



Fig. 232 Linear buckling mode from STAGS that corresponds to the second eigenvalue for the **optimized unstiffened equivalent ellipsoidal shell with the thick apex with $t(\text{apex}) = 0.61996$ inch; the optimum design is listed in Table 93.** Compare this buckling mode, which has $n = 1$ circumferential wave and which is from the 180-degree "soccerball" STAGS model, with the analogous linear $n = 1$ buckling mode from the 360-degree STAGS model (Fig. 148) of the design listed in Table 78. Compare with the analogous linear $n = 1$ buckling mode from the "soccerball" STAGS model (Fig. 190) of the design listed in Table 78. There are three cases involving " $\cos(\theta)$ "-shaped residual dents that attempt to simulate **in a local manner** this $n = 1$ linear buckling modal imperfection shape: **Case 1** results appear in Figs. 240 – 244; **Case 2** results appear in Figs. 245 – 249; **Case 3** results appear in Figs. 250 – 253. **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.