

Hypothesis plots summary

1666957, Gustavo Espinal Lugo

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Plots

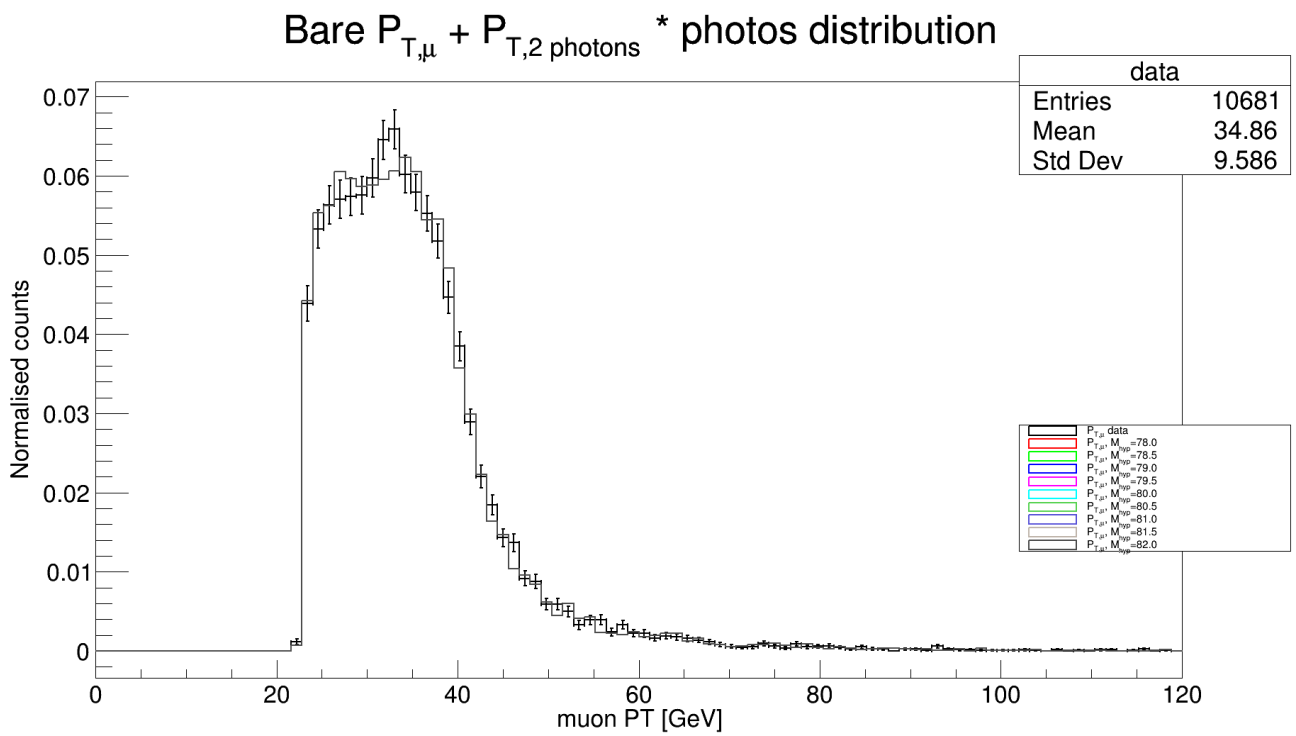


Figure 1: Hypothesis masses [78. 78.5 79. 79.5 80. 80.5 81. 81.5 82.].

