Hypothesis plots summary

1666957, Gustavo Espinal Lugo

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Plots

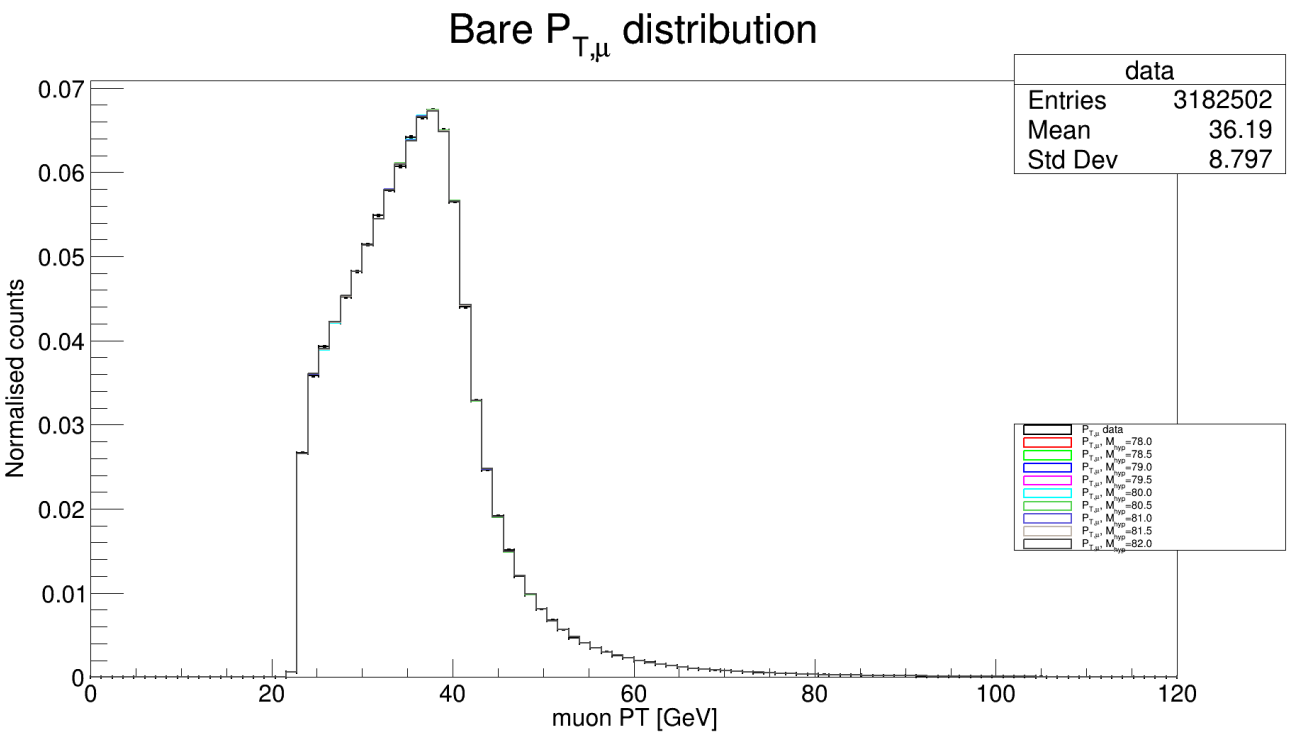

Figure 1: Hypothesis masses [78. 78.5 79. 79.5 80. 80.5 81. 81.5 82.].

