Hypothesis plots summary

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Plots and corresponding metadata

Number of data points used: 99999,
mean expected W mass: 80.36010913 $[GeV/c^2]$,
mean hypothesis masses $[GeV/c^2]$: [¡generator object ¡genexpr¿ at 0x7fd009d88510¿],
mass width: 2.07041274 $[GeV/c^2]$,
chi_square value of hypothesis fit: 146.67302655954285
Absolute path to figure: /home/physics/phuxdp/Desktop/PX402 Physics Project/WBosonProject/noQED/plots
Next lines are the data of the shown histograms (if needed):
All quantities: 99999, 80.36010913, [78. 79.4 80.8 82.2 83.6 85. 86.4 87.8 89.2 90.6 92.],
2.07041274, 146.67302655954285
X_energ_vls = [30.1, 30.299999999999997, 30.5, 30.700000000000003, 30.9, 31.1, 31.299999999999997,
31.5, 31.700000000000003, 31.9, 32.1, 32.3, 32.5, 32.7, 32.9, 33.1, 33.3, 33.5, 33.7, 33.9, 34.1,
34.3, 34.5, 34.7, 34.9, 35.1, 35.3, 35.5, 35.7, 35.9, 36.1, 36.3, 36.5, 36.7, 36.9, 37.1, 37.3, 37.5,
37.7, 37.9, 38.1, 38.3, 38.5, 38.7, 38.9, 39.1, 39.3, 39.5, 39.7, 39.9, 40.1, 40.3, 40.5, 40.7, 40.9,
41.1, 41.3, 41.5, 41.7, 41.9, 42.1, 42.3, 42.5, 42.7, 42.9, 43.1, 43.3, 43.5, 43.7, 43.9, 44.1, 44.3,
44.5, 44.7, 44.9, 45.1, 45.3, 45.5, 45.7, 45.9, 46.1, 46.300000000000004, 46.5, 46.7, 46.9, 47.1,
47.300000000000004, 47.5, 47.7, 47.9, 48.1, 48.300000000000004, 48.5, 48.7, 48.9, 49.1, 49.30000000000
49.5, 49.7, 49.9]
Y_data_bin_cnts = [266.0, 281.0, 301.0, 304.0, 281.0, 321.0, 336.0, 324.0, 300.0, 328.0, 328.0,
325.0, 318.0, 337.0, 328.0, 371.0, 345.0, 331.0, 383.0, 356.0, 327.0, 345.0, 368.0, 354.0, 369.0,
369.0, 367.0, 344.0, 389.0, 342.0, 384.0, 374.0, 371.0, 385.0, 365.0, 370.0, 364.0, 348.0, 351.0,
340.0, 420.0, 408.0, 389.0, 399.0, 403.0, 398.0, 377.0, 376.0, 348.0, 319.0, 320.0, 307.0, 319.0,
305.0, 286.0, 320.0, 272.0, 260.0, 239.0, 235.0, 228.0, 215.0, 216.0, 211.0, 204.0, 180.0, 196.0,
185.0, 158.0, 154.0, 148.0, 127.0, 134.0, 128.0, 120.0, 120.0, 123.0, 101.0, 104.0, 94.0, 110.0,
105.0, 81.0, 79.0, 100.0, 86.0, 75.0, 76.0, 86.0, 83.0, 80.0, 77.0, 65.0, 70.0, 73.0, 61.0, 64.0, 56.0,
57.0, 66.0]
Y_model_bin_cnts = [313.2992858886719, 106.21347045898438, 345.7534484863281, 282.58383178710944
83.59107971191406, 193.91091918945312, 288.21978759765625, 23.846467971801758, 176.8339233398
279.2972106933594, 58.44918441772461, 83.54625701904297, 255.6328582763672, 381.4120788574219
181.0519256591797, 89.92611694335938, 36.13596725463867, 116.2718505859375, 47.71955490112305
330.4010925292969, 58.3175048828125, 407.54644775390625, 219.49285888671875, 296.829620361328
95.50274658203125, 239.26370239257812, 362.90301513671875, 425.0135498046875, 68.96009826660
65.85767364501953, 69.5289077758789, 203.36705017089844, 109.0361557006836, 486.1879272460937
161.3716583251953, 136.0915985107422, 190.7365264892578, 414.1539001464844, 120.7768173217773
153.4157257080078, 116.39080047607422, 150.96006774902344, 356.43096923828125, 215.0532379150
310.41192626953125, 577.3638916015625, 315.0453186035156, 597.8947143554688, 420.243804931640

