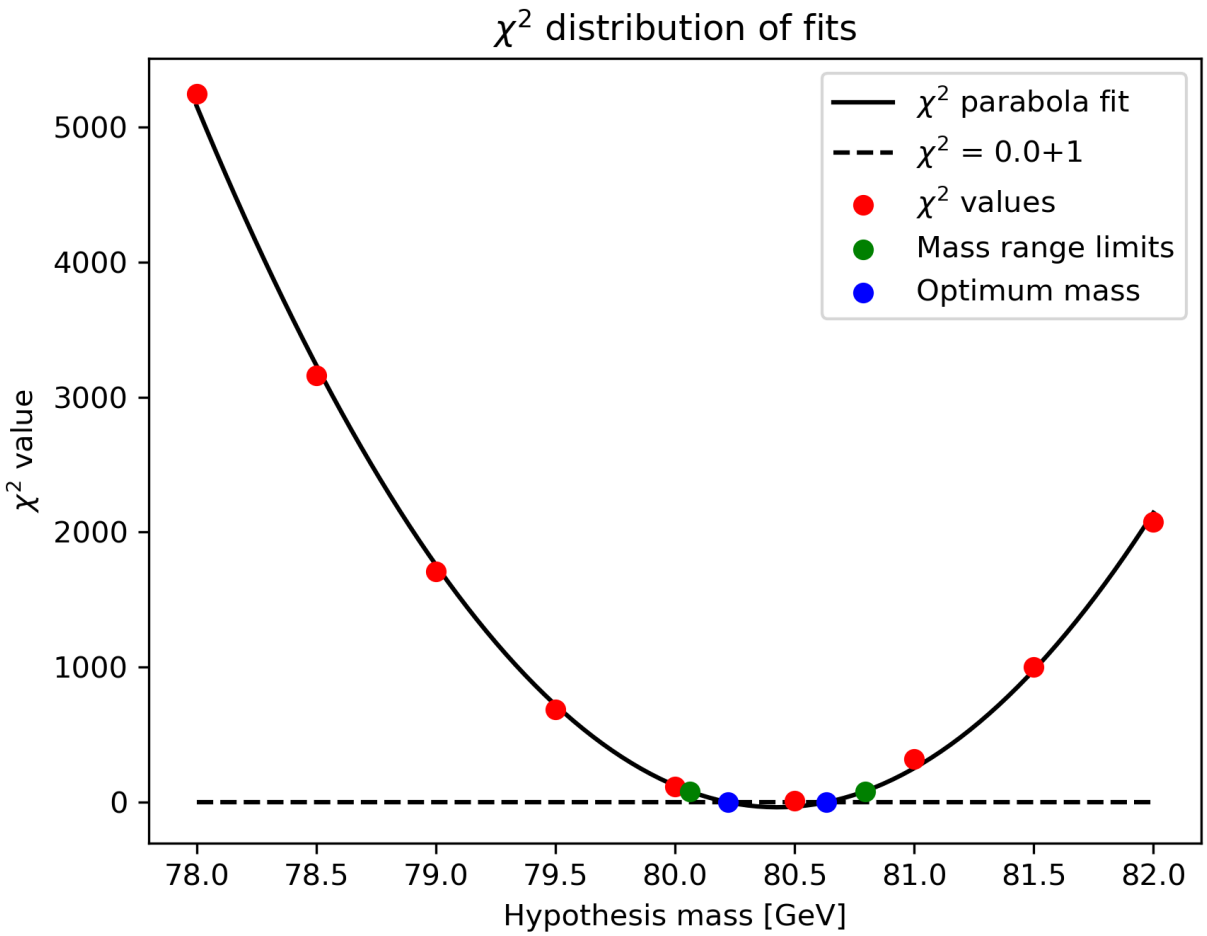

Figure 2: χ^2 of hypothesis masses.

