# SO11HosotaniDummyCase Failed-Global-Constr

### July 7, 2020

Statistics for SO11HosotaniDummyCase attributes. The following is for points that Failed-Global-Constr the constraints:

The following are the statistics for  ${\bf Param}$  :

#### k(GeV):

- The average value for k(GeV) is : 1514338.6015079783
- Standard deviation for k(GeV) is : 2686951.4338121964
- Minimum value for k(GeV) is : 3251.4282
- Maximum value for k(GeV) is : 9998789.3624

#### $z_L$ :

- $\bullet$  The average value for  $z_L$  is : 375.6977735852149
- $\bullet$  Standard deviation for  $z_L$  is : 665.1399866829229
- Minimum value for  $z_L$  is : 10.2235
- Maximum value for  $z_L$  is : 2499.3032

#### $c_0$ :

- The average value for  $c_0$  is : 0.29678659088723675
- $\bullet$  Standard deviation for  $c_0$  is : 0.20195162542188766
- Minimum value for  $c_0$  is : 0.0
- Maximum value for  $c_0$  is : 1.3829290111473

### $c_1$ :

- $\bullet$  The average value for  $c_1$  is : 0.3806633575735577
- Standard deviation for  $c_1$  is: 0.5116404313945287

- Minimum value for  $c_1$  is : 1.9287109375015765e-05
- Maximum value for  $c_1$  is: 1.9999

 $c_2$ :

- The average value for  $c_2$  is : -0.5091737250190822
- Standard deviation for  $c_2$  is: 1.0251346730897768
- Minimum value for  $c_2$  is : -2.9993
- Maximum value for  $c_2$  is: 2.9999

 $c_0'$ :

- The average value for  $c'_0$  is : 0.5394629669221203
- Standard deviation for  $c'_0$  is : 0.23035443000110276
- Minimum value for  $c'_0$  is : 0.0
- $\bullet$  Maximum value for  $c_0'$  is : 3.4910387209040272

 $\mu_1$ :

- The average value for  $\mu_1$  is: 17.38497522238669
- Standard deviation for  $\mu_1$  is : 9.59082553617713
- Minimum value for  $\mu_1$  is : 0.0113
- Maximum value for  $\mu_1$  is : 64.49975233857032

 $\mu_{11}$  :

- The average value for  $\mu_{11}$  is : 7.269129677056526
- Standard deviation for  $\mu_{11}$  is: 13.520780425220552
- Minimum value for  $\mu_{11}$  is : 0.00016414231999992146
- Maximum value for  $\mu_{11}$  is : 49.9992

 $\mu'_{11}$ :

- $\bullet$  The average value for  $\mu'_{11}$  is : 7.220099518188792
- Standard deviation for  $\mu'_{11}$  is : 13.400094979778007
- • Minimum value for  $\mu'_{11}$  is : 0.0005893571040000156
- Maximum value for  $\mu'_{11}$  is : 49.9995

 $\tilde{\mu_2}$ :

- $\bullet$  The average value for  $\tilde{\mu_2}$  is : 8.078470020767769
- Standard deviation for  $\tilde{\mu_2}$  is : 12.936928944476946
- Minimum value for  $\tilde{\mu_2}$  is : 0.0034
- Maximum value for  $\tilde{\mu_2}$  is : 49.9871

#### The following are the statistics for **Attr**:

#### $m_H(\text{GeV})$ :

- The average value for  $m_H(\text{GeV})$  is : 2972.799516578919
- Standard deviation for  $m_H(\text{GeV})$  is: 9250.846309327822
- Minimum value for  $m_H(\text{GeV})$  is : 0.45307448803511796
- Maximum value for  $m_H(\text{GeV})$  is : 292352.24274462357

## $m_{\psi_D}({\rm GeV})$ :

- $\bullet$  The average value for  $m_{\psi_D}({\rm GeV})$  is : 3814.6631942322974
- Standard deviation for  $m_{\psi_D}(\text{GeV})$  is: 15532.60648728151
- $\bullet$  Minimum value for  $m_{\psi_D}({\rm GeV})$  is : 1.913270108254778e-09
- Maximum value for  $m_{\psi_D}({\rm GeV})$  is : 919669.1802558894

#### $m_{\tau}(\text{GeV})$ :

- The average value for  $m_{\tau}(\text{GeV})$  is : 1265.2700042501451
- Standard deviation for  $m_{\tau}(\text{GeV})$  is : 10965.065750796726
- Minimum value for  $m_{\tau}(\text{GeV})$  is: 1.8313724781150871e-09
- Maximum value for  $m_{\tau}(\text{GeV})$  is : 487940.50524537964

### $m_{\tau}^{(1)}(\text{GeV})$ :

- The average value for  $m_{\tau}^{(1)}(\text{GeV})$  is : 8614.003578598955
- Standard deviation for  $m_{\tau}^{(1)}(\text{GeV})$  is : 48242.07534384185
- Minimum value for  $m_{\tau}^{(1)}(\text{GeV})$  is: 0.39981220509084303
- Maximum value for  $m_{\tau}^{(1)}(\text{GeV})$  is : 1932436.3542203743  $m_{\nu}(eV)$  :
  - The average value for  $m_{\nu}(eV)$  is : 18190.212479993163