$P_{T,\mu}$ distribution
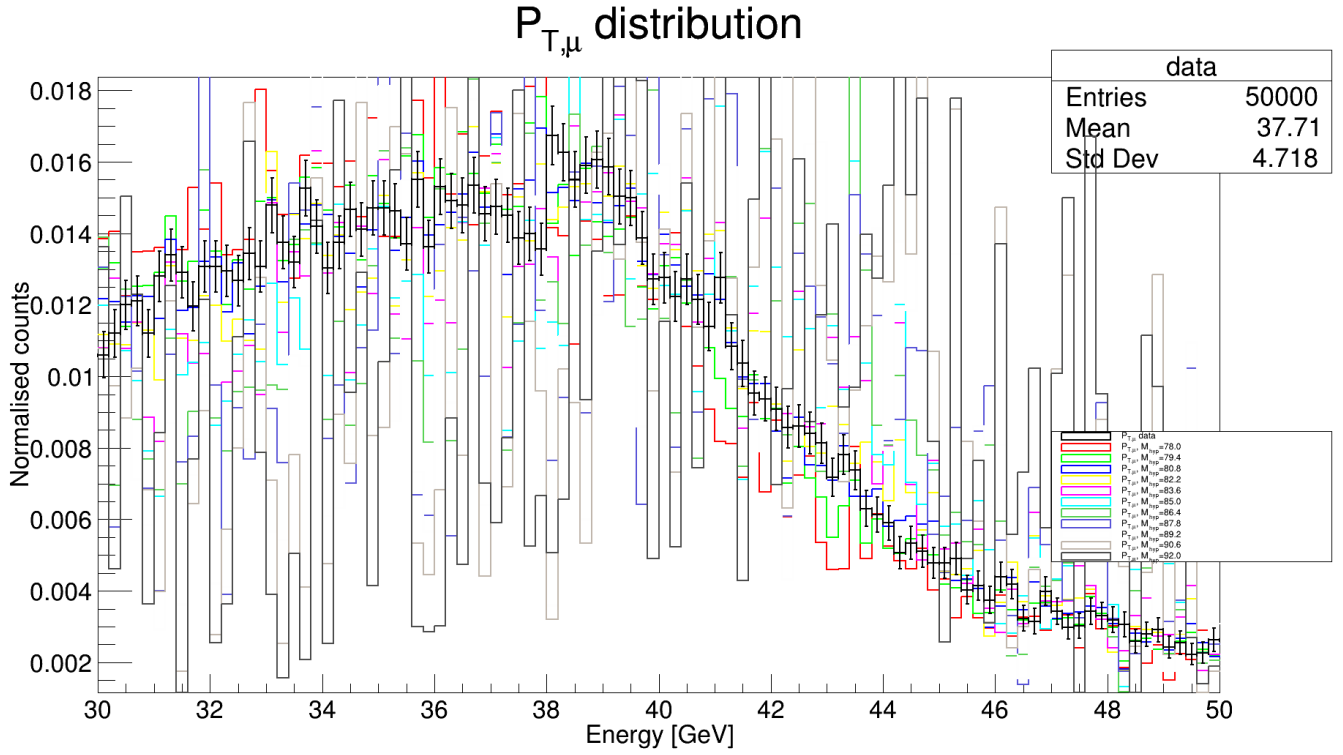
112.79922485351562, 265.34747314453125, 120.4859390258789, 354.1427307128906, 171.23988342285...
429.74530029296875, 740.4324340820312, 269.5274658203125, 98.54425811767578, 343.966522216796...
439.8898620605469, 160.5813751220703, 222.04930114746094, 369.69537353515625, 200.85897827148...
269.5789794921875, 328.0943908691406, 210.26858520507812, 223.17535400390625, 321.564971923 82...
293.3818664550781, 352.95892333984375, 465.11041259765625, 347.0108947753906, 409.0874633789 0...
187.93934631347656, 59.240638732910156, 409.1673889160156, 113.01419067382812, 175.8616790771...
71.2312240600586, 315.273681640625, 128.443115234375, 168.57762145996094, 235.40316772460938, ...
132.71621704101562, 232.0699920654297, 344.87786865234375, 20.746023178100586, 384.7114868164...
218.5894317626953, 187.9745330810547, 158.18234252929688, 25.815486907958984, 256.21920776367...
223.65428161621094, 122.94083404541016, 154.239501953125, 62.06776428222656, 32.2544784545898...
43.664268493652344]

