

Orion Autoguider

This guide provides useful insight for first-time telescope buyers as well as experienced amateurs. It examines the advantages and disadvantages of different types of telescopes, mountings, and accessories-ranging from refractors and reflectors to computer controlled drives and CCD cameras. The author also covers observation techniques, photographic equipment, astronomical software, as well as equipment care and maintenance. Written for amateur astronomers just getting into this area of the subject, this is the perfect companion for first-time spectroscopists, with no heavy mathematics and with information on how to buy and use an entry-level spectroscopist costing around \$150.

La 4e édition de cet ouvrage s'adresse, comme les précédentes, au photographe d'astronomie passionné débutant ou confirmé qu'il soit indépendant ou associé à la vie d'un club amateur. Les logiciels de traitement d'images sélectionnés dans l'ouvrage sont gratuits et les images intégralement réalisées par des amateurs. Cette nouvelle édition fera le point sur : - les nouveautés en matière de matériel photo, caméras vidéo ou CCD - les nouvelles techniques de prises de vue : lucky imaging (technique de prise de vue avec des caméras ultra sensibles conjuguée à des temps de pose très courts), tuto détaillée sur l'autoguidage... - mode d'emploi de 2 nouveaux logiciels de traitement d'images gratuits (Autostakkert, Siril) Sommaire : 1. Les instruments - 2. Les capteurs numériques - 3. Photographier le ciel au moyen d'un appareil photo - 4. Photographier le ciel au moyen d'une caméra vidéo - 5. Photographier le ciel au moyen d'une caméra CCD - 6. Identifier et corriger les défauts d'un cliché - 7. Le traitement des images - Annexes avec les sites internet et logiciels

A guide to viewing stars, the moon, planets, meteors, comets, and aurora through binoculars. Features a foreword by renowned astronomer and writer David Levy. Includes a complete guide to current binocular brands and models and explains what to look for in each season.

The Astrophotography Manual

Stargazing Under Suburban Skies

DarkFire Warrior

Astrofotografie

A User's Guide to the Meade LXD55 and LXD75 Telescopes

Michael Swanson's online discussions with literally thousands of NexStar owners made it clear that there was a desperate need for a book such as this – one that provides a complete, detailed guide to buying, using and maintaining NexStar telescopes. Although this book is highly comprehensive, it is suitable for beginners – there is a chapter on "Astronomy Basics" – and experts alike. Celestron's NexStar telescopes were introduced in 1999, beginning with their first computer controlled "go to" model, a 5-inch. More models appeared in quick

succession, and Celestron's new range made it one of the two dominant manufacturers of affordable "go to" telescopes.

The ShortTube 80 Telescope A User's Guide Springer Nature

Small telescopes, whether simple beginners' telescopes or refined computer-controlled instruments, are gaining popularity fast as technology improves and public interest increases. In this book the author has brought together the experience of small telescope users to provide an insightful look into just what is possible. It is written for newcomers to astronomy and experts. Topics covered include: refractors, reflectors, advanced catadioptric telescopes, and a simple radio telescope. Almost everyone with an interest in practical astronomy will want this book.

In v.1-8 the final number consists of the Commencement annual.

Discover the Stars

Up to 5-inch, 125mm

The Art of Astrophotography

Imaging with SGP, PHD2, and Related Software

The Deep-sky Imaging Primer

The Michigan Alumnus

Star charts, step-by-step projects, photos, and more: "The Total Skywatcher's Manual is a fun book, but more importantly, it's a useful book." —Sky & Telescope With fully illustrated star charts, gorgeous astrophotography, and step-by-step project instruction, this is the only guide you need to navigate the night (and day) sky. Learn about the phases of the moon, how to conduct your own deep-sky observations, how the universe is expanding, our search for life on other planets, meteors vs. meteorites, sunspots and solar flares, best eclipse-viewing techniques—everything you need to know to appreciate the wonder of our universe. The Total Skywatcher's Manual will help stargazers, comet-spotters, and planet-seekers: Choose the best telescope Identify constellations and objects in the night sky Search for extraterrestrial phenomena Plan star parties Capture beautiful space imagery and much more For well over a century, the Astronomical Society of the Pacific has provided resources, tools, and information to astronomy enthusiasts, including amateur astronomers, families, and science educators. Now they draw on their wide-ranging expertise to guide you through the skies. This book is for anyone who owns, or is thinking of owning, a Vixen Star Book Ten telescope mount or its predecessor. A revolution in amateur astronomy has occurred in the past decade with the wide availability of high tech, computer-driven, Go-To telescopes. Vixen Optics is leading the way by offering the Star Book Ten system, with its unique star map graphics software. The Star Book Ten is the latest version of computer telescope control using star map graphics as a user interface, first introduced in the original Star Book first offered in 2003. The increasingly complicated nature of this software means that learning to optimize this program is not straightforward, and yet the resulting views when all features are correctly

