Astrophotography A Step By Step Approach Schildore

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.

Step by Step AstrophotographyTwayne PublishersAstrophotography: a step by step guide to night sky photographsAstrophotographyA Step-by-step ApproachThe Art of AstrophotographyCambridge University Press

There are many books covering different facets of astrophotography, but few of them contain all the necessary steps for beginners in one accessible place. Astrophotography is Easy! fills that void, serving as a guide to anybody interested in the subject but starting totally from scratch. Assuming no prior experience, the author runs through the basics for how to take astrophotos using just a camera—including cell phones and tablets—as well as a telescope and more sophisticated equipment. The book includes proven techniques, checklists, safety guidelines, troubleshooting tips, and more. Each chapter builds upon the last, allowing readers to master basic techniques before moving on to more challenging material. Also included is a comprehensive list of additional books and resources on a variety of topics so readers can continue expanding their skills. Astrophotography Is Easy! doesn’t simply teach you the basic skills for becoming an astrophotographer: it provides you with the foundations you will need for a lifelong pursuit.

The book presents knowledge about the field of astrophotography. In this guide, the author walks you through several budget-friendly astrophotography projects including wide-angle starry sky shots, breathtaking moon portraits, high-resolution planetary photography recommendations, tips, and techniques to get the best results from your device. This book helps you get into astrophotography on a budget.

The 100 Best Astrophotography Targets

The Essential Guide To Photographing The Night Sky By TV's Favourite Astronomer

Philip's Astrophotography With Mark Thompson

Astrophotography from Dusk Till Dawn

Scientific Astrophotography

Includes Full Res Tutorial Images on DVD

Philip's Astrophotography With Mark Thompson is an essential guide for anyone wishing to photograph or image the stars and planets, written by TV's favourite astronomer. For many people, looking at the sky is not enough and they would love to try and capture what they can see. Until a few years ago, capturing astronomical images was fraught with many challenges, but with the development of digital cameras replacing film, things have become much easier and great astronomical images are now within the reach of even the most novice stargazer. Mark Thompson has spent many years capturing the beauty of the night sky, first with film and now with the digital camera, and has discovered and overcome many of the pitfalls. This book takes the reader on a journey through the world of capturing astronomical images from using the humble mobile phone to specialist cameras, brought to life with Mark's personal experiences and many of his own astronomical images.

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

For all but the simplest star-trail pictures, photographing the night sky involves machinery to track the stars, and the task becomes even more complicated when photographing very small or very faint objects that require high magnification or very long exposure times. Astrophotography for Amateurs presents equipment and techniques, features practical hints and tips from the experts, including coverage of traditional "wet" photography, CCD imaging, and computerized image enhancement. There are sections on photographing different classes of astronomical object from the moon to faint nebulae, as well as a detailed look at the equipment needed.

Scientific Astrophotography is intended for those amateur astronomers who are looking for new challenges, once they have mastered visual observing and the basic

imaging of various astronomical objects. It will also be a useful reference for scientifically inclined observers who want to learn the fundamentals of astrophotography with a firm emphasis on the discipline of scientific imaging. This books is not about making beautiful astronomical images; it is about recording astronomical images that are scientifically rigorous and from which accurate data can be extracted. This book is unique in that it gives readers the skills necessary for obtaining excellent images for scientific purposes in a concise and procedurally oriented manner. This not only gets the reader used to a disciplined approach to imaging to maximize quality, but also to maximize the success (and minimize the frustration!) inherent in the pursuit of astrophotography. The knowledge and skills imparted to the reader of this handbook also provide an excellent basis for "beautiful picture" astrophotography! There is a wealth of information in this book – a distillation of ideas and data presented by a diverse set of sources and based on the most recent techniques, equipment, and data available to the amateur astronomer. There are also numerous practical exercises. Scientific Astrophotography is perfect for any amateur astronomer who wants to go beyond just astrophotography and actually contribute to the science of astronomy.

