

STAGS “crude” 180-degree
“soccerball” model

This n=6 mode shape is used as a “trigger” (Wimp=0.001 inch) for the next nonlinear collapse run
 STAGS nonlinear buckling mode 1, pcr=1.0171 x 460 psi
 step 14 eigenvector: deformed geometry of “trigger” imperfection
 nonlinear buckling of optimized thick-apex unstiffened shell with a -mode 1 axisymmetric imperfection shape

⊖ x -35.84
 ⊖ y -13.14
 ⊖ z 35.63

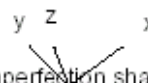


Fig. 214 Elastic-plastic analysis of the **optimized unstiffened equivalent ellipsoidal shell with thick apex, $t(\text{apex}) = 0.47183$ in; Wimp=0.1 inch; the optimum design is listed in Table 89.** This nonlinear bifurcation buckling mode shape with $n = 6$ circumferential waves (3 circumferential waves over 180 degrees of circumference) is used as a “trigger” imperfection with amplitude, $W_{\text{imp}}(\text{trigger}) = 0.001$ inch, in order to obtain the fourth trace in Fig. 211.