



Fig. 1 Load-apex-deflection curves for an optimized, unstiffened, axisymmetrically imperfect, **TRUE** ellipsoidal shell under uniform external pressure. The “mode 1” and “mode 2” imperfection shapes are the first and second axisymmetric buckling modes of the perfect shell. The curves labeled “GENOPT” are obtained from BIGBOSOR4. The STAGS prediction is from a finite element model similar to that displayed in Fig. 6. The “GENOPT” predictions of maximum load-bearing capability are much higher than that from STAGS because of “finite element lockup” in the BIGBOSOR4 model. “Lockup” is avoided by representation of the **TRUE** ellipsoidal profile by an **EQUIVALENT** ellipsoidal profile such as that shown in the next figure, in which the meridional radius of curvature is constant within any one shell segment.