Fig. 228 Obtaining the optimum design of the **unstiffened equivalent ellipsoidal shell with the thickness of the spherical apex (Shell Segment No. 1 in Fig. 2) constrained to be uniform with a lower bound of 0.6 inch ("thick apex" configuration).** The optimum design is obtained in the presence of plus and minus axisymmetric mode 1 and mode 2 imperfection shapes with amplitude, **Wimp = 0.2 inch**. The purpose of this optimization is to find an optimum design for which the axisymmetric buckling modes, mode 1 and mode 2, do not involve primarily local buckling in the immediate neighborhood of the apex of the shell, as is displayed in Figs. 74 and 75 and to a lesser degree in Figs. 145 and 146 for which t(apex)=0.4 inch. The apex is kept thick so that the maximum normal deflection in the mode 1 and mode 2 linear axisymmetric buckling modes (imperfection shapes) will occur well away from the apex of the shell. It is hoped that in this way the collapse load of the optimized shell with a **non-axisymmetric** buckling modal imperfection will exceed the design pressure, 460 psi.