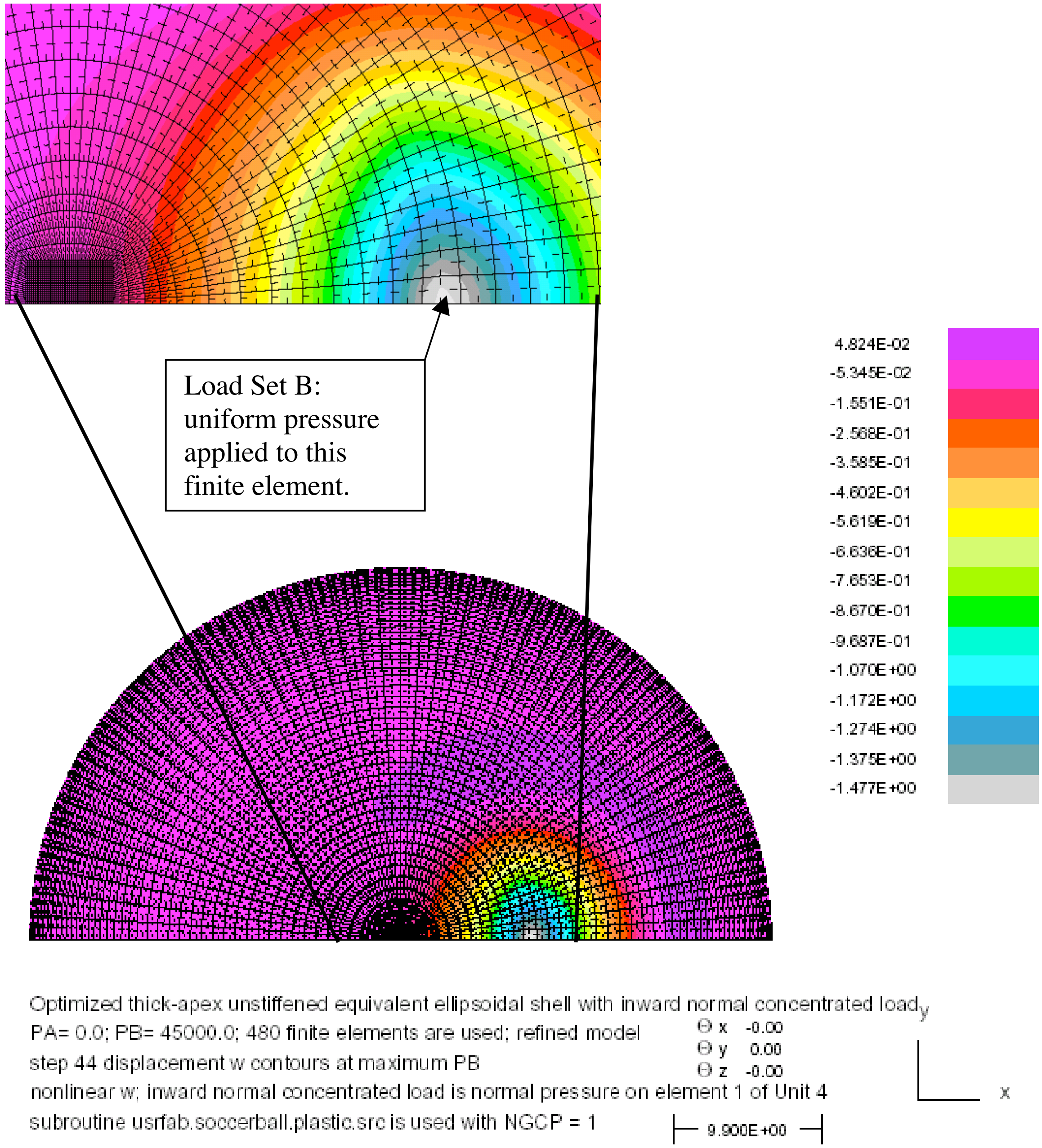

Fig. 170 Elastic-plastic analysis of the **optimized unstiffened equivalent ellipsoidal shell with thick apex, t(apex)=0.4 inch; Wimp=0.2 inch; the optimum design is listed in Table 78.** This figure is analogous to Fig. 166 and pertains to the same optimized shell. The 180-degree **"soccerball"** model displayed in the previous figure is used here. The input data for this case are similar to those listed in Table a37. Shown here is the state of the shell at the maximum load factor PB used to produce a dent in the shell (before unloading PB to produce a residual dent). Here the dent is produced by the application and removal of pressure on a **single finite element** (like a single normal, inward-directed concentrated load). Compare with Fig. 181, for which the dent is produced by the application and removal of a cos(theta) distribution of normal, inward-directed concentrated loads along a circumferential line from theta = 0 to 90 degrees.