Equivalent stiffened ellipsoid: mode 2 axisymmetric imperfection shape

BIGBOSOR4 model

GENOPT +mode 2 axisymmetric linear buckling modal imperfection shape
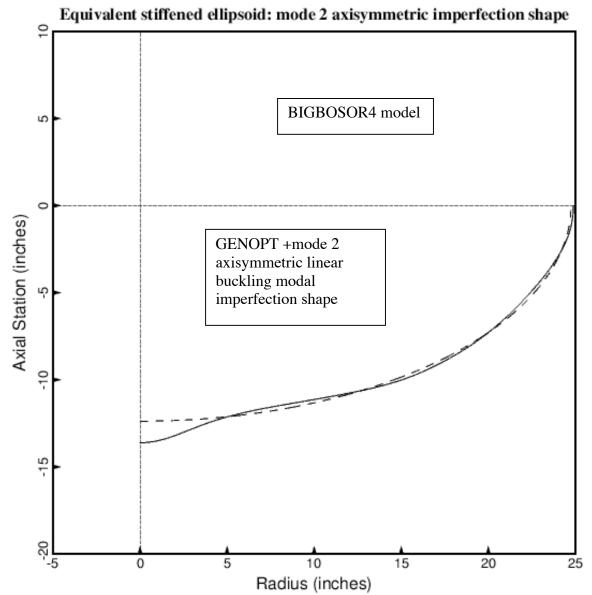
Axial Station (inches)

Radius (inches)

Fig. 5 Second **axisymmetric** bifurcation buckling mode shape of the optimized **isogrid-stiffened** shell as computed by BIGBOSOR4. The corresponding linear bifurcation buckling pressure according to BIGBOSOR4 is p(crit) = 1622.1 psi. The program STAGS obtains a linear bifurcation buckling pressure of 1612.3 psi for this second axisymmetric mode predicted by BIGBOSOR4. (See Fig. 9). In the STAGS model the second axisymmetric mode corresponds to the sixth eigenvalue, as listed in Table 41, following four non-axisymmetric modes, two of which are displayed in Figs. 7 and 8. Compare with Fig. 9. This axisymmetric buckling mode is what is called in GENOPT jargon **"mode 2"**. Plus and minus versions of "mode 2" are used as initial axisymmetric imperfection shapes in computations of the local skin and stiffener stresses and buckling load factors, axisymmetric collapse loads, and general nonlinear bifurcation buckling load factors.