The Art of Astrophotography

Digital SLR Astrophotography

Step by Step Astrophotography

A Practical and Scientific Approach to Deep Sky Imaging

Explore the Sky: 298 Tips, Tricks, & Skills

The Astrophotography Manual

Astronomical Spectroscopy for Amateurs is a complete guide for amateur astronomers who are looking for a new challenge. After a brief overview of the development of spectroscopes and an introduction to the theory of stellar spectra, the book goes on to examine the various types of spectroscopes available to amateurs. Next, practical sections address all aspects of setting-up and using various types of commercially-available and home-built spectroscopes. A final part gives detailed instructions for the design and construction of three different spectroscopes, along with the necessary design theory (minimal math). The home-made spectroscopes have performance capabilities near or equal to commercial units but are constructed using basic hand tools for a fraction of the cost! This up-to-date practical spectroscopy book will enable amateur astronomers to develop the skills and equipment needed to prepare scientifically acceptable spectra data, and to make a valuable contribution to ProAm projects.

From the author of Getting Started: Long Exposure Astrophotography and the Messier Astrophotography Reference comes a book showing you how to produce wonderful astrophotos without the astronomical costs normally associated with the hobby. From a DSLR, to a point and shoot, and even using your phone, you can capture beautiful images of the sun, moon, clusters, galaxies and nebulae without breaking the bank. A complete image processing walkthrough is included using only freely downloadable software.Discussed inside are telescopes, adapters, do-it-yourself projects, software and processing techniques to help you photograph the skies without spending a fortune.Already have a telescope or other equipment? No problem, it will help you make the most of what you already have as well as show you what you can buy or make yourself to improve your images.

This instructional guide has one aim: to teach inexperienced astrophotographers how to take high quality images. Often, basic information about astrophotography is lacking, or is dealt with too briefly in books on the subject. This book is a distillation of the author's own experiences, bringing together everything you will need to make the fastest possible progress in deep-sky imaging. The book will teach you how to set up and use your astrophotography equipment in a systematic, easy-to-follow manner, helping you get started while avoiding common mistakes. With a step-by-step walk-through course and a unique observational guide to each object, the book contains a plethora of valuable, beginner-friendly information. Particularly useful is the chapter on troubleshooting, which will help newcomers avoid further frustration when things just don't seem to go right! The book also contains a number of easy to advanced DIY projects for imagers working on a budget.

The Complete Guide to Landscape Astrophotography is the ultimate manual for anyone looking to create spectacular landscape astrophotography images. By explaining the science of landscape astrophotography in clear and straightforward language, it provides insights into phenomena such as the appearance or absence of the Milky Way, the moon, and constellations. This unique approach, which combines the underlying scientific principles of astronomy with those of photography, will help deepen your understanding and give you the tools you need to fulfil your artistic vision. Key features include: ▪ Distinguished Guest Gallery of images from renowned nightscape photographers such as Babak Tafreshi, Bryan Peterson, Alan Dyer, Brenda Tharp, Royce Bair, Wally Pacholka, and David Kingham ▪ The twenty-five best landscape astrophotography subjects and how to photograph them ▪ Astronomy 101 - build your knowledge of night sky objects and their motion: the Milky Way, moon, Aurora Borealis/Australis, constellations, meteors and comets ▪ Information on state-of-the-art planning software and apps designed to enable you to capture and enhance your landscape astrophotography ▪ Field guide for creating a detailed plan for your night shoot ▪ Description of the best moon phases for specific types of nightscape images, and the best months and times of night to see the Milky Way ▪ How-to guide for creating stunning time-lapse videos of the night sky, including Holy Grail transitions from pre-sunset to complete darkness ▪ Four detailed case studies on creating landscape astrophotography images of the Milky Way, full moon, star trails, and constellations

Basics for Beginners

The Deep-sky Imaging Primer
Astrophotography
Reading the Lines in Stellar Spectra
How to Use a Computerized Telescope
The Complete Guide to Landscape Astrophotography

Provides novice to accomplished amateur astronomers with a firm grounding in the basics and successful use of digital astrophotography. Provides examples of the best images, and gives readers hints and tips about how to get the best out of this extraordinary technology. Experts in CCD astronomy from North America and Europe have contributed to this book, illustrating their help and advice with many beautiful colour images – the book is in full color throughout. Techniques range from using simple webcams to highly technical aspects such as supernovae patrolling. Computer processing, stacking and image-enhancement are detailed, along with many hints and tips from the experts.

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.