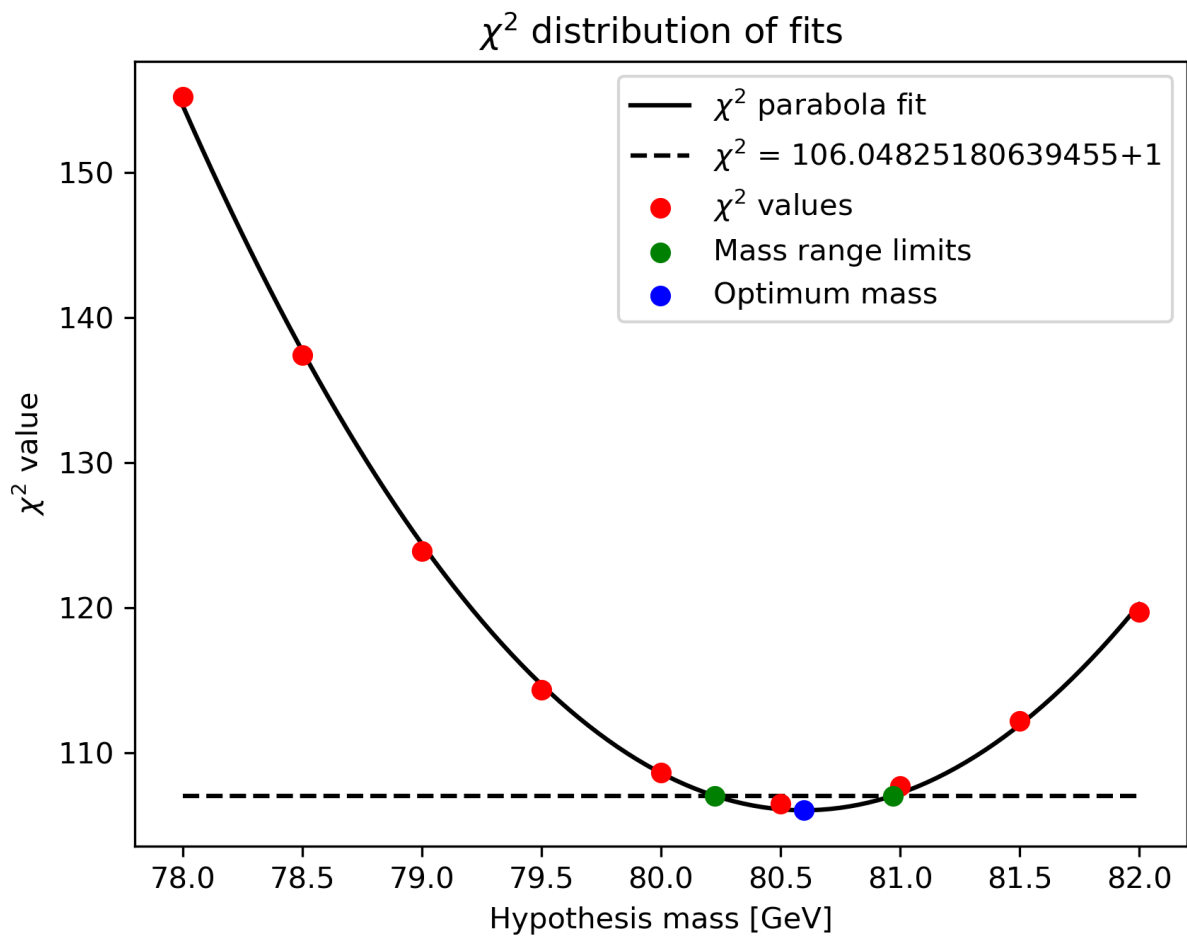


Figure 2: χ^2 of hypothesis masses.

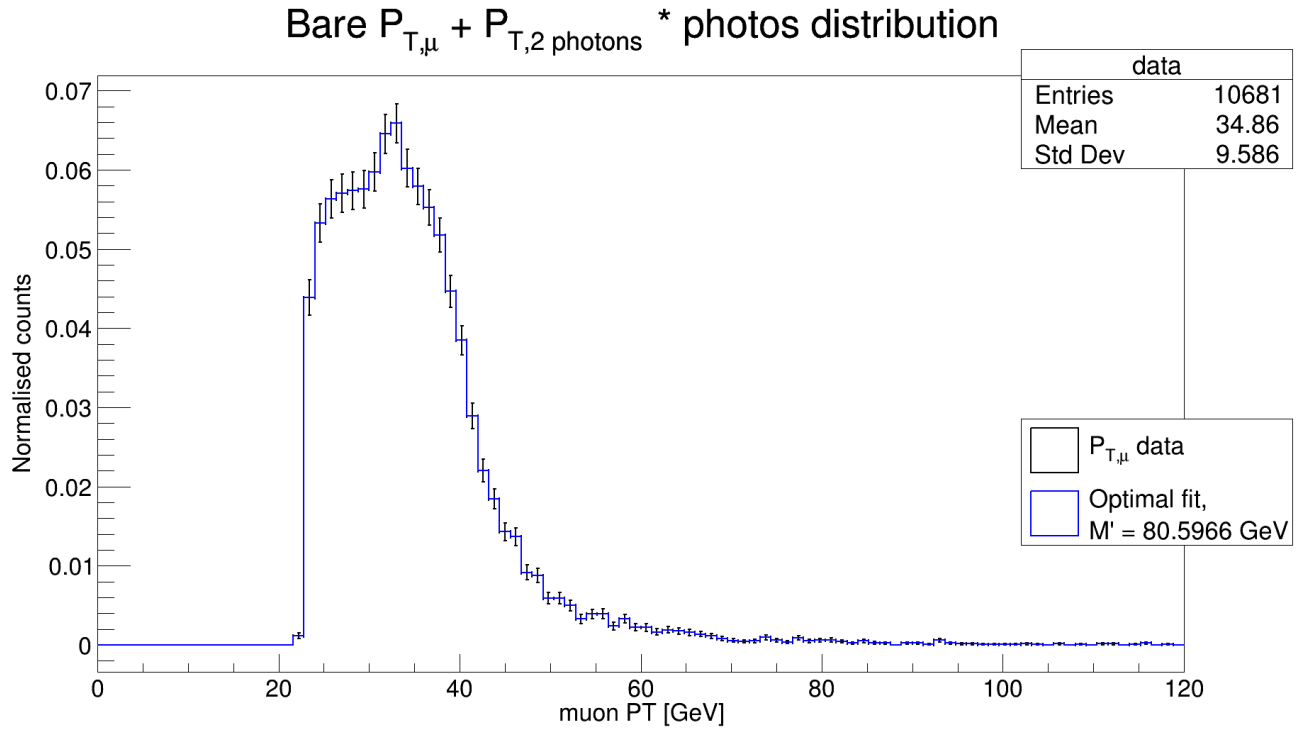


Figure 3: Data and optimum fit with $\chi^2/DoF(n_{hist_bins} - parms_fit) = 0.3250870526602189/98$. Used the hypothesis mass of $80.5966 \pm 0.3725 [GeV/c^2]$.

