# SO11HosotaniDummyCase Passed-Global-Constr

## May 15, 2020

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

The following are the statistics for **Param**:

## k(GeV):

- The average value for k(GeV) is : 108545.54913646114
- Standard deviation for k(GeV) is : 33810.07560221113
- Minimum value for k(GeV) is : 55445.246882626576
- Maximum value for k(GeV) is : 257388.06076967347

#### $z_L$ :

- $\bullet$  The average value for  $z_L$  is : 33.68042190888927
- Minimum value for  $z_L$  is : 27.190748623708306
- $\bullet$  Maximum value for  $z_L$  is : 37.91522304445407

#### $c_0$ :

- $\bullet$  The average value for  $c_0$  is : 0.2916377982302256
- Standard deviation for  $c_0$  is : 0.07715815789209247
- Minimum value for  $c_0$  is : 0.10509088
- Maximum value for  $c_0$  is : 0.361

## $c_1$ :

- $\bullet$  The average value for  $c_1$  is : 0.07537444045054158
- Standard deviation for  $c_1$  is : 0.07772814007771128

- Minimum value for  $c_1$  is : 0.013383665466308509
- Maximum value for  $c_1$  is: 0.33233057182169856

 $c_2$ :

- The average value for  $c_2$  is : -0.588156068564607
- Standard deviation for  $c_2$  is : 0.08607103037166765
- Minimum value for  $c_2$  is : -0.845352
- Maximum value for  $c_2$  is : -0.385170518272

 $c'_0$ :

- The average value for  $c'_0$  is : 0.526033611546817
- $\bullet$  Standard deviation for  $c_0'$  is : 0.041579576810386
- Minimum value for  $c'_0$  is: 0.40862289943999996
- Maximum value for  $c'_0$  is : 0.5897

 $\mu_1$ :

- $\bullet$  The average value for  $\mu_1$  is : 15.161263629941828
- Standard deviation for  $\mu_1$  is : 2.834296873228901
- Minimum value for  $\mu_1$  is : 10.286653277462635
- Maximum value for  $\mu_1$  is : 24.34001746864883

 $\mu_{11}$  :

- The average value for  $\mu_{11}$  is : 0.21140616562157574
- Standard deviation for  $\mu_{11}$  is : 0.08848749947383942
- Minimum value for  $\mu_{11}$  is : 0.1162980146214366
- Maximum value for  $\mu_{11}$  is : 0.3896164149785195

 $\mu'_{11}$ :

- $\bullet$  The average value for  $\mu'_{11}$  is : 0.18826679704753163
- $\bullet$  Standard deviation for  $\mu'_{11}$  is : 0.058364737718231315
- $\bullet$  Minimum value for  $\mu'_{11}$  is : 0.11117737733801236
- $\bullet$  Maximum value for  $\mu'_{11}$  is : 0.37802739375647987

 $\tilde{\mu_2}$ :

- The average value for  $\tilde{\mu_2}$  is : 1.8657068661438574
- Standard deviation for  $\tilde{\mu_2}$  is : 1.2557016218382653
- Minimum value for  $\tilde{\mu_2}$  is : 0.847147999999998
- Maximum value for  $\tilde{\mu_2}$  is : 6.416193034836342

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

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

- The average value for  $m_H(\text{GeV})$  is : 127.23467500553723
- Standard deviation for  $m_H(\text{GeV})$  is : 2.0227347355446725
- Minimum value for  $m_H(\text{GeV})$  is : 122.3673385421512
- Maximum value for  $m_H(\text{GeV})$  is : 129.80513509684775

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

- The average value for  $m_{\psi_D}(\text{GeV})$  is : 2596.615244772521
- Standard deviation for  $m_{\psi_D}(\text{GeV})$  is : 786.8524258940382
- $\bullet$  Minimum value for  $m_{\psi_D}({\rm GeV})$  is : 1371.6746227479453
- Maximum value for  $m_{\psi_D}(\text{GeV})$  is : 5354.988490529566

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

- The average value for  $m_{\tau}(\text{GeV})$  is : 1.75900319541381
- Standard deviation for  $m_{\tau}(\text{GeV})$  is : 0.02612048926116398
- Minimum value for  $m_{\tau}(\text{GeV})$  is : 1.7167560943085807
- Maximum value for  $m_{\tau}(\text{GeV})$  is : 1.8302559924229869

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

- The average value for  $m_{\tau}^{(1)}(\text{GeV})$  is: 1407.381088170731
- Standard deviation for  $m_{\tau}^{(1)}({\rm GeV})$  is : 426.39846229929907
- Minimum value for  $m_{\tau}^{(1)}(\text{GeV})$  is : 727.3069068822812
- Maximum value for  $m_{\tau}^{(1)}(\text{GeV})$  is : 2551.0692462747534  $m_{\nu}(eV)$  :
  - The average value for  $m_{\nu}(eV)$  is: 0.08628744049129752

