Optimized stiffened shell; cos(theta) point loads from 0 to 90 deg.

Step 54

STAGS run 1

Run 2

Run 3

Run 4

Step 39

Step 67

Step 45

The load set B (PB) consists of a number of normal, inward-directed concentrated **loads** applied along row 2 of segment 2 (Figs. 2, 169, 258, 259, 264) that has a cos(theta) circumferential distribution from theta = 0 to 90 degrees. The goal is to produce a residual dent with a depth equal to or somewhat more than 0.2 inch.

Load factor PB for cos(theta) point load distribution

normal displ.w (in) where w is max: node pt.612; row 2, Shell Seg.2 (Fig.2)

Fig. 263 STAGS results for the **optimized isogrid-stiffened equivalent ellipsoidal shell; Wimp=0.2 inch; this figure pertains to the shell design listed in columns 2 and 3 of Table 33.** Shown here are the load cycles for load set B (load factor PB) that produce residual "cos(theta)" dents of various depths. Compare with Fig. 237. These results correspond to the "cos(theta)" line load applied along Row 2 of Shell Segment 2 from circumferential coordinate, theta = 0 to 90 degrees. This "cos(theta)" load distribution is used because it generates a residual dent that **locally** resembles the negative of the buckling modal deformation in Figs. 258 and 259, that is, the negative of the linear buckling modal imperfection with n = 1 circumferential wave.