STAGS 180-degree "soccerball" model of the optimized isogrid-stiffened shell

non-axisymmetric; n = 2 circumferential waves, pcr(STAGS)=3.4725 x 460 = 1597.4 psi
mode 4, pcr = 0.34725E+01
step   0   eigenvector   deformed geometry
linear buckling of perfect optimized stiffened equivalent ellipsoidal shell (design listed in Table 33)

Θ x -35.84
Θ y -13.14
Θ z   35.63

Fig. 261 **STAGS "soccerball" model of the optimized imperfect isogrid-stiffened equivalent ellipsoidal shell. The optimum design, listed in columns 2 and 3 of Table 33, was obtained with plus and minus axisymmetric (n=0) mode 1 and mode 2 linear buckling modal imperfection shapes with amplitude, Wimp = 0.2 inch.** This is the non-axisymmetric (n=2 circumferential waves) linear buckling modal imperfection shape. Compare with the 360-degree STAGS model displayed in Fig. 8. The difference in the eigenvalue, 3.4725 here vs 3.48368 in Fig. 8, is caused by both the difference in discretization and in the difference in the finite element used in the STAGS model: STAGS Element 480 here vs STAGS Element 410 in Fig. 8. **Shells of revolution with imperfections with this non-axisymmetric shape cannot be handled by BIGBOSOR4.** Therefore, GENOPT optimization occurs in the presence of only axisymmetric buckling modal imperfections.