

Curved panel, no edge warping, axial bending allowed, input data for STAGSUNIT listed in Table 14

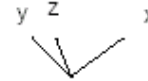
PA= 1.00000E+01 PB= 0.00000E+00 PX= 0.00000E+00

step 15 fabrication system ,seff, layer 1, outer fiber

Fig.23 nonlinear effective stress - outer fiber; case=allennrgs

Minimum value = 6.38666E+02, Maximum value = 6.03886E+04

Θ x -35.84  
Θ y -13.14  
Θ z 35.63



2.905E+00

Fig. 23 STAGS prediction of the outer 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 ( $IBCXL = 0$  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. Overall axial bending is permitted when the new index,  $IBCXL = 0$ , in the \*.STG file, that is, in the input file for the PANDA2 processor, STAGSUNIT. In this STAGS model in-plane warping of all four edges of the panel skin is prevented. With the curved panel with internal stringers the outer fiber in the STAGS model is the fiber on the panel skin surface opposite from that to which the stringers are attached. NOTE: The uniform finite element grid used in this STAGS model is not sufficiently dense to capture the true nature of the stress concentrations in the immediate neighborhoods of each stringer, as is demonstrated next.