This is the first non-technical book on spectroscopy written specifically for practical amateur astronomers. It includes all the science necessary for a qualitative understanding of stellar spectra, but avoids a mathematical treatment which would alienate many of its intended readers. Any amateur astronomer who carries out observational spectroscopy and who wants a non-technical account of the physical processes which determine the intensity and profile morphology of lines in stellar spectra will find this is the only book written specially for them. It is an ideal companion to existing books on observational amateur astronomical spectroscopy.

At first glance, the challenge of astrophotography may appear daunting. But not only are spectacular results possible, they are easy to learn with the step-by-step instructions provided in this handy resource, which shows amateurs how to produce images to rival a professional observatory.

Budget Astrophotography
Understanding, Planning, Creating, and Processing Nightscape Images
A Step-by-step Approach
Astrophotography on the Go
The Backyard Astronomer's Guide
Astrophotography: a step by step guide to night sky photographs

The first handbook that describes how to start observing the sky with a computerized telescope.

A total eclipse of the Sun is the most awesome sight in the heavens. Totality: Eclipses of the Sun takes you to eclipses of the past, present, and future, and lets you see - and feel - why people travel to the ends of the Earth to observe them. Totality: Eclipses of the Sun is the best guide and reference book on solar eclipses ever written. It explains: how to observe them; how to photograph and videotape them; why they occur; their history and mythology; and future eclipses - when and where to see them Totality also tells the remarkable story of how eclipses shocked scientists, revealed the workings of the Sun, and made Einstein famous. And the book shares the experiences and advice of many veteran eclipse observers. Totality: Eclipses of the Sun is profusely illustrated with stunning photographs (many in color) and more than a hundred maps and diagrams. It can be read by lay people and astronomers with ease and enjoyment.

There are currently thousands of amateur astronomers around the world engaged in astrophotography at a sophisticated level. Their ranks far outnumber professional astronomers doing the same and their contributions both technically and artistically are the dominant drivers of progress in the field today. This book is a unique collaboration of individuals world-renowned in their particular area and covers in detail each of the major sub-disciplines of astrophotography. This approach offers the reader the greatest opportunity to learn the most current information and the latest techniques directly from the foremost innovators in the field today. “Lessons from the Masters” includes a brilliant body of recognized leaders in astronomical imaging, assembled by Robert Gendler, who delivers the most current, sophisticated and useful information on digital enhancement techniques in astrophotography available today. Each chapter focuses on a particular technique, but the book as a whole covers all types of astronomical image processing, including processing of events such as eclipses, using DSLRs, and deep-sky, planetary, widefield, and high resolution astronomical image processing. Recognized contributors include deep-sky experts such as Jay GaBany, Tony Hallas, and Ken Crawford, high-resolution planetary expert Damian Peach, and the founder of TWAN (The World at Night) Babak A. Tafreshi. A large number of illustrations (150, 75 in color) present the challenges and accomplishments involved in the processing of astronomical images by enthusiasts.

At first glance, the challenge of astrophotography may appear daunting. But not only are spectacular results possible, they are easy to learn with the step-by-step instructions provided in Stephan Seip's Digital Astrophotography: A Guide to Capturing the Cosmos. Today, amateurs can produce images that only twenty years ago a large professional observatory would have been proud of; and this book shows you how. Learn how to: Set up your camera for optimum results Focus your camera for razor-sharp images Take beautiful night shots with a simple compact digital camera, a tripod, and a telescope Use a DSLR camera to shoot the Sun, Moon, stars, star clusters, and nebulae through your telescope Get brilliant images of

planets with a Webcam Capture remote galaxies with a charge-coupled device (CCD) camera just like a pro Also included are lessons on the processing that is done in the "studio" after your shoot, including how to: Shoot RAW format images and improve them with calibration frames Take short exposures of faint deep-sky objects and combine them into a longer exposure Perform brightness, contrast, and color correction Make corrections to correct for vignetting and uneven field illumination Process your images for stunning results Equipment requirements for astrophotography range from nothing but a simple camera and tripod to a multi-thousand dollar computer controlled telescope equipped with a CCD auto-guider and separate guide-scope. Researching the best equipment for your needs is a task in itself. Seip helps you to sort out which cameras are best for the various celestial objects, what to look for when buying a camera, and what accessories you really need. The rewards of this fascinating hobby, as the author says, "Grants you unforgettable hours under the night sky; it allows you to produce aesthetically rewarding and lasting results. Astrophotography is a love-match between physics, photography, art, and digital image processing. It is exciting!"

