Epilogue

As stated in the Preface, the intent of this text was to provide a basic understanding of opto-structural design principles using hand analyses. This is critical in a proposal or early program phase, enabling a first-order system design in short time prior to diving in to the more detailed finite element models, the latter of which will be necessary for fine tuning the performance requirements.

Even in later design phases in which finite element analyses are critical, the hand analysis basics are of equal or greater importance. For it is these basics that validate the models, and not the models that validate the basics.

While some of the analysis reported herein can be found in other publications, much more is not; at any rate, this text gathers the structural analysis that is critical to optical instruments. And although some of the first-order analyses are basic, others are more esoteric in nature and, indeed, will *not* be found elsewhere.

While finite element tools are of absolute necessity, the techniques in this text allow for the development of improved models as well as validation of models, which is essential. There is a process from which one can start with hand calculations, go to simple "stick" models, and then move to models of increasing fidelity in a "crawl, walk, run" strategy. The hand calculations fit nicely into this process.

It is hoped that the preceding chapters will mitigate the risk associated with the use of detailed modeling prior to the application of the basics of engineering analysis principles.

Perhaps someday we will look back fondly on these things.

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