

Curved panel, no edge warping, axial bending allowed, input data for STAGSUNIT listed in Table 12

PA= 1.00000E+01 PB= 0.00000E+00 PX= 0.00000E+00

step 16 fabrication system,seff, layer 1, inner fiber

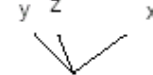
Fig.25 nonlinear effective stress - inner fiber; case=allennrgs

Minimum value = 3.43998E+02, Maximum value = 6.50278E+04

Θ x -35.84

Θ y -13.14

Θ z 35.63



— 2.905E+00 —

Fig. 25 STAGS prediction of the inner fiber effective stress of the locally post-buckled panel at the design load,  $PA = 10.0$  ( $N_x = -1000$  lb/in), for the curved panel in which overall axial bending is permitted ( $IBCX0XL = 0$  in the \*.STG file that, via execution of the PANDA2 processor, STAGSUNIT, generates the \*.bin and \*.inp input files for STAGS) in the post-local-buckling loading regime and in-plane warping of the panel skin along the four panel edges is prevented. The stress concentrations in the panel skin are especially well exposed in the neighborhood of the third stringer numbering from the bottom right-hand edge of the STAGS model. The inner fiber in the curved panel with the internal stringers is the fiber on the same surface of the panel skin as that to which the stringer is attached. With curved, internally stringer-stiffened panels the outer fiber maximum effective stress is greater than the inner fiber maximum effective stress.