- Standard deviation for  $m_{\nu}(eV)$  is: 0.035877619826273084
- Minimum value for  $m_{\nu}(eV)$  is: 0.020601423117924678
- $\bullet$  Maximum value for  $m_{\nu}(eV)$  is : 0.1330574871341866  $m_b({\rm GeV})$  :
  - The average value for  $m_b(\text{GeV})$  is : 4.159058019275146
  - Standard deviation for  $m_b(\text{GeV})$  is : 0.07308771322187126
  - Minimum value for  $m_b(\text{GeV})$  is : 3.9917906958817246
- Maximum value for  $m_b(\text{GeV})$  is : 4.384711470085788  $m_b^{(1)}(\text{GeV})$  :
  - The average value for  $m_b^{(1)}(\text{GeV})$  is: 3574.9531654274992
  - Standard deviation for  $m_b^{(1)}(\text{GeV})$  is: 1283.2272545550404
  - Minimum value for  $m_b^{(1)}(\text{GeV})$  is : 1495.2767699310994
- $\bullet$  Maximum value for  $m_b^{(1)}({\rm GeV})$  is : 8613.456653862164  $m_t({\rm GeV})$  :
  - The average value for  $m_t(\text{GeV})$  is: 172.79878565924486
  - Standard deviation for  $m_t(\text{GeV})$  is : 3.043403644653775
  - Minimum value for  $m_t(\text{GeV})$  is : 167.15526346429266
- Maximum value for  $m_t(\text{GeV})$  is : 178.92299178539824  $\langle \theta_H \rangle (\text{rad})$  :
  - The average value for  $\langle \theta_H \rangle$  (rad) is: 0.12610642317016404
  - Standard deviation for  $\langle \theta_H \rangle$  (rad) is: 0.0366503776497081
  - Minimum value for  $\langle \theta_H \rangle$  (rad) is : 0.050170164720943586
- Maximum value for  $\langle \theta_H \rangle$  (rad) is : 0.2222597944309811  $m_Z(\text{GeV})$  :
  - The average value for  $m_Z(\text{GeV})$  is : 91.72318037459327
  - Standard deviation for  $m_Z(\text{GeV})$  is : 1.3123667804972343
  - $\bullet$  Minimum value for  $m_Z({\rm GeV})$  is : 88.8937820474113
  - Maximum value for  $m_Z(\text{GeV})$  is : 94.65471272418216

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

- The average value for  $m_{W^{\pm}}(\text{GeV})$  is : 80.42402271524095
- Standard deviation for  $m_{W^{\pm}}(\text{GeV})$  is : 1.1506994778680046
- Minimum value for  $m_{W^{\pm}}(\text{GeV})$  is : 77.94317115289397
- $\bullet$  Maximum value for  $m_{W^\pm}({\rm GeV})$  is : 82.9944266557819

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

- $\bullet$  The average value for  $m_{Z'}({\rm GeV})$  is : 11938.646555640813
- Standard deviation for  $m_{Z'}(\text{GeV})$  is : 3689.9859766090863
- Minimum value for  $m_{Z'}(\text{GeV})$  is : 6262.967650411356
- Maximum value for  $m_{Z'}(\text{GeV})$  is : 27541.267472358228

#### 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

#### $y_t$ :

- $\bullet$  The average value for  $y_t$  is : 0.9827979213782879
- Standard deviation for  $y_t$  is: 0.005270102671480639
- Minimum value for  $y_t$  is : 0.9669443037702264
- $\bullet$  Maximum value for  $y_t$  is : 0.9900818655456609

### $\tau_H$ :

- The average value for  $\tau_H$  is : 29.842453204286205
- Standard deviation for  $\tau_H$  is : 1.265210356414497
- Minimum value for  $\tau_H$  is : 27.20407111212093
- $\bullet$  Maximum value for  $\tau_H$  is : 31.632099263565543

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

- The average value for  $\sigma(hh)(fb)$  is : 17.521110092751105
- Standard deviation for  $\sigma(hh)(fb)$  is: 0.8308867640492298

- Minimum value for  $\sigma(hh)(fb)$  is : 16.124911402304566
- Maximum value for  $\sigma(hh)(fb)$  is: 19.67112228470861