deployed can be phenomenal. After a short history of computerized Go-To telescopes for the consumer amateur astronomer market, Chen offers a treasury of technical information. His advice, tips, and solutions aid the user in getting the most out of the Star Book Ten system in observing sessions.

Anyone interested in astronomy battles with the conveniences of modern living - street lights, advertising and security lighting, tall buildings, and even the occasional tree. More than 85% of the population now lives in crowded and light-polluted towns and cities. This book is for those who live in or near towns and cities and own relatively modest equipment, although observers with larger instruments will still find many of the target objects of interest. The book encourages the use of star-hopping techniques to find objects in the night sky. Included is a list of 100 popular deep sky objects, ranked according to how difficult they are to find. Each object is described and has companion star-hopping charts, images and sometimes sketches. As a result, readers can gain a sense of their own backyard view from Earth. There is also a top 30 list of lunar objects, a section on planetary observing, annotated lists of popular astronomy apps and software, and tips on how to make the most of your location. Stargazing Under Suburban Skies: A Star-Hopper's Guide is the essential companion to what can be seen and how, regardless of the obstacles.

Amateur astronomy has changed beyond recognition in less than two decades. The reason is, of course, technology. Affordable high-quality telescopes, computer-controlled 'go to' mountings, autoguiders, CCD cameras, video, and (as always) computers and the Internet, are just a few of the advances that have revolutionized astronomy for the twenty-first century. Martin Mobberley first looks at the basics before going into an in-depth study of what's available commercially. He then moves on to the revolutionary possibilities that are open to amateurs, from imaging, through spectroscopy and photometry, to patrolling for near-earth objects - the search for comets and asteroids that may come close to, or even hit, the earth. The New Amateur Astronomer is a road map of the new astronomy, equally suitable for newcomers who want an introduction, or old hands who need to keep abreast of innovations. From the reviews: "This is one of several dozen books in Patrick Moore's "Practical Astronomy" series. Amid this large family, Mobberley finds his niche: the beginning high-tech amateur. The book's first half discusses equipment: computer-driven telescopes, CCD cameras, imaging processing software, etc. This market is changing every bit as rapidly as the computer world, so these details will be current for only a year or two. The rest of the book offers an overview of scientific projects that serious amateurs are carrying out these days. Throughout, basic formulas and technical terms are provided as needed, without formal derivations. An appendix with useful references and Web sites is also included. Readers will need more than this book if they are considering a plunge into high-tech amateur astronomy, but it certainly will whet their appetites. Mobberley's most valuable advice will save the book's

owner many times its cover price: buy a quality telescope from a reputable dealer and install it in a simple shelter so it can be used with as little set-up time as possible. A poor purchase choice and the hassle of setting up are why most fancy telescopes gather dust in their owners' dens. Summing Up: Highly recommended. General readers; lower- and upper-division undergraduates." (T. D. Oswalt, CHOICE, March 2005)

The Products, Places, and People Directory

Appareils photo - Caméras vidéo et CCD - Prise de vue et traitement d'images

Choosing and Using a New CAT

Imaging with Your DSLR or Webcam

Astrophotography with Affordable Equipment and Software

The Deep-Sky Observer's Year

Although space travel has been a topic of great interest to many, few have an understanding of the ultimate limits that will determine its possibilities. One thing is certain. No matter the advancement in technology, whether earthling or extraterrestrial, energy requirements will determine ultimate success in space travel. True, technology will play a part. Among other things, it will determine the kinds of fuels that will be useable in deep space travel and that will, in the end, determine its successes. Are we ultimately going to be able to travel outside our own solar system to reach other worlds? Have extraterrestrials really visited us in the past? These are the questions addressed in this book. It is written for the layman, and does not require a technical background.

