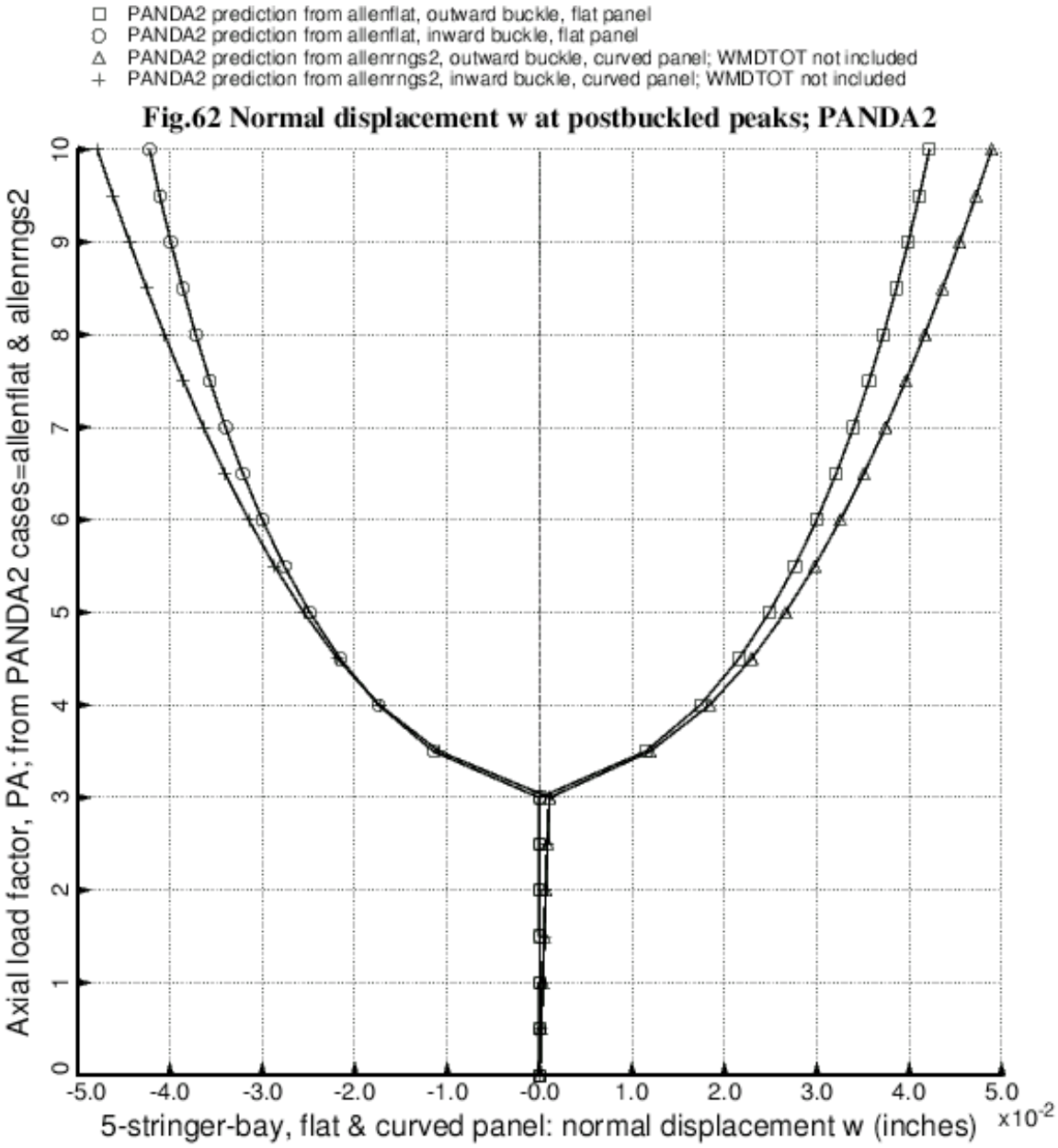

Fig. 62 PANDA2 predictions for flat and curved panels. The data from Fig. 4 for the curved panel and from Fig. 13 for the flat panel are presented here in a different format. The quantity, WMDTOT, referred to in the legends for the third and fourth traces (curved panel) is the uniform Poisson ratio radial expansion in the cylindrical shell induced by the uniform axial compression. Although PANDA2 always assumes in its local post-buckling analysis that the panel skin is flat, this figure exhibits different results for the curved and the flat panel. Why is that? The difference is a consequence of the different prebuckling states of the curved and flat panels. A small hoop compression, Ny, is generated in the panel skin in the curved panel which is not present in the flat panel. This small Ny [Ny is approximately –25 lb/in at the design load, Nx = -1000 lb/in (PA = 10.0)] results from the fact that the rings constrain the uniform Poisson ratio outward radial expansion induced by the axial compression. Ny in the panel skin is essentially zero in the flat panel.