

10-bay flat panel: Input for the PANDA2 processor, STAGSUNIT, is listed in Table 23

PA= 8.13300E+00 PB= 0.00000E+00 TIME= 9.98000E-02

step 190, Time = 0.1 seconds, displacement w contours

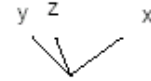
Fig.65 nonlinear w same view as linear buckling mode; case=allenflat3; Compare Fig.50

Minimum value = -4.70806E-02, Maximum value = 4.71972E-02

Θ x -35.84

Θ y -13.14

Θ z 35.63



4.388E+00

Fig. 65 STAGS prediction of the deformation pattern in the 10-stringer-bay flat panel at Time = 0.0998 second during the STAGS transient run. Compare this figure with Fig. 50 for the 5-stringer-bay flat panel. In the 10-stringer-bay panel mode jumping has occurred from 5 axial half waves to 6 axial half waves in stringer bays 2, 4, and 6, with an “extra” downward buckle appearing in those three stringer bays adjacent to the panel edge at $x = 0$. Note that the PANDA2 local post-buckling theory, being based on a single discretized panel module such as that shown in Figs. 5 – 7 [3,22], cannot predict different numbers of axial half waves in different stringer bays. The presence of the new downward buckles in stringer bays 2, 4, and 6 means that all the stringer bays from 1 – 7, counting stringer bays from the lower right-hand edge of the STAGS model, have downward buckles adjacent to the edge at $x = 0$. Hence, there is a fairly uniform rolling of the ring at $x = 0$ over the span covered by those seven stringer bays.