- Standard deviation for  $m_{\nu}(eV)$  is: 97206.46710700638
- Minimum value for  $m_{\nu}(eV)$  is : 7.151965406605109e-20
- $\bullet$  Maximum value for  $m_{\nu}(eV)$  is : 1504789.410101223  $m_b({\rm GeV})$  :
  - The average value for  $m_b(\text{GeV})$  is: 884.2534422450206
  - Standard deviation for  $m_b(\text{GeV})$  is: 8233.559053078867
  - Minimum value for  $m_b(\text{GeV})$  is: 7.544538179657289e-11
  - Maximum value for  $m_b(\text{GeV})$  is : 720614.875352194

## $m_b^{(1)}(\text{GeV})$ :

- The average value for  $m_b^{(1)}(\text{GeV})$  is : 7230.981041679045
- Standard deviation for  $m_b^{(1)}(\text{GeV})$  is : 21013.218957840018
- Minimum value for  $m_b^{(1)}(\text{GeV})$  is : 0.04217557408545054
- • Maximum value for  $m_b^{(1)}({\rm GeV})$  is : 1184723.883011818  $m_t({\rm GeV}):$ 
  - The average value for  $m_t(\text{GeV})$  is: 1317.8715583204328
  - Standard deviation for  $m_t(\text{GeV})$  is: 10788.443340013195
  - Minimum value for  $m_t(\text{GeV})$  is : 3.16832609225149e-09
- Maximum value for  $m_t(\text{GeV})$  is : 720614.875352194  $\langle \theta_H \rangle (\text{rad})$  :
  - The average value for  $\langle \theta_H \rangle$  (rad) is : 0.5727269018075577
  - Standard deviation for  $\langle \theta_H \rangle$  (rad) is : 1.0210064198106026
  - Minimum value for  $\langle \theta_H \rangle$  (rad) is : 7.0250472106181405e-12
- Maximum value for  $\langle \theta_H \rangle$  (rad) is : 3.141592653524363  $m_Z({\rm GeV})$  :
  - The average value for  $m_Z(\text{GeV})$  is : 119.27255771028067
  - Standard deviation for  $m_Z(\text{GeV})$  is : 979.9059699312443
  - Minimum value for  $m_Z(\text{GeV})$  is : 6.425879431052796e-10
  - Maximum value for  $m_Z(\text{GeV})$  is : 121655.41467477535

#### $m_{W^{\pm}}(\mathrm{GeV})$ :

- The average value for  $m_{W^{\pm}}(\text{GeV})$  is: 104.57965861434009
- Standard deviation for  $m_{W^{\pm}}(\text{GeV})$  is : 859.1937137668192
- Minimum value for  $m_{W^{\pm}}(\text{GeV})$  is : 5.634290821772886e-10
- Maximum value for  $m_{W^{\pm}}(\text{GeV})$  is : 106668.9771688979

### $m_{Z'}({\rm GeV})$ :

- The average value for  $m_{Z'}(\text{GeV})$  is : 20085.91727739978
- Standard deviation for  $m_{Z'}(\text{GeV})$  is : 73437.62479494888
- Minimum value for  $m_{Z'}(\text{GeV})$  is : 1.1129949657895232e-09
- Maximum value for  $m_{Z'}(\text{GeV})$  is : 3655601.4895106247

#### T:

- $\bullet$  The average value for T is : 0.0
- Standard deviation for T is: 0.0
- Minimum value for T is : 0
- Maximum value for T is : 0

#### $y_t$ :

- The average value for  $y_t$  is : 0.6429909387525776
- Standard deviation for  $y_t$  is : 0.7108454543762281
- Minimum value for  $y_t$  is : -0.9913292142098233
- $\bullet$  Maximum value for  $y_t$  is : 0.9913292142098233

#### $\tau_H$ :

- The average value for  $\tau_H$  is : 1085.748212869088
- Standard deviation for  $\tau_H$  is : 5243.200691147306
- Minimum value for  $\tau_H$  is : 1.3514550664823795e-09
- $\bullet$  Maximum value for  $\tau_H$  is : 200466.26926003228

#### $\sigma(hh)(fb)$ :

- The average value for  $\sigma(hh)(fb)$  is : 597.4373262957521
- Standard deviation for  $\sigma(hh)(fb)$  is: 17363.94979050278

- Minimum value for  $\sigma(hh)(fb)$  is : 9.769117128787467e-19
- Maximum value for  $\sigma(hh)(fb)$  is : 2108484.05431032

#### $\Delta_{HH}$ :

- The average value for  $\Delta_{HH}$  is : 6.0928432274766315
- Standard deviation for  $\Delta_{HH}$  is : 194.7602437681061
- $\bullet$  Minimum value for  $\Delta_{HH}$  is : 2.3341307108570765e-20
- Maximum value for  $\Delta_{HH}$  is : 24842.93813309167