Summary and Metadata

Found optimal masses (χ^2 roots): [80.5966] [GeV/c^2] Uncertainty [GeV/c^2]: 0.3725

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: 119.68736471978124

Absolute path to figure: /home/physics/phuxdp/Desktop/PX402 Physics Project/WBosonProject/T2W7/6.2

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, 119.68736471978124

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, 31.799999999999999, 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, 64.199999999999999, 65.4, 66.6, 67.8, 69.0, 70.199999999999999, 71.4, 72.6, 73.8, 75.0, 76.199999999999999, 77.4, 78.6, 79.8, 81.0, 82.199999999999999, 83.4, 84.6, 85.8, 87.0, 88.199999999999999, 89.4, 90.6, 91.8, 93.0, 94.199999999999999, 95.4, 96.6, 97.8, 99.0, 100.199999999999999, 101.4, 102.6, 103.8, 105.0, 106.199999999999999, 107.4, 108.6, 109.8, 111.0, 112.199999999999999, 113.4, 114.6, 115.799999999999998, 117.0, 118.199999999999999, 119.4]

Y_data_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, 0.0, 0.0, 0.0, 12.94570541381836, 484.1366271972656, 587.8719482421875, 621.3690185546875, 629.5667114257812, 633.0029296875, 634.7702026367188, 659.0221557617188, 711.6879272460938, 726.5217895507812, 663.9063110351562, 638.6898803710938, 609.114990234375, 571.14117431640, 492.4845886230469, 424.40362548828125, 319.2406005859375, 242.93441772460938, 203.51492309, 157.84068298339844, 150.84161376953125, 101.3215560913086, 96.88582611083984, 65.164047241, 65.12458038330078, 55.096031188964844, 36.19554901123047, 43.32347106933594, 43.5743522644, 26.530506134033203, 36.438507080078125, 25.197925567626953, 24.333969116210938, 18.2178764, 20.940448760986328, 19.55474090576172, 17.61937713623047, 15.322476387023926, 12.739614486, 8.808845520019531, 6.145295143127441, 4.864822864532471, 5.718608856201172, 10.60899639129, 6.761124610900879, 3.900146961212158, 9.70568561553955, 6.042970657348633, 6.7046604156494, 6.909201622009277, 4.852499485015869, 2.887256622314453, 5.674749374389648, 2.984290599822, 2.852569103240967, 0.0, 2.8738815784454346, 2.8057925701141357, 0.9272670149803162, 6.717660903930664, 2.7950315475463867, 1.8784151077270508, 1.9278756380081177, 0.936139166, 0.9172662496566772, 0.9856268763542175, 1.0996582508087158, 1.8636469841003418, 0.97832858, 0.0, 1.866254448890686, 0.0, 0.9323211312294006, 0.0, 1.8764574527740479, 1.8682425022125244, 0.0, 0.9292352795600891, 2.8342785835266113, 0.0, 0.9347697496414185, 0.0]

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, 0.0, 0.0, 0.0, 8.125397682189941, 466.1361999511719, 583.4332885742188, 593.1417236328125, 638.40087890625, 628.901611328125, 618.1508178710938, 619.7059326171875, 627.9232788085938, 639.1489868164062, 657.2536010742188, 637.7564697265625, 573.9013061523438, 574.7656860351, 509.4192199707031, 376.7387390136719, 315.36663818359375, 235.0304718017578, 172.935913085, 154.51559448242188, 109.48328399658203, 100.763916015625, 88.48169708251953, 64.7681655883, 47.298152923583984, 63.32902908325195, 43.72100830078125, 45.2216911315918, 24.87734794616, 24.033336639404297, 21.547868728637695, 25.849390029907227, 18.71757698059082, 20.50864219, 23.249513626098633, 23.833003997802734, 12.886703491210938, 17.318967819213867, 9.41524124, 8.596423149108887, 5.437351703643799, 6.348063945770264, 8.314574241638184, 8.247228622436, 10.162745475769043, 7.57861852645874, 4.518919944763184, 9.443832397460938, 4.595135688781, 2.933501958847046, 6.157042503356934, 3.703486442565918, 1.9082902669906616, 2.87150812149, 3.7859411239624023, 3.667600154876709, 2.8750455379486084, 1.934640645980835, 2.7396087646, 0.8905588388442993, 0.9532961845397949, 2.8218464851379395, 0.0, 3.6503539085388184,

0.9195078015327454, 0.8924967050552368, 0.9581056833267212, 0.8963161110877991, 1.92769765
0.0, 0.0, 0.9478342533111572, 0.0, 0.900355875492096, 0.929213285446167, 0.0, 0.0, 0.0,
0.0, 0.919988751411438, 2.0821280479431152, 0.0]