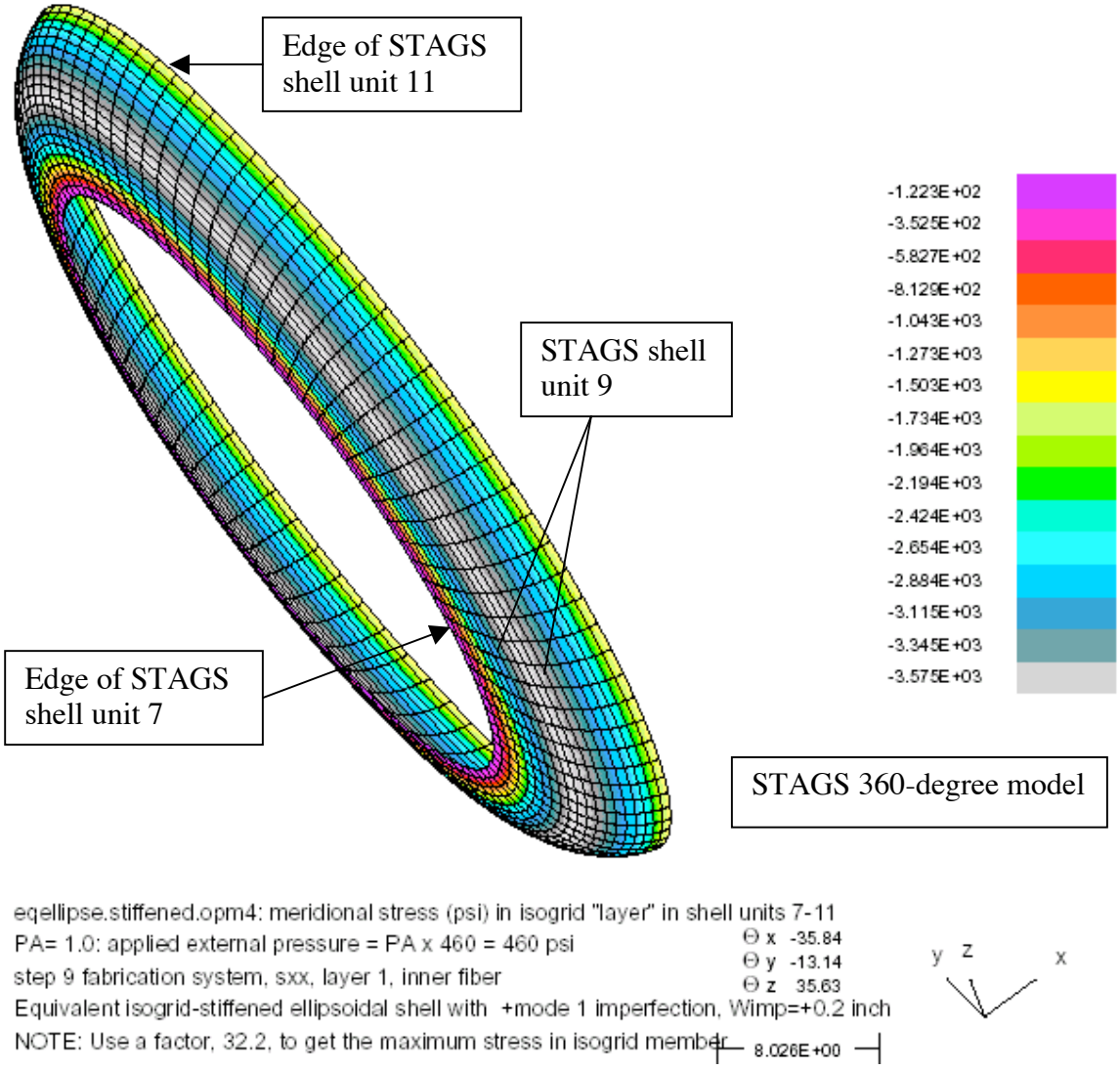

Fig. 21 STAGS prediction of **inner fiber meridional stress sxx (psi) in the isogrid "layer"** of the optimized **imperfect isogrid-stiffened** equivalent ellipsoidal shell with a **+mode 1** axisymmetric initial linear buckling modal imperfection (Figs. 6 and 11) with amplitude, Wimp = +0.2 inch and subjected to the external design pressure, p = 460 psi. The maximum meridional stress in the region spanned by shell units 7 – 11 occurs in shell unit 9. STAGS shell unit 9 (Fig. a1) is the same as BIGBOSOR4 shell segment no. 9 in Fig. 2. In this 360-degree STAGS model there are four 410 finite elements spanning the meridional region of each shell unit. (See Fig. a1 in the appendix). Compare this STAGS prediction with STFMXS listed for each GENOPT (BIGBOSOR4) shell segment in Table 42. To obtain the STAGS prediction of actual stress in a meridionally oriented isogrid member, multiply the "sxx" values listed in the key by the factor 32.2, which is the ratio of the isogrid spacing to the thickness of an isogrid member in the optimized design. NOTE: The BIGBOSOR4 prediction, listed in Table 42 for the +mode 1 imperfection, only gives the maximum absolute value of the extreme fiber stress in each shell segment, not both the maximum **inner** fiber stress and maximum **outer** fiber stress. Compare with the 10-degree "slice" model in Fig. 40.