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

- The average value for  $\Delta_{HH}$  is : 0.12144985645422239
- Standard deviation for  $\Delta_{HH}$  is : 0.005161119851057237
- Minimum value for  $\Delta_{HH}$  is : 0.11339357454058306
- Maximum value for  $\Delta_{HH}$  is : 0.13496472214819547

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

## $\chi_G^2$ :

- $\bullet$  The average value for  $\chi^2_G$  is : 14.577460916596705
- Standard deviation for  $\chi_G^2$  is : 3.602677140800299
- Minimum value for  $\chi_G^2$  is : 3.776936935524515
- $\bullet$  Maximum value for  $\chi^2_G$  is : 20.50197661986195

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

- The average value for  $\Lambda_{\rm Max}({\rm GeV})$  is : 2474499.529858133
- Standard deviation for  $\Lambda_{\rm Max}({\rm GeV})$  is : 815716.4682828547
- Minimum value for  $\Lambda_{Max}(GeV)$  is : 1227909.5415017125
- Maximum value for  $\Lambda_{\rm Max}({\rm GeV})$  is : 6099480.268647853

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

- The average value for  $\sin^2 \theta_W(\Lambda_{\text{Max}})$  is : 0.27236584710148554
- Standard deviation for  $\sin^2 \theta_W(\Lambda_{\text{Max}})$  is: 0.00207607356283229
- Minimum value for  $\sin^2 \theta_W(\Lambda_{\text{Max}})$  is : 0.26747675576628577
- Maximum value for  $\sin^2 \theta_W(\Lambda_{\text{Max}})$  is : 0.27895218960547224

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

- $\bullet$  The average value for  $\sin^2\theta_W(M_{\rm KK_5})$  is : 0.2536385638541903
- Standard deviation for  $\sin^2\theta_W(M_{\rm KK_5})$  is : 0.0016463480706800885
- Minimum value for  $\sin^2 \theta_W(M_{\text{KK}_5})$  is : 0.24997099723234426

- Maximum value for  $\sin^2\theta_W(M_{\rm KK_5})$  is : 0.258474461310401  $(\alpha)_{1Y}^{-1}$  :
  - $\bullet$  The average value for  $(\alpha)_{1Y}^{-1}$  is : 54.95496738539193
  - Standard deviation for  $(\alpha)_{1Y}^{-1}$  is: 0.3055160451553476
  - Minimum value for  $(\alpha)_{1Y}^{-1}$  is: 54.057335943654344
- • Maximum value for  $(\alpha)_{1Y}^{-1}$  is : 55.809266537214555  $(\alpha)_{2L}^{-1}$  :
  - The average value for  $(\alpha)_{2L}^{-1}$  is: 31.10843571817086
  - Standard deviation for  $(\alpha)_{2L}^{-1}$  is : 0.17678643177465017
  - Minimum value for  $(\alpha)_{2L}^{-1}$  is: 30.785636550232486
- Maximum value for  $(\alpha)_{2L}^{-1}$  is : 31.688861208011264  $(\alpha)_{3C}^{-1}$  :
  - The average value for  $(\alpha)_{3C}^{-1}$  is: 13.45144906615464
  - Standard deviation for  $(\alpha)_{3C}^{-1}$  is: 0.33667777627817574
  - Minimum value for  $(\alpha)_{3C}^{-1}$  is: 12.702416153920822
- Maximum value for  $(\alpha)_{3C}^{-1}$  is : 14.441544565004364  $(\alpha)_{4C}^{-1}$  :
  - The average value for  $(\alpha)_{4C}^{-1}$  is: 5.462569580501
  - Standard deviation for  $(\alpha)_{4C}^{-1}$  is : 0.2270794310744844
  - Minimum value for  $(\alpha)_{4C}^{-1}$  is: 5.032293236583637
- Maximum value for  $(\alpha)_{4C}^{-1}$  is : 5.986124543872324  $(\alpha)_{2L}^{-1}$  :
  - $\bullet$  The average value for  $(\alpha)_{2L}^{-1}$  is : 30.084725848167885
  - Standard deviation for  $(\alpha)_{2L}^{-1}$  is : 0.15474990405488667
  - Minimum value for  $(\alpha)_{2L}^{-1}$  is : 29.686716281981436
- • Maximum value for  $(\alpha)_{2L}^{-1}$  is : 30.362121714324516  $(\alpha)_{3C}^{-1}$  :
  - The average value for  $(\alpha)_{3C}^{-1}$  is: 76.85791332287042
  - Standard deviation for  $(\alpha)_{3C}^{-1}$  is: 0.7322312387910583
  - Minimum value for  $(\alpha)_{3C}^{-1}$  is: 74.60081857916595
  - Maximum value for  $(\alpha)_{3C}^{-1}$  is: 78.85169733326639