

- Undeformed: Equivalent unstiffened ellipsoidal shell with $t(\text{apex})=0.6$ inch (Seg. 1 in Fig. 2)
- Deformed: This is the mode 2 axisymmetric imperfection shape. linear $p(\text{crit}) = 1381.8$ psi

Table 78 unstiffened shell, $t(\text{apex})=0.6$ in: mode 2 axisymmetric imperfection

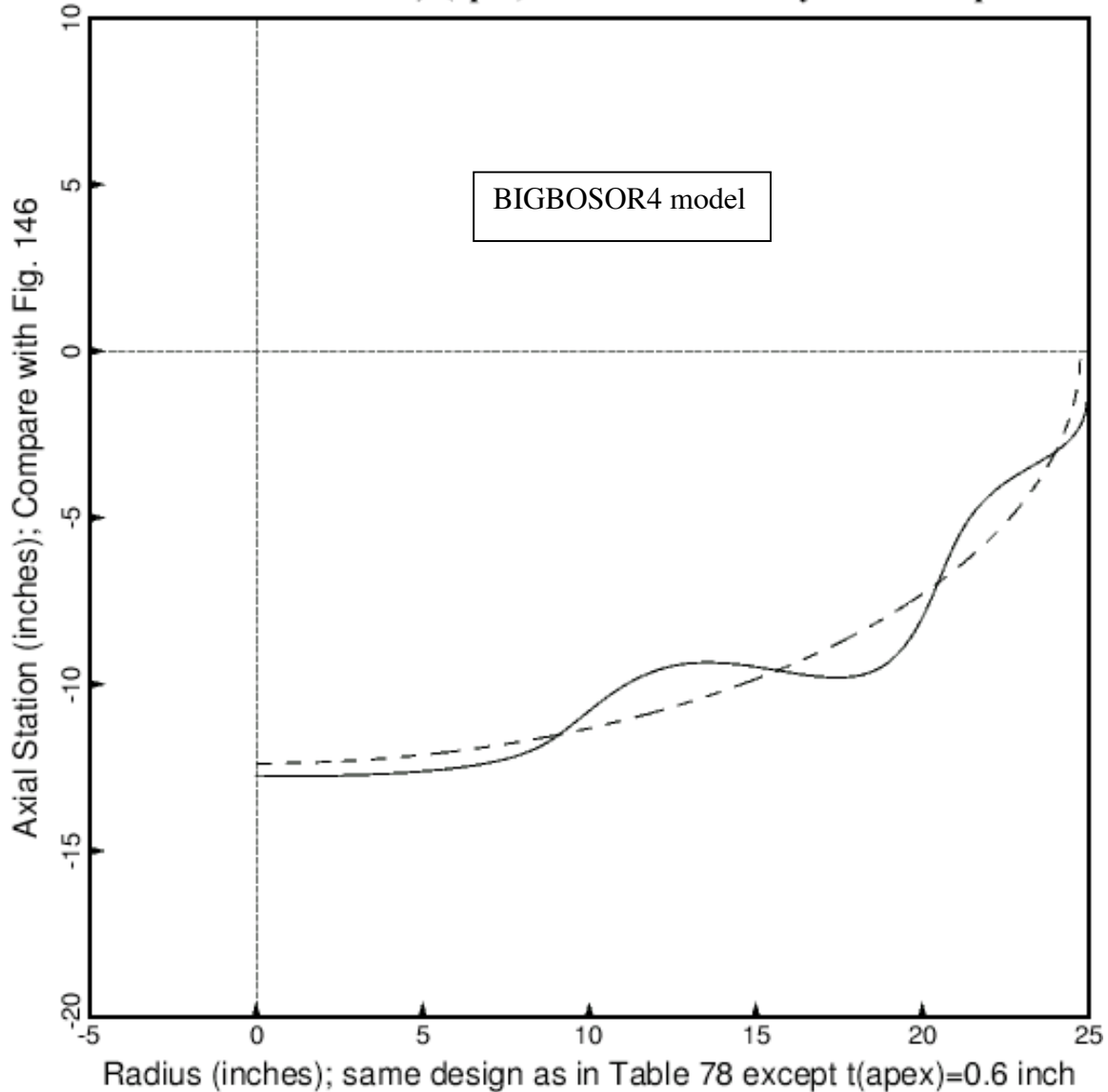


Fig. 227 Axisymmetric **mode 2** linear buckling mode from BIGBOSOR4 for the **optimized unstiffened equivalent ellipsoidal shell with the thick apex of uniform thickness, $t(\text{apex}) = 0.6$ inch; the optimum design is listed in Table 78 [except $t(\text{apex})$, which has been arbitrarily increased from 0.4 inch to 0.6 inch]**. The shell with $t(\text{apex})=0.4$ inch was optimized with plus and minus axisymmetric buckling modal imperfection shapes, mode 1 and mode 2 with amplitude, **Wimp=0.2** inch. With $t(\text{apex}) = 0.4$ inch (Fig. 146) the shell apex is not thick enough to prevent the maximum linear buckling modal displacement from occurring at the pole of the shell. However, with $t(\text{apex})$ increased from 0.4 inch to 0.6 inch the mode 2 axisymmetric linear buckling mode shown here has maximum amplitude in the region away from the apex with much smaller normal displacement at and in the immediate neighborhood of the apex.