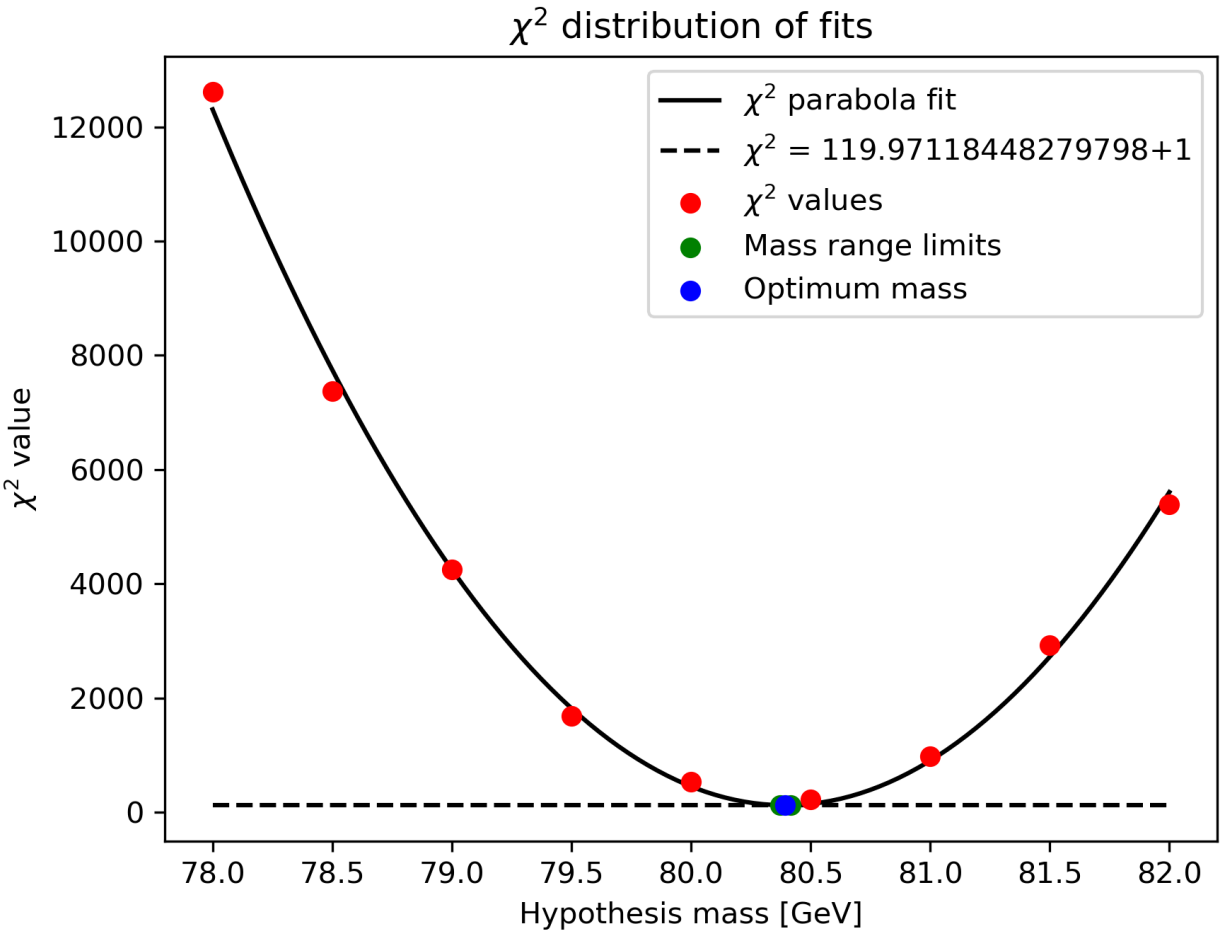

Figure 2: χ^2 of hypothesis masses.