This book details an approach to the problem of getting high-quality astronomical images under light-polluted conditions. The book is for amateur astronomers interested in CCD imaging, especially those who have to work under suburban conditions. It outlines the materials and equipment used for high-quality imaging. The many wonderful images produced allow the reader to see the product of - initially - a fellow beginner's efforts. Respectable images are attainable with modest equipment. This book outlines a complete and thoroughly tested working program for every beginner to achieve high-quality digital imaging. Digital SLR cameras have made it easier than ever before to photograph the night sky. Whether you're a beginner, nature photographer, or serious astronomer, this is the definitive handbook to capturing the heavens. Starting with simple projects for beginners such as cameras on tripods, it then moves onto more advanced projects including telescope photography and methods of astronomical research. With 80% revised and updated material, this new edition covers nightscapes, eclipses, using cameras with sky trackers and telescopes, and tools for identifying celestial objects and investigating them

scientifically. Image processing is discussed in detail, with worked examples from three popular software packages - Nebulosity, Maxlm DL, and PixInsight. Rather than taking a recipe-book approach, Covington explains how your equipment works as well as offering advice on many practical considerations, such as choice of set-up and the testing of lenses, making this a comprehensive guide for anyone involved in astrophotography.

Here are clear explanations of how to make superb astronomical deep-sky images using only a DSLR or webcam and an astronomical telescope - no expensive dedicated CCD cameras needed! The book is written for amateur astronomers interested in budget astrophotography - the deep sky, not just the Moon and planets - and for those who want to improve their imaging skills using DSLR and webcams. It is even possible to use existing (non-specialist astronomical) equipment for scientific applications such as high resolution planetary and lunar photography, astrometry, photometry, and spectroscopy. The introduction of the CCD revolutionized astrophotography. The availability of this technology to the amateur astronomy community has allowed advanced science and imaging techniques to become available to almost anyone willing to take the time to learn a few, simple techniques. Specialized cooled-chip CCD imagers are capable of superb results in the right hands - but they are all very expensive. If budget is important, the reader is advised on using a standard camera instead. Jensen provides techniques useful in acquiring beautiful high-quality images and high level scientific data in one accessible and easy-to-read book. It introduces techniques that will allow the reader to use more economical DSLR cameras - that are of course also used for day-to-day photography - to produce images and data of high quality, without a large cash investment.

Comets and How to Observe Them

With 50 Star Charts Covering the Entire Sky

Hunting and Imaging Comets

Getting the Most from Your Schmidt Cassegrain or Any
Catadioptric Telescope

Beginners Guide to Night Photography

Choosing and Using a Refracting Telescope

The Astrophotography Manual, Second Edition is for photographers ready to move beyond standard SLR cameras and editing software to create beautiful images of nebulas, galaxies, clusters, and the stars. Beginning with a brief astronomy primer, this book takes readers through the full astrophotography process, from choosing and using equipment to image capture, calibration, and processing. This combination of technical background and hands-on approach brings the science down to earth, with practical methods to ensure success. This second edition now

includes: Over 170 pages of new content within 22 new chapters, with 600 full-color illustrations. Covers a wide range of hardware, including mobile devices, remote control and new technologies. Further insights into leading software, including automation, Sequence Generator Pro and PixInsight Ground-breaking practical chapters on hardware and software as well as alternative astrophotography pursuits E. W. Farnsworth's DarkFire Warrior follows the pattern of the visionary science fiction tales and poems he established in DarkFire and DarkFire Continuum. Humans and intelligent machines cannot coexist peacefully on Earth, so a brave few of each kind escape. The epic Voyage of the Spaceship Arcturus is the enfolding structure for Farnsworth's creations. As Earth is destroyed by inevitable nuclear war, Arcturus slips through the evil space empire to discover that the edge of the universe is the gateway to a new, pristine realm. Meanwhile, the voyagers evolve into symbiotic organisms worthy of inhabiting the New Eden waiting for them at the end of their trek. A surprise reunion of The Avatar and The Dweeb rounds out the spaceship's journey, which starts where it began, but with everything changed. In this third volume, Farnsworth explores the logical backgrounds of the major characters and the execution of their plan for escaping Earth.

