

Probability

0.030
0.025
0.020
0.015
0.010
0.005
0.000

50

100

150

200

250

300

350

400

t

6D VAE

Bkg. only

$\bar{t} = 108, \sigma_t = 14$

Bkg. + signal ($A \rightarrow 4l$ 1.0%)

$\bar{t} = 172, \sigma_t = 21$

χ^2_{108}

asymptotic:

$P(Z > 1) = 1.00^{+0.00}_{-0.02}$

$P(Z > 2) = 0.96^{+0.01}_{-0.03}$

$P(Z > 3) = 0.71^{+0.04}_{-0.05}$

empirical:

$P(Z > 1) = 1.00^{+0.00}_{-0.02}$

$P(Z > 2) = 0.97^{+0.01}_{-0.03}$

$P(Z > 3) = 0.89^{+0.02}_{-0.04}$