Curved panel, no edge warping, no axial bending, input data for STAGSUNIT listed in Table 12
PA= 1.00000E+01 PB= 0.00000E+00 PX= 0.00000E+00
Θ x -35.84
Θ y -13.14
Θ z 35.63
step 16 displacement w contours
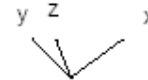Fig.31 nonlinear w same view as linear buckling mode; case=allenrngs34803
Minimum value = -5.73346E-02, Maximum value = 3.92397E-02
2.905E+00

Fig. 31 This figure is analogous to Fig. 22. STAGS prediction of the state of the locally post-buckled panel at the design load, PA = 10.0 (Nx = -1000 lb/in), for the curved panel in which overall axial bending is NOT permitted in the post-local-buckling loading regime. (IBCX0XL = 1 in the *.STG file that, via execution of the PANDA2 processor, STAGSUNIT, generates the *.bin and *.inp input files for STAGS.) In this STAGS model in-plane warping of the panel skin along all four edges is prevented. Note that the maximum inward buckle displacement is much greater than the maximum outward buckle displacement and that the depth of the buckles is significantly less than those exhibited in Fig. 22, which pertains to the case in which overall axial bending is permitted. For curved stiffened panels inward buckles are always deeper than the outward buckles. PANDA2's local post-buckling theory [3,22] cannot predict this difference of inward and outward amplitudes of the local buckles in the panel skin because it is based on the assumption that the axial variation of post-buckling normal deflection is sinusoidal, as shown in Fig. 7, for example.