Provides entries for space-related organizations

Überlassen Sie es nicht länger nur den großen Observatorien, gute Fotos von Sternen aufzunehmen. Mit der heutigen Fototechnik und diesem Buch gelangen auch Amateurastronomen perfekte Fotos von Himmelsobjekten. Das reich bebilderte Buch wurde für die Neuauflage aktualisiert und mit vielen neuen Fotos versehen. Der weltweit renommierte Astrofotograf Thierry Legault vermittelt die Kunst und Techniken der Astrofotografie - von der Nachtaufnahme von Sternbildern mit einer einfachen Kamera auf dem Stativ über Sternspuren, Finsternisse, künstliche Satelliten und Polarlichter bis zur noch anspruchsvolleren Astrofotografie mit Spezialausrüstung für Mond-, Planeten-, Sonnen- und Deep-Sky-Bilder. Legault verrät, welche Ausrüstung sich wofür empfiehlt, und führt Sie detailliert durch die Aufnahme- und Verarbeitungstechniken, mit denen Sie spektakuläre Ergebnisse erzielen können. "Astrofotografie" bietet eine umfassende Behandlung dieses Themas. Dieses großformatige, reich illustrierte Buch eignet sich für alle Astronomiebegeisterten - für Neulinge ebenso wie für alte Hasen. Lernen Sie, wie Sie ... die nützlichste Ausrüstung auswählen: Kameras, Zubehörteile und Nachführteleskope. Kamera und Teleskop für optimale Ergebnisse einstellen. eine Kamera an Ihrem Teleskop anbringen und für superscharfe Fotos fokussieren. die äquatoriale Montierung nach dem Polarstern ausrichten und die Nachführung verbessern, damit Sternaufnahmen exakt gelingen. Zeitrafferaufnahmen vom Himmel machen. die Aufnahmeparameter berechnen: Brennweite, Öffnungsverhältnis, Bildwinkel, Belichtungszeit etc. mehrere Aufnahmen kombinieren, um schwach leuchtende Galaxien, Details von Nebeln, Planetenstrukturen und kleine Mondkrater zu enthüllen. Kontrast, Helligkeit, Gradationskurven und Farben einstellen. Ihre Bilder nachbearbeiten, um Bildfehler wie Vignettierungen, Staubflecken, Hot Pixel, ungleichmäßige Hintergründe und Rauschen zu entfernen. "If you're looking for detailed, step-by-step instructions of how to start or improve your photography of astronomical objects, look no further." Nancy Atkinson, Universe Today "This is the best book on astrophotography I have

read. It is detailed, well researched and has a huge amount of useful information in it. ... A book to treasure." Nick D, Arkansas Outdoor Photographers Club

Telescope Observer's Guide

Orion

A Guide to Observing Deep-Sky Objects Throughout the Year

The Total Skywatcher's Manual

Space Travel - the Reality

Explore the Sky: 298 Tips, Tricks, & Skills

In the last few years, digital SLR cameras have taken the astrophotography world by storm. It is now easier to photograph the stars than ever before! They are compact and portable, flexible to adapt with different lenses and for telescope use, and above all DSLR cameras are easy and enjoyable to use. In this concise guide, experienced astrophotography expert Michael Covington outlines the simple, enduring basics that will enable you to get started, and help you get the most from your equipment. He covers a wide selection of equipment, simple and advanced projects, technical considerations and image processing techniques. Unlike other astrophotography books, this one focuses specifically on DSLR cameras, not astronomical CCDs, non-DSLR digital cameras, or film. This guide is ideal for astrophotographers who wish to develop their skills using DSLR cameras and as a friendly introduction to amateur astronomers or photographers curious about photographing the night sky.

The Orion Telescope Observer's Guide highlights over sixty interesting objects for budding amateur astronomers to find and observe in a small telescope. We'll help you explore objects such as star clusters, multiple stars, nebulae, and even the Andromeda Galaxy! Helpful maps of each target object are included, as are examples of what the object will look like in a typical finderscope, and depictions of the view you'll see in a telescope eyepiece. The author also includes a realistic description of every object based upon his own notes written over years of observations. Written with the beginner in mind, the Orion Telescope Observer's Guide also includes vital tips and tricks to help you get the most out of the rewarding hobby of amateur astronomy. If you're new to stargazing with a small telescope, this book is your introduction to the stars!

