

- GENOPT results from the optimized design with completed SUPEROPTs, -mode 1 imperfection shape.
- STAGS elastic results from eqellipse.stiffened.opm4: -mode 1 imperfection shape
- △ STAGS with axisymmetric mode 1 Wimp=-0.2 inch + 3 non-symmetric modes each with Wimp=0.05 inch
- + STAGS nonlinear bifurcation buckling with spurious buckling mode shape (See the next figure)
- × Design pressure = 460 psi
- ◇ Allowable pressure for axisymmetric collapse = 550 psi
- ▽ STAGS with n=1 circ. wave buckling modal imperfection shape with amplitude, WIMP=0.2 inch
- ⊠ STAGS with n=2 circ. wave buckling modal imperfection shape with amplitude, WIMP=0.2 inch
- × STAGS with eig7, 2nd n=1 circ. wave buckling modal imperfection shape with amplitude, WIMP=0.2 inch

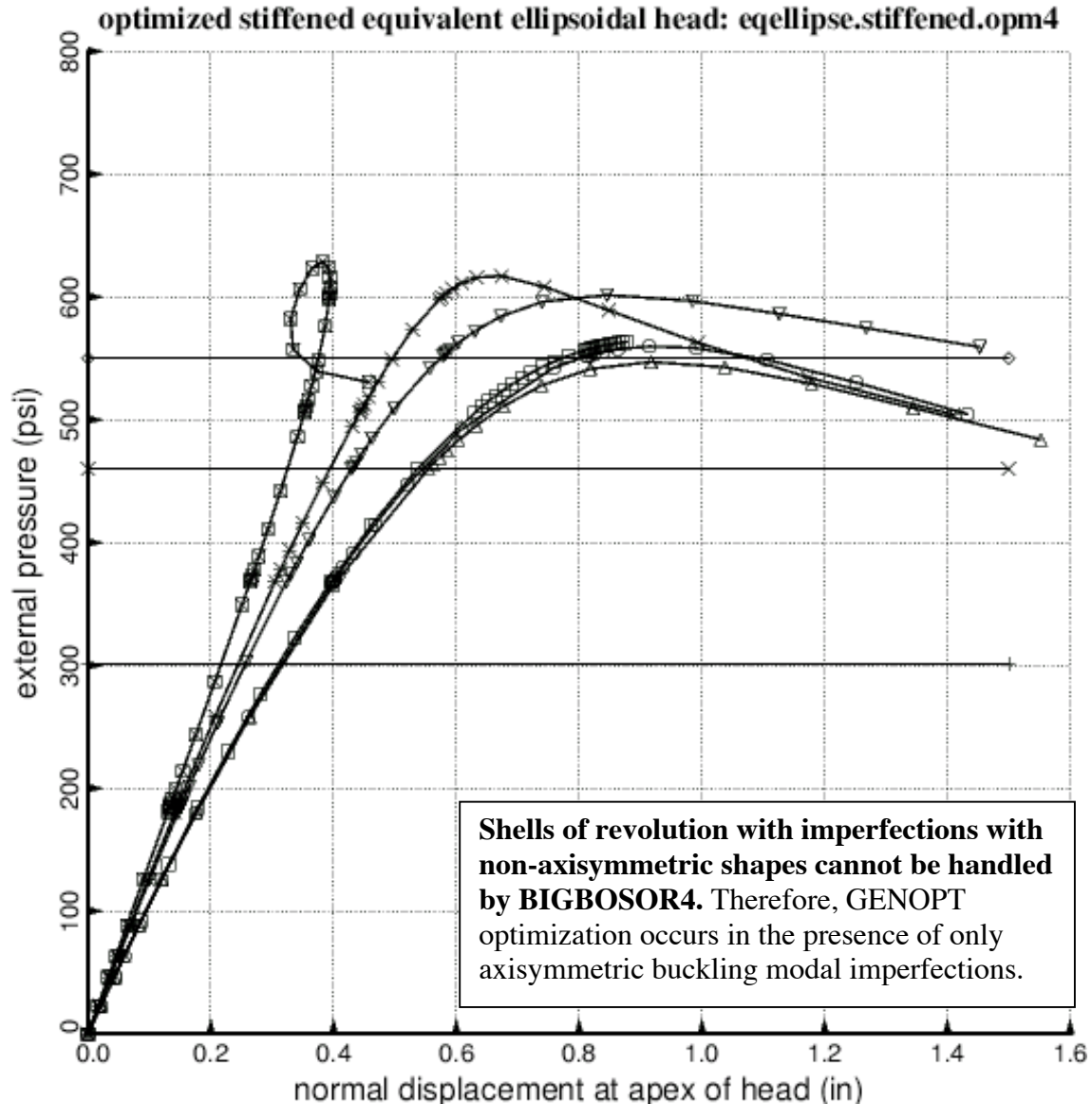


Fig. 17 Axisymmetric and non-axisymmetric collapse of optimized **imperfect isogrid-stiffened** equivalent ellipsoidal shells. The linear bifurcation buckling modal imperfection shapes corresponding to non-axisymmetric collapse (the last three traces) are displayed in Figs. 7, 8, and 10. In this case the -mode 1 (axisymmetric) buckling modal imperfection is predicted to be more harmful than the non-axisymmetric buckling modal imperfections with shapes given in Figs. 7, 8 and 10. This does not hold for the optimized unstiffened imperfect shell, as seen in Fig. 94. Compare with Fig. 254.