Found optimal massses (χ^2 roots): [80.4783045] $[GeV/c^2]$
Uncertainty [GeV/c^2] : 0.0

Notes:
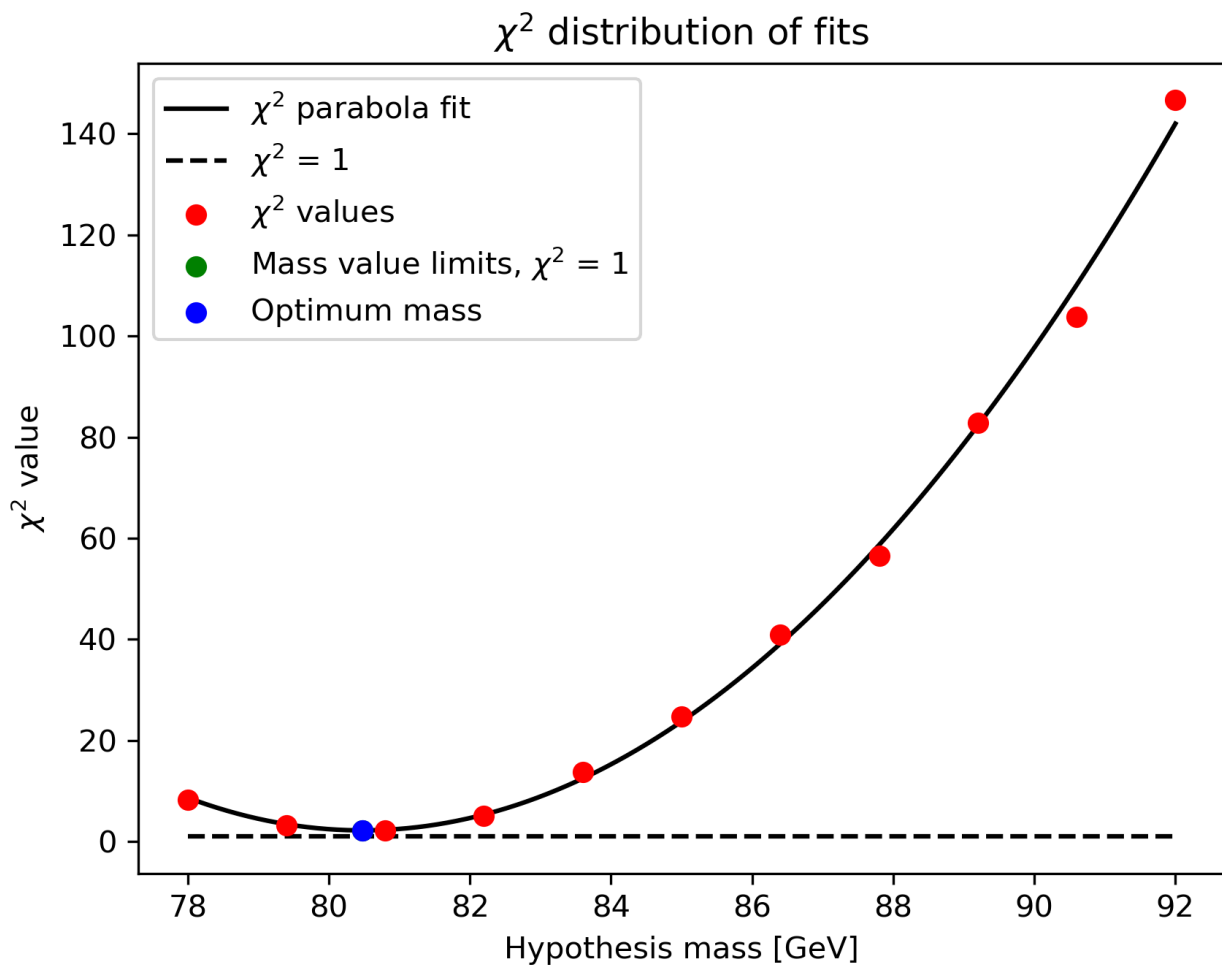1) Using mu_born_PT as pseudodata and Mu_Pt as model/hypothesis
2) Using full run mode