Welcome to the first comprehensive guide to one of the world's most popular telescopes: the ShortTube 80 refractor. With its ultra-portability, versatility, and relatively low cost, this telescope continues to delight generations of stargazers. Starting in the field under a dark sky, the author walks the reader through a typical evening of stargazing, where the ShortTube 80 brings many astronomical treasures into focus. From there, he provides an in-depth account of the optical properties of the ShortTube 80 refractor and the accessories and mounting arrangements that maximize its potential both as a spotting 'scope by day and an astronomical 'scope by night. The main text discusses how the versatile ShortTube 80 can be used to study deep sky objects, the Sun, the Moon, bright planets and even high-resolution projects, where the instrument's features can be optimized for the observation of tight double and multiple stars. It explores how the ShortTube 80 can image targets using camera phones, DSLRs and dedicated astronomical CCD imagers. Packed with practical advice gained from years of firsthand stargazing experience, this book demonstrates exactly why ShortTube 80

has remained a firm favorite among amateur astronomers for over three decades, and why it is likely to remain popular for many years to come.

*Do you struggle to take great photos of fireworks or the stars and night sky? Written by Multi Award Winning Australian Photographer, Trainer and Best Selling Author Steve Rutherford. This book, The Beginners Guide to Night Photography is one of the best selling "Beginners Guide to Photography" book series and is an easy to understand practical guide to night photography. In the latest book "The Beginners Guide to Night Photography" another book in the best selling "Beginners Guide to Photography" book series. You'll discover the secrets the pro's use to get amazing photos of star trails, planets and even deep space! Here is what is covered in this complete beginners guide to Photographing the Night Sky by Award Winning Professional Photographer and Best Selling Author Steve Rutherford. The SECRET TECHNIQUES pro photographers use every day FREE Access to BONUS VIDEO TRAINING to learn photo editing like a pro Beginners buying guide to telescopes and how to use them with cameras. Dozens of astrophotography techniques, tips and tricks. Equipment needed to capture star field planetary and celestial objects. Specialised telescopic equipment studies. All the resources to find processing software for astrophotography. Over 200 pages of hands on easy to follow instruction The equipment that takes your shots from boring to amazing How to save time and money using the right photography tools How to turn your photography passion and creativity into a BIG \$ income You will discover the many secrets that I, and other pro photographers, use to capture stunning award winning photos, with sharper focus, more color, more detail and less time wasting, trying every setting to "hope for a good shot". Set out into an easy to follow, page by page guide, join me indoors, outdoors and at night on all aspects of photography and how to take control of your DSLR Camera, and master striking photos, with every shoot. The Beginners Guide to Night Photography, is clearly written, easy-to-understand guide will be an indispensable resource whenever you pick up the camera for your next night photography shoot. You'll also get FREE access to Video Training at - <https://www.photocheats.com>. Also FREE Access to One Shot Magazine at - <http://www.oneshotmagazine.com>. It is packed full of tips and tricks to improve your photography. Just follow the links to both Photo Cheats and One Shot Magazine in the book or Like us over at <https://www.facebook.com/OneShotMagazine> Please also come back and leave a review we would love to know what you thought of this book. Don't forget to check out the other books in the "Beginners Guide to Photography" book series. Written with all levels in mind, there is instruction for beginners, as well as many advanced techniques and tips. I have also included "live website links" throughout, as well as easy to find "quick tip" sections. The "Beginners Guide to Photography" book series breaks techniques down into specific categories so you can perfect these techniques. Please see the other books in the series for more in depth tutorials on a large range of photography styles. Please also come back and leave a review we would love to know what you thought of this book. Don't forget to check out the other books in the "The Beginners Guide to Photography" best selling photography book series. ***** 5 STAR REVIEWS for this book series so far ***** "Explanatory, easy descriptions involved material" "Loved it has helped me in numerous ways. Have used it as a reference constantly. One of my photos has gone viral since using the hints and tips in the book. Small adjustments make huge differences." - Mike*

