

optimized stiffened equivalent ellipsoidal shell with dent shown in Fig. 269

PA= 1.16456; PB= 0.0; PX= 0.0

Step 89 normal displacemen; deformed geometry

nonlinear post-collapse deformation of shell with residual dent centered at r2.s2 from imposed coefficients) with residual dent centered at r2.s2 from imposed coefficients) with residual dent centered at r2.s2 from imposed coefficients.

Fig. 276 The optimized isogrid-stiffened equivalent ellipsoidal shell; Wimp=0.2 inch; the optimum design is listed in columns 2 and 3 of Table 33. Shown here is the post-collapse deformation of the uniformly externally pressurized shell with the residual dent that exists at the STAGS load step labeled "Step 39" in the previous figure and in Fig. 263 and that is displayed in Fig. 267. The residual dent is produced by a cos(theta) distribution of normal inward-directed concentrated loads applied along Row 2 of Shell Segment 2 from theta = 0 to 90 degrees (Figs. 2, 169, 258, 259, and 264). This "cos(theta)" load distribution is used because it generates a residual dent that locally resembles the negative of the buckling modal deformation in Fig. 262, that is, the negative of the first linear buckling modal imperfection with n = 1 circumferential wave.