#### The following are the statistics for **Calc**:

## $\chi_G^2$ :

- $\bullet$  The average value for  $\chi^2_G$  is : 416584891929.4733
- Minimum value for  $\chi_G^2$  is : 18.644696044894935
- $\bullet$  Maximum value for  $\chi^2_G$  is : 831760548168437.9

### $\Lambda_{\rm Max}({\rm GeV})$ :

- The average value for  $\Lambda_{\rm Max}({\rm GeV})$  is : 2114220.6016633254
- $\bullet$  Standard deviation for  $\Lambda_{\rm Max}({\rm GeV})$  is : 1843041.996086546
- Minimum value for  $\Lambda_{\rm Max}({\rm GeV})$  is : 0.0001464017599388523
- Maximum value for  $\Lambda_{\rm Max}({\rm GeV})$  is : 13706417.659293504

### $\sin^2 \theta_W(\Lambda_{\text{Max}})$ :

- The average value for  $\sin^2 \theta_W(\Lambda_{\text{Max}})$  is : 0.33673609084839956
- Standard deviation for  $\sin^2 \theta_W(\Lambda_{\text{Max}})$  is: 0.18240645878335143
- Minimum value for  $\sin^2 \theta_W(\Lambda_{\text{Max}})$  is: 0.00030167582429929674
- Maximum value for  $\sin^2 \theta_W(\Lambda_{\text{Max}})$  is : 0.999885128520393

## $\sin^2\theta_W(M_{\rm KK_5}):$

- $\bullet$  The average value for  $\sin^2\theta_W(M_{\rm KK_5})$  is : 0.32350845490147645
- Standard deviation for  $\sin^2 \theta_W(M_{\text{KK}_5})$  is: 0.18882794874121447
- • Minimum value for  $\sin^2\theta_W(M_{\text{KK}_5})$  is : 9.185989294591135e-05

- $\bullet$  Maximum value for  $\sin^2\theta_W(M_{\rm KK_5})$  is : 0.9996033492779586  $(\alpha)_{1Y}^{-1}$  :
  - The average value for  $(\alpha)_{1Y}^{-1}$  is: 39.47412614463184
  - Standard deviation for  $(\alpha)_{1Y}^{-1}$  is: 24.392037740088277
  - Minimum value for  $(\alpha)_{1Y}^{-1}$  is : 8.02185177878334e-05
  - Maximum value for  $(\alpha)_{1Y}^{-1}$  is : 56.63796000521585

## $(\alpha)_{2L}^{-1}$ :

- $\bullet$  The average value for  $(\alpha)_{2L}^{-1}$  is : 22.538377920354993
- Standard deviation for  $(\alpha)_{2L}^{-1}$  is : 13.791584173200333
- Minimum value for  $(\alpha)_{2L}^{-1}$  is : 1.634397783045749e-05
- Maximum value for  $(\alpha)_{2L}^{-1}$  is : 45.32701285621434

## $(\alpha)_{3C}^{-1}$ :

- $\bullet$  The average value for  $(\alpha)_{3C}^{-1}$  is : 9.859039564187723
- Standard deviation for  $(\alpha)_{3C}^{-1}$  is: 5.872045073775326
- Minimum value for  $(\alpha)_{3C}^{-1}$  is : 0.0002455358775531602
- $\bullet$  Maximum value for  $(\alpha)_{3C}^{-1}$  is : 15.356915161238378

### $(\alpha)_{4C}^{-1}$ :

- $\bullet$  The average value for  $(\alpha)_{4C}^{-1}$  is : 4.1634649785074425
- Standard deviation for  $(\alpha)_{4C}^{-1}$  is : 2.312139638672903
- Minimum value for  $(\alpha)_{4C}^{-1}$  is: 0.00016930397637715533
- Maximum value for  $(\alpha)_{4C}^{-1}$  is: 6.79213347223117

## $(\alpha)_{2L}^{-1}$ :

- $\bullet$  The average value for  $(\alpha)_{2L}^{-1}$  is : 21.888692318233737
- • Standard deviation for  $(\alpha)_{2L}^{-1}$  is : 13.390268459059635
- Minimum value for  $(\alpha)_{2L}^{-1}$  is : 5.10189173612563e-05
- Maximum value for  $(\alpha)_{2L}^{-1}$  is : 44.51043175520329

### $(\alpha)_{3C}^{-1}$ :

 $\bullet$  The average value for  $(\alpha)_{3C}^{-1}$  is : 55.10435492608465

- • Standard deviation for  $(\alpha)_{3C}^{-1}$  is : 34.20266811562909
- Minimum value for  $(\alpha)_{3C}^{-1}$  is : 7.584698297180559e-05
- $\bullet$  Maximum value for  $(\alpha)_{3C}^{-1}$  is : 80.92185478084602

## $\sin^2 \theta_W$ :

- $\bullet\,$  The average value for  $\sin^2\theta_W$  is : 0.5043966184770987
- Standard deviation for  $\sin^2 \theta_W$  is : 0.2897888661984584