Roche. "Has absolutely everything" "Do not miss out on this book. As the title says it has absolutely everything and I particularly like the boxes with advice to shoot particular subjects. It doesn't matter whether you are just starting out or experienced with a camera, it has something for everyone. Highly recommended!" - Paul B "Well worth the money" "Great book that starts from the very basics, explains everything to do with modern cameras, their use, settings and techniques under different settings and circumstances." - Qball "A great read" "Getting back into photography after a 6 yr break - born and raised on a film SLR, this book helped me remember things and to better adapt to a digital SLR - whether you're novice or experienced, you will get a lot out of this book...." - Brian I love this book and hope to capture few good images as a result of this." - Jatinkumar.

A Monthly Guide for CCD Imaging with Amateur Telescopes

The 100 Best Astrophotography Targets

Astronomy Now

Using Short Exposures with Light Mounts

Budget Astrophotography

Astronomy with Small Telescopes

This book is based around the author's beautiful and sometimes awe-inspiring color images and mosaics of deep-sky objects. The book describes how similar "Hubble class" images can be created by amateur astronomers in their back garden using commercially available telescopes and CCD cameras. Subsequent processing and image enhancement in the "electronic darkroom" is covered in detail as well. A range of telescopes and equipment is considered, from the author's 11-inch with Hyperstar camera, down to more affordable instruments. Appendices provide links to free software – not available from a single source – and are themselves an invaluable resource.

Astronomy Hacks begins the space exploration by getting you set up with the right equipment for observing and admiring the stars in an urban setting. Along for the trip are first rate tips for making most of observations. The hacks show you how to: Dark-Adapt Your Notebook Computer. Choose the Best Binocular. Clean Your Eyepieces and Lenses Safely. Upgrade Your Optical Finder. Photograph the Stars with Basic Equipment.

For many astronomers, the holy grail of observation is to discover a comet, not least because comets always bear the name of their discoverer! Hunting and Imaging Comets was written for comet hunters and digital imagers who want to discover, rediscover, monitor, and make pictures of comets using astronomical CCD cameras and DSLRs. The old days of the purely visual comet hunter are pretty much over, but this is not to say that amateurs have lost interest in finding comets. The book also covers the discovery of comet fragments in the SOHO image data, CCD monitoring of older comets prone to violent outbursts, the imaging of new NEOs (Near Earth Objects) that have quite often been revealed as comets - not asteroids - by amateur astronomers, and the finding of recent comets impacting Jupiter. Can you remember being impressed by a clear starry sky? Look at the Milky Way through binoculars and it will reveal its many hundreds of thousands of stars, double stars, stellar clusters, and nebulae. If you are a new observer, it is not that easy to find your way in this swarm of stars, but this atlas tries to make it as easy as possible. So now it is not just experienced amateurs that can enjoy looking at the heavens. Two additional observing aids are recommended. The first is a planisphere, where one can dial in the time and day in order to see which constellations are visible and where they are in the sky. The second is an astronomical yearbook. It lists the current positions of the planets and all important phenomena. So, let us begin our journey around the night sky, and see what the universe

can reveal to us! Facing page, top: The constellation Cygnus (Swan) in the midst of the northern Milky Way. The photograph gives an impression of the uncountable stars in our Milky Way. This becomes more conspicuous when you sweep through Cygnus with binoculars. Under a very dark sky, one can try to find the North America Nebula, Pelican Nebula, and Veil Nebula (see p. 47). These are difficult nebulae and are only barely visible on this photograph as well.

How to Use the Star Book TEN and the Original Star Book

The NexStar User ' s Guide

Using Sequence Generator Pro and Friends

A User's Guide

A Practical and Scientific Approach to Deep Sky Imaging

The ShortTube 80 Telescope

The book that taught thousands of people about astrophotography has been completely revised and updated in this second edition. It covers everything you need to know to capture stunning images of deep-sky objects with a DSLR or CCD camera: The fundamental concepts of imaging and their impact on the final image How to pick a telescope and camera How to get set up and take the images Where and when to find the best objects in the night sky How to process images using Adobe Photoshop(R) and PixInsight(R) Start-to-finish examples of image processing Full-color with over 300 illustrations.

