1. Calculate the effective EI and the location of the neutral axis for a sandwich beam with a foam core of thickness 0.25 in and AS$/3501-6 facings. The top face sheet has a layup of \([0/\pm 60]_4\) and the bottom face sheet has a layup of \([(0/\pm 60)_2]_4\). The face sheets are cured and then secondarily bonded at room temperature to the core. The beam cross-section has a width of 2 in.

For problems 2 and 3, consider a AS4/3501-6 simply-supported rectangular beam, 48 plies thick, ply thickness of .0052 in and a width equal to twice its thickness; length \(L = 8\) in, with a uniformly distributed loading of \(q = 10\) lb/in.

2. For a layup of \([0_{16}/\pm 60_4]_2\), find the shear stress at the axial end of the beam and the center line of the cross-section. Also find the shear stress at the interface between the 0 and 60 plies. Compare both values with that given by the isotropic beam formula. [Note: this is the same beam considered the HW#7 Problem 1.]

3. Repeat Problem 2, but use a \([(\pm 60/0)_4]_2\) layup. [Note: this is the same beam considered in HW#7 Problem 2.]