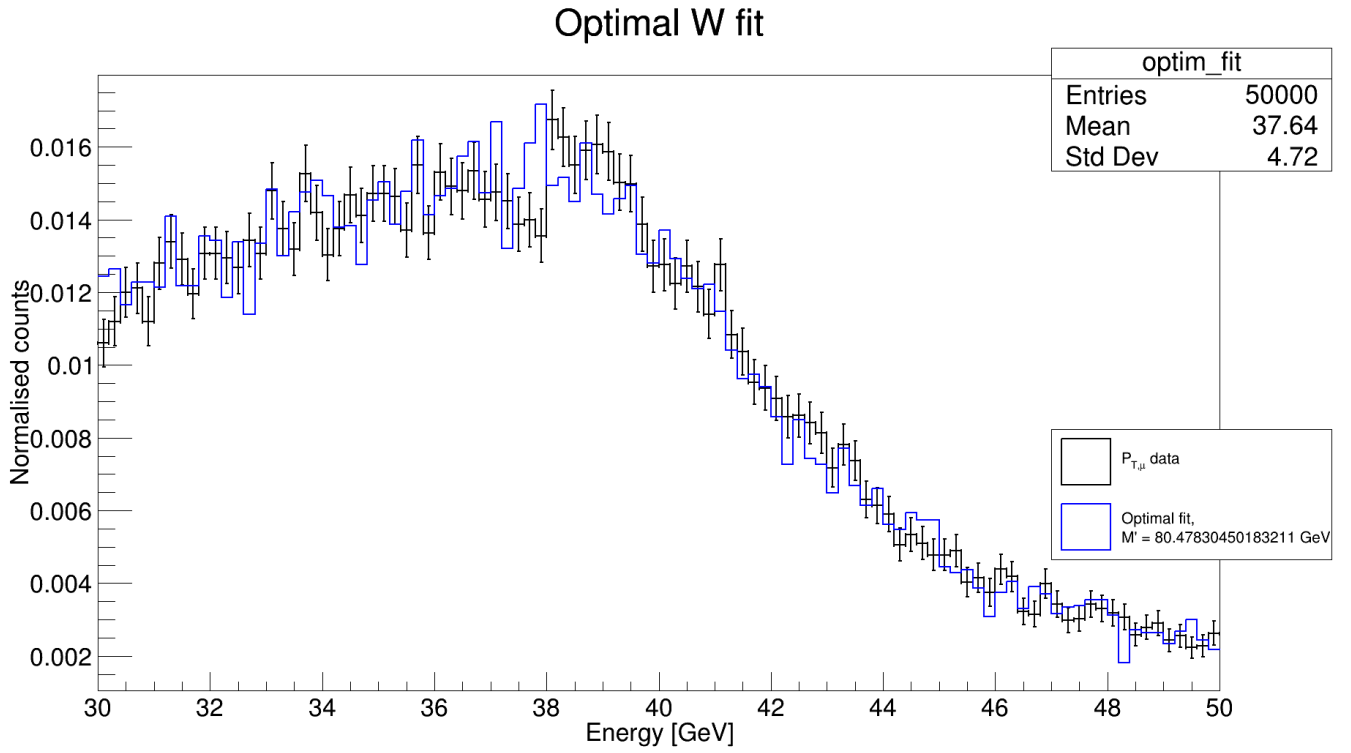Figure 2: χ^2 of hypothesis masses.

Figure 3: Data and optimum fit with $\chi^2 = 2.1776366388229618$. Used the hypothesis mass of 80.47830450183211 $[GeV/c^2]$.