In *The Art of Astrophotography*, astronomer and Popular Astronomy columnist Ian Morison provides the essential foundations of how to produce beautiful astronomical images. Every type of astroimaging is covered, from images of the Moon and planets, to the constellations, star clusters and nebulae within our Milky Way Galaxy and the faint light of distant galaxies. He achieves this through a series of worked examples and short project walk-throughs, detailing the equipment needed – starting with just a DSLR (digital single lens reflex) camera and tripod, and increasing in complexity as the book progresses - followed by the way to best capture the images and then how, step by step, these may be processed and enhanced to provide results that can rival those seen in astronomical magazines and books. Whether you are just getting into astrophotography or are already deeply involved, Morison's advice will help you capture and create enticing astronomical images.

Comets have inspired wonder, excitement and even fear ever since they were first observed. But they are important members of the solar system, that contain material from early in the life of the system, held in deep-freeze. This makes them key in our understanding of the formation and evolution of many Solar System bodies. Recent ground- and space-based observations have changed much in our understanding of comets. *Comets, and How to Observe Them* gives a summary of our current knowledge and describes how amateur astronomers can contribute to the body of scientific knowledge of comets. This book contains many practical examples of how to construct comet light-curves, measure how fast a comet ' s coma expands, and determine the rotation period of the nucleus. All these examples are illustrated with drawings and photographs. Because of their unpredictable nature comets are always interesting and sometime spectacular objects to observe and image. The second part of the book therefore takes the reader through the key observing techniques that can be used with commercially available modern observing equipment, from basic observations to more scientific measurements.

A guide to constellations, stars, and other celestial objects reveals the mythology surrounding the star groups and the star movement through the sky

Making Beautiful Deep-Sky Images

Binocular Stargazing

Astrophotography on the Go

Digital SLR Astrophotography

Astronomy Hacks

Grating Spectroscopes and How to Use Them

Any amateur astronomer who is interested in astrophotography, particularly if just getting started, needs to know what objects are best for imaging in each month of the year. These are not necessarily the same objects that are the most spectacular or intriguing visually. The camera reveals different things and has different requirements. What objects in the sky tonight are large enough, bright enough, and high enough to be photographed? This book reveals, for each month of the year, the choicest celestial treasures within the reach of a commercial CCD camera. Helpful hints and advice on framing, exposures, and filters are included. Each deep sky object is explained in beautiful detail, so that observers will gain a richer understanding of these astronomical objects. This is not a book that dwells on the technology of CCD, Webcam, wet, or other types of astrophotography. Neither is it a book about in-depth computer processing of the images (although this topic is included). Detailed discussions of these topics can be found in other publications. This book focuses on what northern latitude objects to image at any given time of the year to get the most spectacular results.

This book offers a comprehensive introductory guide to "choosing and using" a series LXD55 or LXD75 computer-controlled ("goto") telescope, containing a wealth of useful information for both beginners and more advanced practical amateur astronomers. The manufacturer's manuals are not nearly detailed enough to be of real help to beginners. No other book offers advanced techniques for more experienced LXD series users.

Choosing and Using a Refracting Telescope has been written for the many amateur astronomers who already own, or are intending to purchase, a refracting telescope - perhaps to complement their existing arsenal of larger reflecting telescopes - or for the specialist who requires a particular refractor for serious astronomical applications or nature studies. Four hundred year ago, during the winter of 1609, a relatively unknown Italian scientist, Galileo Galilei designed a spyglass with two crude lenses and turned it skyward. Since then, refractors have retained their dominance over all types of reflector in studies of the Moon, planets and double stars because of the precision of their optics and lack of a central obstruction in the optical path, which causes diffraction effects in all commercially-made reflectors. Most mature amateur astronomers got started with a 60mm refractor, or something similar. Thirty years ago, there was little choice available to the hobbyist, but in the last decade long focus crown-flint achromats have moved aside for some exquisitely crafted apochromatic designs offered by leading commercial manufacturers. There has been a huge increase in the popularity of these telescopes in the last few years, led by a significant increase in the number of companies (particularly, William Optics, Orion USA, StellarVue, SkyWatcher and AstroTech) who are now heavily marketing refractors in the amateur astronomical magazines. In Choosing and Using a Refracting Telescope, well-known observer and astronomy writer Neil English celebrates the remarkable history and evolution of the refracting telescope and looks in detail at the instruments, their development and their use. A major feature of this book is the way it compares not only different classes of refractor, but also telescopes of each class that are sold by various commercial manufacturers. The author is perhaps uniquely placed to do this, having used and tested literally hundreds of different refracting telescopes over three decades. Because it includes many diverse subjects such as imaging with consumer-level digital cameras, imaging with