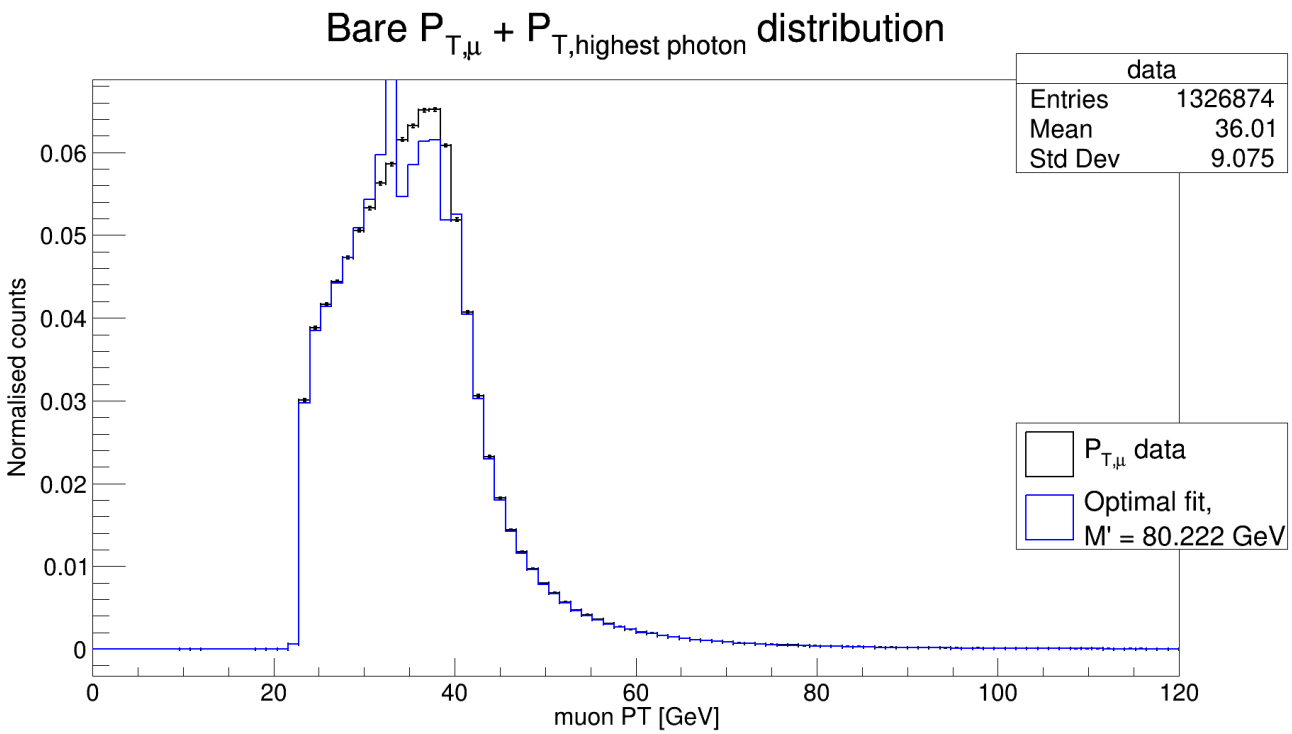

Figure 3: Data and optimum fit with $\chi^2/DoF(n\_hist\_bins - parms\_fit) = 21249.46642822933/98$. Used the hypothesis mass of 80.222±0.5724 $[GeV/c^2]$.

Summary and Metadata

Found optimal massses (χ^2 roots): [80.222, 80.6324] $[GeV/c^2]$ Uncertainty $[GeV/c^2]$: 0.5724
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: 2077.3896288650926
Absolute path to figure: /home/physics/phuxdp/Desktop/PX402 Physics Project/WBosonProject/T2W7/5.2
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, 2077.3896288650926
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, 31.799999999999
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, 4.268346309661865, 7.97648811340332,
0.0, 0.0, 0.0, 0.0, 0.0, 2.002298355102539, 2.6272265911102295, 13.399633407592773, 823.31842041
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72286.0390625, 76351.4296875, 79486.40625, 83475.6484375, 85782.234375, 88293.5546875,
88426.9921875, 82539.25, 70379.6015625, 55210.56640625, 41512.48828125, 31536.1171875,
24739.5390625, 19571.892578125, 15902.8994140625, 13201.80078125, 10775.8359375, 9189.17285
7677.00927734375, 6384.2099609375, 5609.15966796875, 4846.41015625, 4188.40673828125,
3645.3662109375, 3267.0576171875, 2788.986328125, 2584.12939453125, 2227.368896484375,
1992.1441650390625, 1766.6632080078125, 1533.8089599609375, 1413.282470703125, 1311.312866
1156.8685302734375, 987.0865478515625, 926.6486206054688, 849.2470703125, 759.534484863281
664.7122802734375, 656.9888305664062, 558.8101806640625, 521.0990600585938, 502.705841064
452.4985046386719, 420.07720947265625, 409.5901794433594, 332.3520202636719, 300.682312011
289.1571044921875, 274.5777282714844, 255.42236328125, 237.85498046875, 225.4993896484375,
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149.3608856201172, 129.01556396484375, 127.97404479980469, 113.0565185546875, 91.419914245
107.92176055908203, 91.7922592163086, 82.42889404296875, 74.98841857910156, 77.06303405761
72.87509155273438, 53.18488693237305, 65.60111236572266, 65.57988739013672, 63.51952743530
61.79954147338867, 40.78632354736328]
Y_model_bin_cnts = [0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 4.1010966300964355, 7.663947105407715,
0.0, 0.0, 0.0, 0.0, 0.0, 1.9238396883010864, 2.5242817401885986, 12.874585151672363, 791.0581054
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