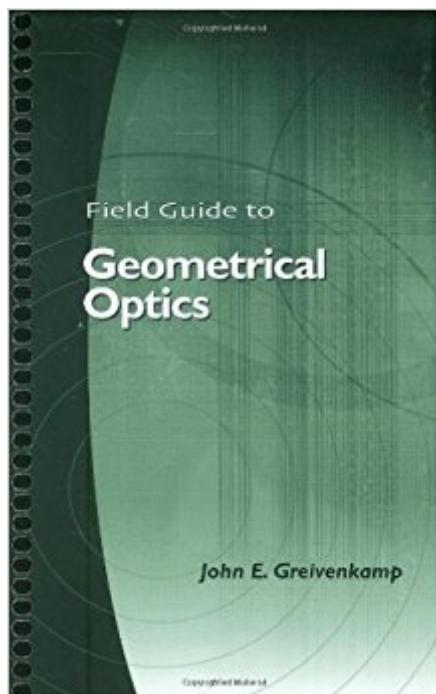


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Field Guide To Geometrical Optics (SPIE Vol. FG01)



Synopsis

This Field Guide derives from the treatment of geometrical optics that has evolved from both the undergraduate and graduate programs at the Optical Sciences Center at the University of Arizona. The development is both rigorous and complete, and it features a consistent notation and sign convention. This volume covers Gaussian imagery, paraxial optics, first-order optical system design, system examples, illumination, chromatic effects, and an introduction to aberrations. The appendices provide supplemental material on radiometry and photometry, the human eye, and several other topics.

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Customer Reviews

Bear Down!

A great pocket reference, but some topics are presented in what I find to be a non-standard way.

Very helpful little guide! Has everything that you could need! I have another book that is about 100 times as large and isn't half as useful as this one.

When I took the course this Field Guide is based on, I walked away with a binder full of hand-written notes, which I probably never looked at again. 15 years later, I keep this (and about 4 other Field Guides from the same series) within arm's reach in case I don't feel like deriving a paraxial equation

or searching for the scotopic response function or digging up some other not-quite-trivial piece of information. One nice feature is that each page is self-contained and devoted to a single topic. Another nice feature is the spiral binding, so it stays open.

This little book is an excellent optics reference book. It collects together the basic concepts and formulas of geometric optics in a clear and concise form, and also defines and explains common optical terminology (pupils, rays, FOV, NA, etc.). It reviews common optical systems like telescopes and microscopes, and has sections on aberrations and chromatic effects. If you do optics, you want to have a copy of this on your desk. The book is particularly useful for those of us who learned basic optics from a book like Hecht's Optics, but now need to actually put what we learned into practice. Beware, though: the sign conventions used may be unfamiliar and may take some getting used to.

I have extensively used this text as both an optics student and while interning in the industry. Every optical engineer and student should have this book handy. Well organized and comprehensive, it packs a surprising amount of information and equations for the small size. It is a bit flimsy but the spiral bound does help it stay open, as someone else mentioned.

This is a very useful summary of the main results in geometrical optics in a compact and reasonably-priced little book. There are no proofs given, but the main results are clear and I will recommend my students to use it for revision and summary of the course. It is also very useful to a lecturer preparing a course on geometrical optics since the topics are laid out, one to a page.

Dr. Greivenkamp has published an excellent reference guide for anyone interested in optical systems. It is an invaluable resource for those of us taking his OPS 201-2 classes at the University of Arizona. He presents the topics straight forward without all the mumbo/jumbo found in many other geometrical optics books. It's a very handy and quick reference guide that includes most if not all of the optical instruments.

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