

- BIGBOSOR4 results from eqellipse.ALL6P: +mode 1 (n=0 circ. waves) imperfection shape
- STAGS elastic results for +mode 1 (n=0 circ. waves) imperfection shape; Wimp = +0.2 inch
- △ STAGS elastic results for +mode 1 imperfection shape +0.001 inch nonlinear n=9 trigger
- + BIGBOSOR4 results from eqellipse.ALL6N: -mode 1 imperfection shape
- × STAGS elastic results for -mode 1 (n=0 circ. waves) imperfection shape
- ◇ BIGBOSOR4 results from eqellipse.ALL7P: +mode 2 imperfection shape
- ▽ STAGS elastic results for +mode 2 (n=0 circ. waves) imperfection shape
- ⊠ BIGBOSOR4 results from eqellipse.ALL7N: -mode 2 imperfection shape
- × STAGS elastic results for -mode 2 (n=0 circ. waves) imperfection shape
- ⊕ BIGBOSOR4 results from eqellipse.ALL6P3: +mode 3 imperfection shape
- ⊗ STAGS elastic results for +mode 3 (n=0 circ. waves) imperfection shape
- ⊘ BIGBOSOR4 results from eqellipse.ALL6N3: -mode 3 imperfection shape
- ⊙ STAGS elastic results for -mode 3 (n=0 circ. waves) imperfection shape
- ⊠ BIGBOSOR4 results from eqellipse.ALL7P3: +mode 4 imperfection shape
- ⊙ STAGS elastic results for +mode 4 (n=0 circ. waves) imperfection shape
- BIGBOSOR4 results from eqellipse.ALL7N3: -mode 4 imperfection shape
- STAGS elastic results for -mode 4 (n=0 circ. waves) imperfection shape
- STAGS elastic results for n=1 circ. wave buckling modal imperfection shape; Wimp = +0.2 inch
- STAGS elastic results for n=2 circ. wave buckling modal imperfection shape; Wimp = +0.2 inch

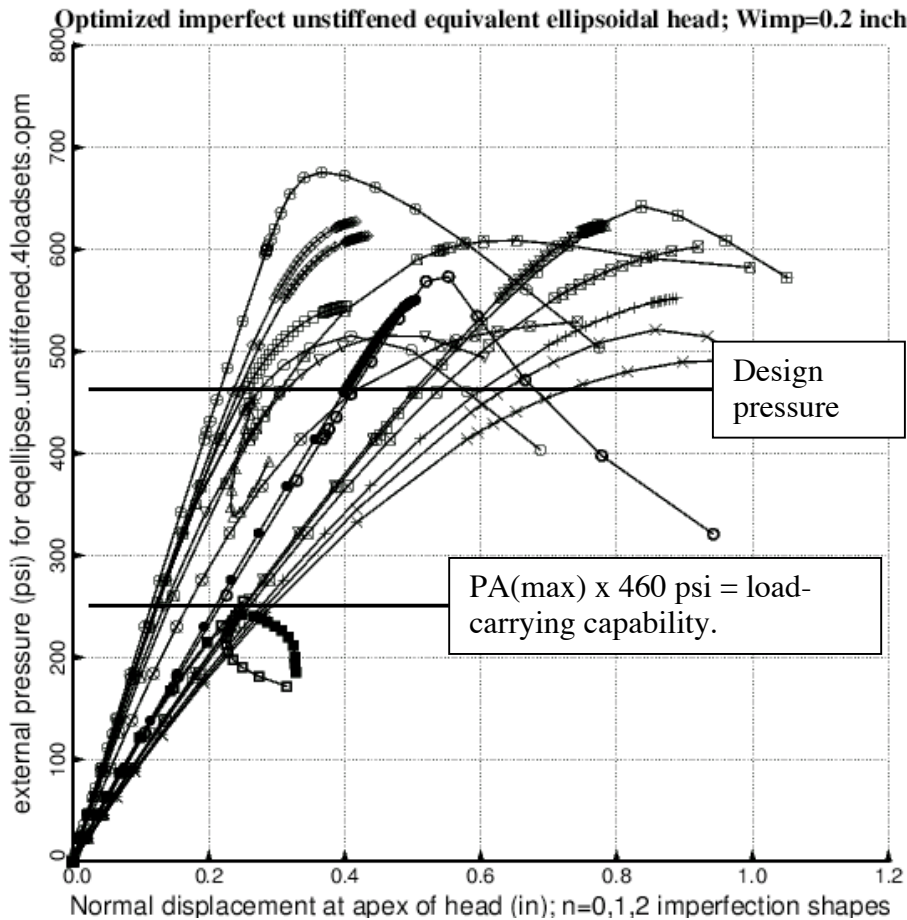


Fig. 109 Nonlinear elastic load-deflection curves for the 4-mode-optimized **imperfect unstiffened** equivalent ellipsoidal shell from BIGBOSOR4 (axisymmetric deformation) and from STAGS (both axisymmetric and non-axisymmetric deformation). The most important points to be emphasized with regard to this figure are: 1. There are significant discrepancies between the predictions of BIGBOSOR4 and STAGS for the axisymmetrically imperfect shells, and 2. the load-bearing capability of the shell, which is optimized only with regard to axisymmetric imperfections (Figs. 98-101), is much more sensitive to non-axisymmetric buckling modal imperfections with $n = 1$ and $n = 2$ circumferential waves. This optimized unstiffened imperfect shell is under-designed.