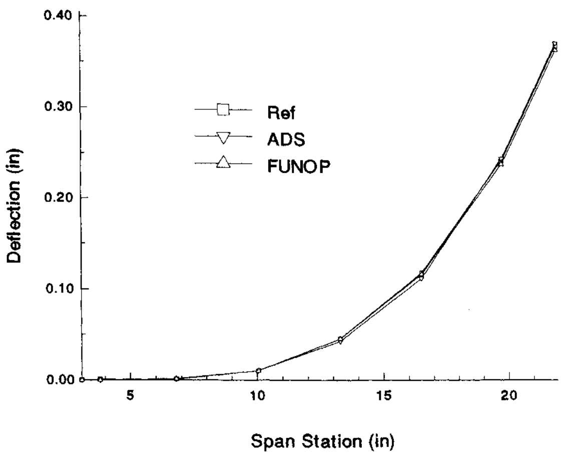


**Fig. 3 Deflections along leading edge due to unit load at point 28.**

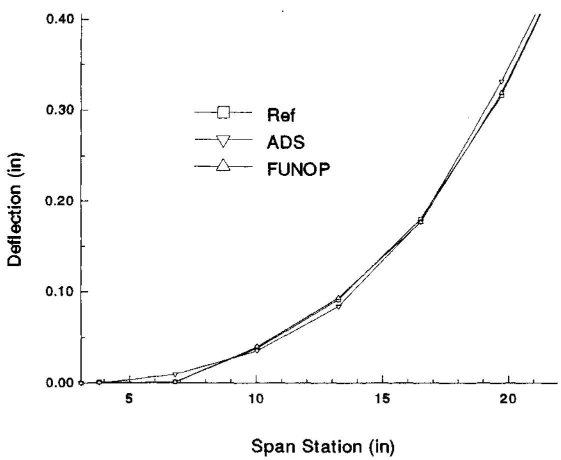


**Fig. 4 Deflections along trailing edge due to unit load at point 28.**

## Conclusions

It is difficult to determine how much deviation between actual and desired stiffness properties is allowable in aeroelasticity models. (Ideally, there is none but this is almost never the case.) The allowable deviation depends on such factors as wing geometry and the flight regime. The results presented above indicate that using structural optimization to design wind-tunnel models can result in a procedure that matches desired stiffnesses well enough to be very useful in sizing the structures of aeroelastic models.

The design procedure presented here demonstrates that optimization can be useful in designing aeroelastically scaled wind-tunnel models. The resulting structure effectively models an aeroelastically tailored composite wing with a simple aluminum beam structure. This structure should be inexpensive to manufacture compared to a composite one.

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# Errata

## Minimum Induced Drag for Wings with Spanwise Camber

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EQUATION (4) should read as follows:

$$a(\alpha) = \int_0^1 (1-\xi)^{-(1-\alpha)}[(1-\alpha)/\alpha + \xi)]^{-\alpha}\xi \, d\xi$$