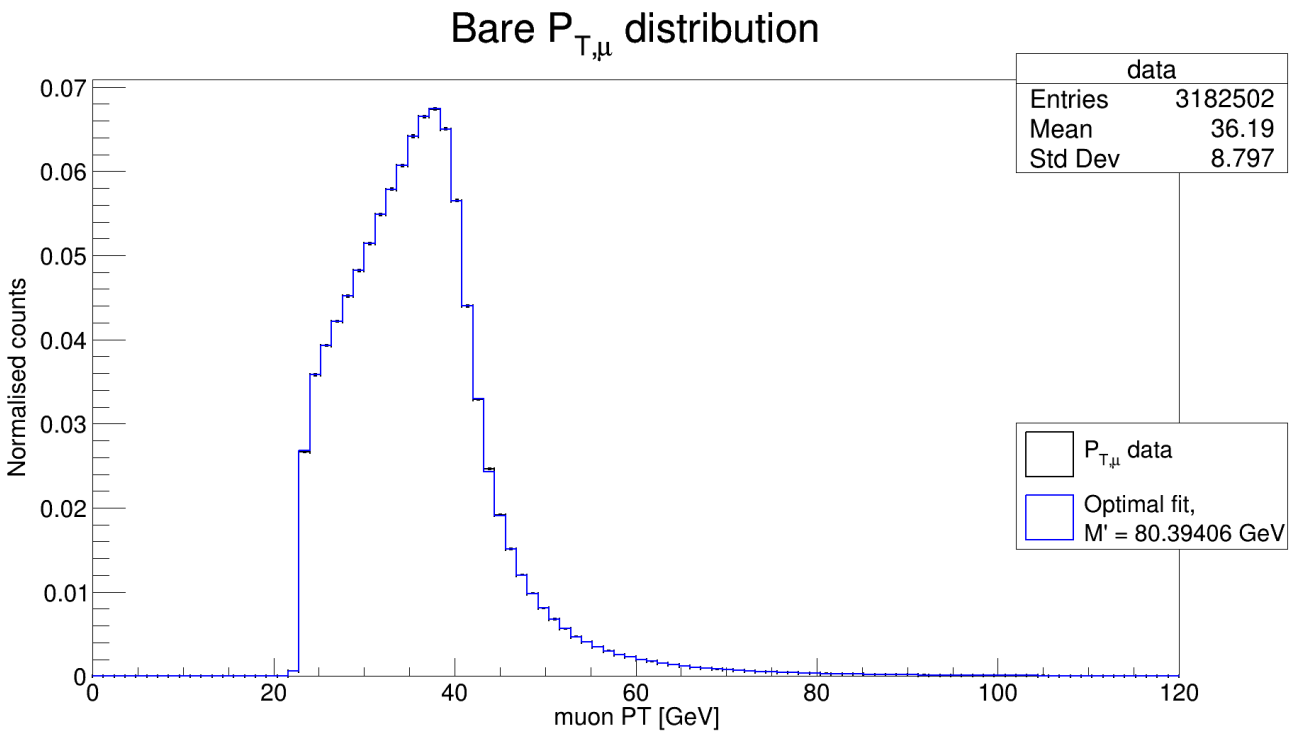

Figure 3: Data and optimum fit with $\chi^2/DoF(n\_hist\_bins - parms\_fit) = 20.25895734641687/98$. Used the hypothesis mass of 80.39406±0.02168 $[GeV/c^2]$.

Summary and Metadata

Found optimal massses (χ^2 roots): [80.39406] $[GeV/c^2]$ 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: 5384.963630862492
Absolute path to figure: /home/physics/phuxdp/Desktop/PX402 Physics Project/WBosonProject/T2W7/2_E
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, 5384.963630862492
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 = [1.0, 3.0, 4.0, 4.0, 5.0, 5.0, 9.0, 7.0, 19.0, 19.0, 19.0, 28.0, 39.0, 41.0, 60.0,
67.0, 91.0, 162.0, 1873.0, 84870.0, 113919.0, 125027.0, 134126.0, 143685.0, 153384.0, 163605.0,
174514.0, 184055.0, 193026.0, 204044.0, 211490.0, 214412.0, 206838.0, 179719.0, 139972.0,
104655.0, 78266.0, 60863.0, 48127.0, 38251.0, 31240.0, 25728.0, 21533.0, 18014.0, 14922.0,
12945.0, 11099.0, 9508.0, 8129.0, 7276.0, 6276.0, 5598.0, 4889.0, 4373.0, 3808.0, 3301.0,
2989.0, 2671.0, 2507.0, 2224.0, 1956.0, 1749.0, 1692.0, 1451.0, 1336.0, 1204.0, 1091.0, 1003.0,
937.0, 893.0, 784.0, 690.0, 625.0, 553.0, 592.0, 510.0, 469.0, 433.0, 455.0, 337.0, 309.0, 328.0,
306.0, 281.0, 270.0, 233.0, 226.0, 214.0, 193.0, 181.0, 169.0, 146.0, 133.0, 162.0, 113.0, 123.0,
127.0, 112.0, 93.0, 84.0]
Y_model_bin_cnts = [0.960815966129303, 1.9216327667236328, 2.882443428039551, 0.0, 5.764897823
8.647343635559082, 11.529789924621582, 10.568962097167969, 16.333885192871094, 24.98121833
15.37307071685791, 30.746110916137695, 37.471832275390625, 38.43264389038086, 42.275917053
82.63015747070312, 102.8072738647461, 168.14273071289062, 1789.9993896484375, 81214.257812
110200.9375, 119105.9453125, 128900.78125, 138399.171875, 147288.96875, 156686.78125,
166212.3125, 176860.625, 186176.46875, 194559.203125, 203222.140625, 205399.078125,
197955.171875, 172662.078125, 135147.0625, 100431.0234375, 75617.6875, 58172.8359375,
45553.79296875, 36947.64453125, 30101.92578125, 24797.548828125, 20494.470703125, 17241.7011
14718.28125, 12436.05078125, 10586.259765625, 9078.5517578125, 8005.18798828125, 6996.20703
6062.16943359375, 5246.34375, 4593.8681640625, 4114.3642578125, 3690.604248046875,
3286.070556640625, 2972.82568359375, 2575.0244140625, 2328.072265625, 2127.2509765625,
1917.78759765625, 1796.7249755859375, 1552.6778564453125, 1374.9268798828125, 1277.8845214
1197.1759033203125, 1022.3076171875, 966.580322265625, 877.2244262695312, 797.476806640625
760.0050048828125, 687.9437866210938, 564.95947265625, 615.8826904296875, 524.605224609375
513.075439453125, 499.6240234375, 441.0142517089844, 404.5032958984375, 374.7179870605469,
324.7555847167969, 327.6380615234375, 289.2054748535156, 258.4593505859375, 256.5376586914
220.02667236328125, 236.360595703125, 204.6536407470703, 203.6929473876953, 175.8292083740
149.88720703125, 146.04396057128906, 129.71011352539062, 128.74923706054688, 128.749328613
99.92476654052734, 115.2978744506836, 113.37626647949219, 101.846435546875, 90.31664276123