



Optimized imperfect unstiffened equivalent ellipsoidal shell with thick apex (Segment 1 in Fig. 2)

PA=1.0, PB = 0.0

External pressure = design pressure = 460 psi

nonlinear effective stress (psi) at the OUTER fiber of the skin (skin = layer 2 in the STAGS model)

+mode 1 axisymmetric imperfection shape; amplitude, Wimp=0.2 inch — 8.103E+00 —

Θ x -35.84

Θ y -13.14

Θ z 35.63

y z x

Fig. 154 STAGS prediction of **outer fiber** effective stress in the shell skin for the **optimized unstiffened equivalent ellipsoidal shell with the thick apex with $t(\text{apex}) = 0.4$ inch; $W_{\text{imp}} = 0.2$ inch**; the optimum design is listed in Table 78. There is an **axisymmetric +mode 1 imperfection with amplitude, $W_{\text{imp}} = 0.2$ inch**. Compare the maximum effective stress here with that from BIGBOSOR4 listed in the section of Table 81 headed “**+mode 1**”. Also, compare with Fig. 87, which pertains to the unstiffened optimum design listed in Table 33 with a +mode 1 axisymmetric imperfection.