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

3.306E-06
-6.425E-06
-1.616E-05
-2.589E-05
-3.562E-05
-4.535E-05
-5.508E-05
-6.481E-05
-7.454E-05
-8.427E-05
-9.400E-05
-1.037E-04
-1.135E-04
-1.232E-04
-1.329E-04
-1.427E-04

Optimized stiffened equivalent ellipsoidal shell with n=1 modal imperfection with amplitude, Wimp=0.2 inch
PA= 1.00264; PB= 0.0; 480 finite elements are used; crude model
step 12 meridional plastic strain, epx, layer 2 (shell skin), outer fiber
linear buckling modal imperfection with n=1 circumferential wave; shape shown in Figs.258 & 259
subroutine usrfab.soccerball.plastic.src is used with NGCP = 1

Θ x   -0.00
Θ y   0.00
Θ z   -0.00

9.900E+00

Fig. 256 **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 deformed state at Load Step 12 of the shell with the n=1 imperfection shape shown in Figs. 258 and 259. (See the second-to-last trace in Fig. 254). Displayed here is the **outer fiber** meridional plastic strain, epx, in layer 2 (the shell skin) at an external pressure very close to the design pressure, 460 psi, for which the load factor, PA = 1.0.