

BOOK REVIEW

Richard P. Binzel, Editor

A Practical Guide to Lightcurve Photometry and Analysis by Brian D. Warner. Bdw Publishing, 2003. ISBN 0-9743849-0-9, paperback, 266 pages. (Price \$30, available at www.MinorPlanetObserver.com)

Oh how long we have waited for a book like this! In the distant past, amateurs had to crack their way into the field of lightcurve photometry by tackling papers such as Hardie (1959) and by building their own photometers following the classic book by Frank Bradshaw Wood (1963). Several follow-on books that carried the field forward were published by Willmann-Bell, Inc., including Genet (1983) and Henden and Kaitchuck (1990). The affordability, proliferation, and enabling capabilities of CCD cameras at “amateur” observatories has opened a huge potential for new opportunities for new observers to make valuable lightcurve photometry measurements. Yet a void has existed in detailing how to get started and carry forward a program of lightcurve photometry driven by scientific curiosity.

Brian D. Warner’s *Practical Guide* now fills that void. It is written from the perspective of one who still remembers what it was like to start as a beginner. Thus the writing comes across in a warm and welcoming style. Much advice comes from Warner’s own experience, building upon works like Henden and Kaitchuck (1990), and it is conveyed as being told from one friend to another. It is hard to imagine any new person who picks up this book with genuine interest being able to resist taking the author’s extended hand and gently being guided forward. Warner first coaxes his readers to take the plunge by tantalizing them with the science that comes out of the observations. Those who try CCD lightcurve photometry because of the technical challenge will do it once or twice and then move to the next challenge elsewhere. This book’s approach is to capture you for the long term by getting you hooked on the joy and satisfaction of learning and contributing new scientific knowledge about our Universe. It is this common passion for new knowledge that erases barriers between “amateur” and professional astronomers. There are no barriers here.

About 40 pages of the book are devoted to communicating the fundamentals of photometry, and this is accomplished with the clear and concise skill of a patient and expert teacher. Many references here (and in the book’s Bibliography) tell you where to go for more depth than this overview allows. Technical terms are given in *italics* when first introduced and a nice (although limited in length) Glossary is given at the end for additional help. Throughout the book, text blocks are offset within boxes displaying the subheading “Tying It Together...” to try to keep the big picture in mind while focusing on the details. Because computers and software are so intertwined with CCD data collection and reduction, the bulk of this book provides a guide to how to use these tools. While Warner himself has developed a wide variety of excellent and popular software tools, he does not exclusively tout his own packages. Most importantly, the author tries to convey an understanding of what the various reduction steps are *intended* to accomplish. Numerous correct and fully

warranted cautionary statements are made not to place blind trust in the output of these packages, but to give careful human thought as to whether the results being spit out make sense. The copious examples serve to help a beginner to learn rapidly many of the most common pitfalls. Ultimately it is the experience that the new observer gains with her/his own data that brings about confidence and expertise.

New observers who are ready to start their own programs will find advice on how to get off the ground and choose targets to begin working on. Recognizing that the higher purpose is to communicate one’s results, one of the final sections of the book describes the task and venues for publication, including the *Minor Planet Bulletin*. Many details and technical examples are saved for the Appendices, making the main body of the text smoothly flowing and readable. Finally the inclusion of standard star fields, reprinted with permission, puts some enormously useful reference material into a single accessible place. The quality and clarity of the printing of the standard star charts enables excellent photocopies of these pages -- for personal use and handling ease at the telescope or computer screen.

Brian D. Warner’s *Practical Guide* is an instant classic and required reading for anyone learning the ropes of CCD photometry and its application to the challenge of lightcurve observations of both asteroids and variable stars. More than any other volume in the past decade, this book will spark new interest and new observers to the field of lightcurve studies. Thank you Brian for illuminating the way. We welcome all who follow.

References

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