webcams, and imaging with astronomical CCD cameras - that are not covered together in equal depth in any other single volume - Choosing and Using a Refracting Telescope could become the 'refractor bible' for amateur astronomers at all levels, especially those who are interested in imaging astronomical objects of every class.

No longer are heavy, sturdy, expensive mounts and tripods required to photograph deep space. With today's advances in technology, all that is required is an entry-DSLR and an entry level GoTo telescope. Here is all of the information needed to start photographing the night sky without buying expensive tracking mounts. By using multiple short exposures and combining them with mostly 'freeware' computer programs, the effect of image rotation can be minimized to a point where it is undetectable in normal astrophotography, even for a deep-sky object such as a galaxy or nebula. All the processes, techniques, and equipment needed to use inexpensive, lightweight altazimuth and equatorial mounts and very short exposures photography to image deep space objects are explained, step-by-step, in full detail, supported by clear, easy to understand graphics and photographs. Currently available lightweight mounts and tripods are identified and examined from an economic versus capability perspective to help users determine what camera, telescope, and mount is the best fit for them. A similar analysis is presented for entry-level telescopes and mounts sold as bundled packages by the telescope manufacturers. This book lifts the veil of mystery from the creation of deep space photographs and makes astrophotography affordable and accessible to most amateur astronomers.

Von der richtigen Ausrüstung bis zum perfekten Foto

The Observer's Sky Atlas

Astrophoto

The New Amateur Astronomer

Kope's Outer Space Directory

Astronomical Equipment for Amateurs

Deep-sky observing is easily the most popular field for amateur astronomers. The big problem faced by non-professional observers is what to look at - what is visible at a particular time of year. The Deep-Sky Observers Year is a month-by-month guide to the best objects to view. Objects are given a "star rating" according to how difficult they are to observe or image with a particular size of telescope. The book includes many images produced by amateur astronomers, as well as photographs from NASA, ESA, and ESO. There is background information about the objects, along with lots of useful tips, hints, and resources.

Choosing and Using the New CAT will supersede the author's successful Choosing and Using a Schmidt-Cassegrain Telescope, which has enjoyed enthusiastic support from the amateur astronomy community for the past seven years. Since the first book was published, a lot has changed in the technology of amateur astronomy. The sophistication and variety of the telescopes available to amateurs has increased dramatically.

Computerized SCTs, Maksutov-Cassegrains, and most recently Meade's new and acclaimed Ritchey-Chrétiens have come to dominate the market. That means that all amateurs considering the purchase of a new telescope (not only a SCT, and not just beginners) will benefit from this detailed guide. Choosing the right telescope for particular kinds of observation (or even for general work) is far from easy - but Rod

Mollise gives invaluable advice and guidance.

This guide is specifically aimed at those who are using—or want to use—Sequence Generator Pro. SGP is a “session management” software package that controls the telescope, mount, camera, and ancillary equipment to target and secure images during a night of imaging astronomical objects. The book begins with a special tutorial to get up and running with SGP. With a comprehensive reference section, it takes the user in detail through the various aspects of user and equipment profiles, equipment definitions, the sequencer, and other essential elements of SGP. Finally, it focuses on how to get the most out of the ancillary programs—target databases, autoguiders, plate solvers, planetarium software, and other applications. Oftentimes, technical guides can end up being far denser than the processes they intend to explain. Many of the insights provided by SGP expert Alex McConahay are beyond what can be found in the official program documentation. In this book, the reader will find in-depth, yet straightforward practical advice on how to automate nightly astroimaging sessions with Sequence Generator Pro.

A Star-Hopper's Guide

The Vixen Star Book User Guide

CCD Astrophotography: High-Quality Imaging from the Suburbs