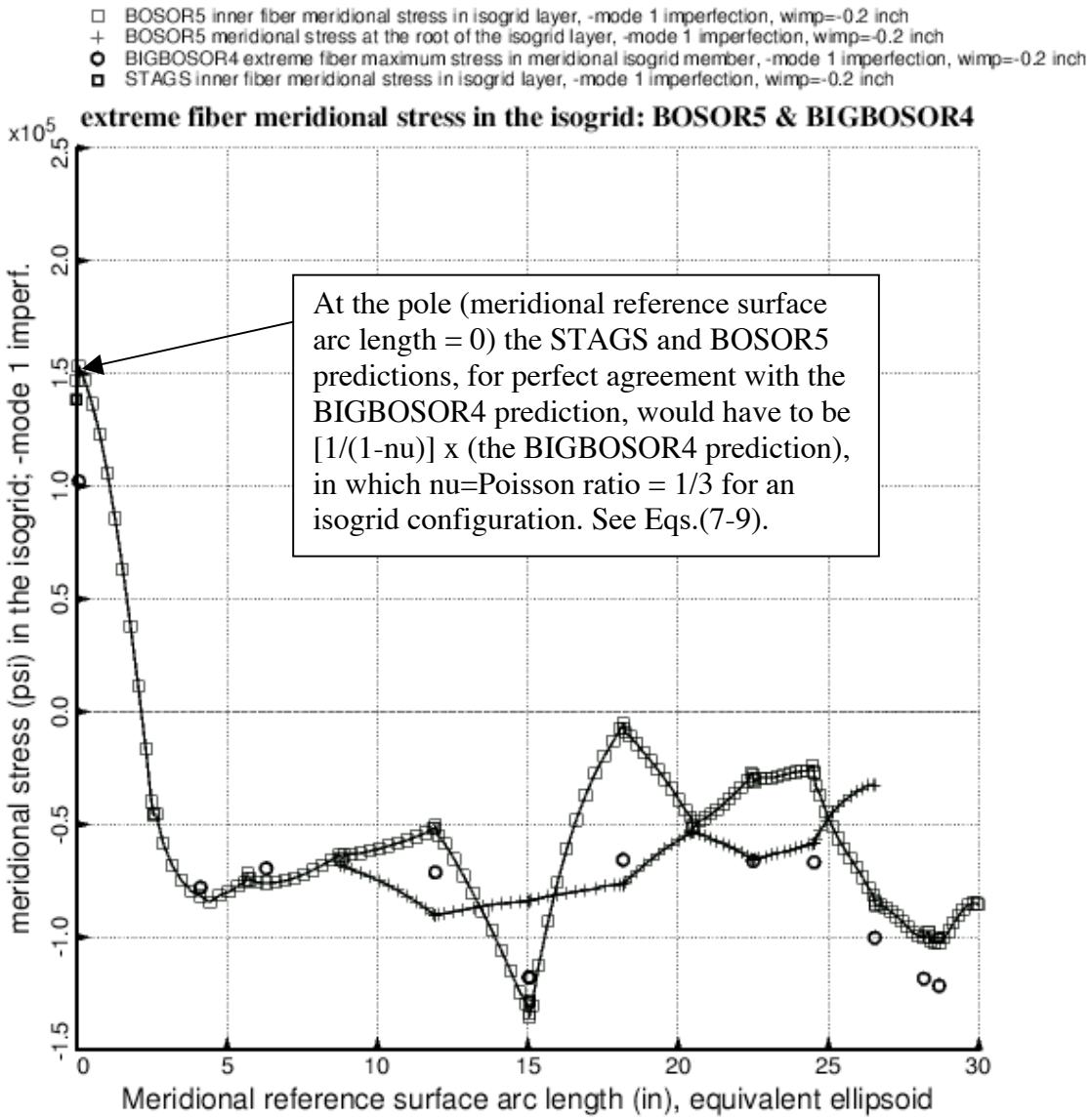

Fig. 47 Comparison of extreme fiber meridional stress distribution in the isogrid "layer" from BOSOR5 (elastic material), BIGBOSOR4, and STAGS for the optimized **imperfect isogrid-stiffened** equivalent ellipsoidal shell with a **–mode 1** imperfection with amplitude, Wimp = -0.2 inch. The applied external pressure is the design pressure, p = 460 psi. BOSOR5 and STAGS agree because in both applications the isogrid "layer" is treated as an elastic isotropic layer with smeared stiffeners and Poisson's ratio, nu = 1/3. In the BIGBOSOR4 application the same "smeared" model is used to compute the 6 x 6 constitutive matrix, C_{ij}, but the extreme fiber stress in the isogrid "layer" is calculated as if the most critical isogrid member is oriented in the meridional coordinate direction. The extreme fiber stress in that meridionally oriented member is obtained as described in Table 27 and in Eq.(8). NOTE: The BIGBOSOR4 prediction, listed in Table 44 for the –mode 1 imperfection, only gives the maximum extreme fiber stress in each shell segment, not both the maximum **inner** fiber stress and maximum **outer** fiber stress.