



Fig. 59 $n = 1$ circumferential wave non-axisymmetric linear buckling mode shape from STAGS for the optimum design of the **isogrid-stiffened** equivalent ellipsoidal shell listed in Table 52. The optimum design was obtained with BIGBOSOR4 with the use of plus and minus axisymmetric **mode 1, mode 2, mode 3, and mode 4** imperfection shapes with amplitude, $W_{imp} = 0.2$ inch. This STAGS buckling mode corresponds to eigenvalue no. 2. Compare with the analogous buckling mode for the “2-mode” optimized isogrid-stiffened shell shown in Fig. 7. **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.