Getting Started

Totality

Digital Astrophotography: The State of the Art

Astronomical Spectroscopy for Amateurs

Imaging with Your DSLR or Webcam

Astronomy

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.

Totality: The Great American Eclipses is a complete guide to the most stunning of celestial sights, total eclipses of the Sun. It focuses on the eclipses of August 21, 2017 and April 8, 2024 that pass across the United States. The U.S. mainland has not experienced a total solar eclipse since 1979. This book provides information, photographs, and illustrations to help the public understand and safely enjoy all aspects of these eclipses including: § How to observe a total eclipse of the Sun § How to photograph and video record an eclipse § Why solar eclipses happen § The earliest attempts to understand and predict eclipses § The mythology and folklore of eclipses § The response of animals to total solar eclipses § The response of man to total eclipses through time § How scientists used total eclipses to understand how the Sun works § How astronomers used a total solar eclipse in 1919 to confirm Einstein's general theory of relativity § Weather prospects for the 2017 eclipse § Detailed maps of the path of totality for the 2017 eclipse and the eclipses of 2018 through 2024 § Precise local times for the eclipses of 2017 and 2024 (the next total solar eclipse to visit the U.S.) § Color and black-and-white photographs, diagrams, and charts to illustrate and explain total solar eclipses § Global maps of total solar eclipses from 2017 to 2045 and lists of total and annual solar eclipses from 1970 through 2070

Astrophotography is a specialised type of photography that entails recording images of astronomical objects and large areas of the night sky. The first photograph of an astronomical object (the Moon) was taken in 1840, but it was not until the late 19th century that advances in technology allowed for detailed stellar photography. You do not need your own telescope, or digital camera to take beautiful astronomical photographs. The section Acquiring Images takes you step by step how to acquire images via free, or low cost remote telescopes. This book is aimed at those with little or no prior knowledge of astrophotography. You may be one of the many who have found the subject too complex or have achieved disappointing results. This book's step by step tutorial style will allow anyone to acquire, process, and display astronomical images of a very high quality. Where possible jargon is dispensed with, and replaced with understandable language and procedures.

The touchstone for contemporary stargazers. This classic, groundbreaking guide has been the go-to field guide for both beginning and experienced amateur astronomers for nearly 30 years. The fourth edition brings Terence Dickinson and Alan Dyer's invaluable manual completely up-to-date. Setting a new standard for astronomy guides, it will serve as the touchstone for the next generation of stargazers as well as longtime devotees. Technology and astronomical understanding are evolving at a breathtaking clip, and to reflect the latest information about observing techniques and equipment, this massively revised and expanded edition has been completely rebuilt (an additional 48 pages brings the page count to 416). Illustrated throughout with all-new photographs and star charts, this edition boasts a refreshed design and features five brand-new chapters, including three essential essays on binocular, telescope and Moon tours by renowned astronomy writer Ken Hewitt-White. With new content on naked-eye sky sights, LED lighting technology, WiFi-enabled telescopes and the latest advances in binoculars, telescopes and other astronomical gear, the fourth edition of The Backyard Astronomer's Guide is sure to become an indispensable reference for all levels of stargazers. New techniques for observing the Sun, the Moon and solar and lunar eclipses are an especially timely addition, given the upcoming solar eclipses in 2023 and 2024. Rounding out these impressive offerings are new sections on dark sky reserves, astro-tourism, modern astrophotography and cellphone astrophotography, making this book an enduring must-have guide for anyone looking to improve his or her astronomical viewing experience. The Backyard Astronomer's Guide also features a foreword by Dr. Sara Seager, a Canadian-American astrophysicist and planetary scientist at the Massachusetts Institute of Technology and an internationally recognized expert in the search for exoplanets.

Photoshop Astronomy

Cruise Ship Astronomy and Astrophotography

Using Short Exposures with Light Mounts

A Deep Sky Astrophotography Primer
A Step-by-step Guide to Successful Deep Sky Imaging
Eclipses of the Sun

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.

Featuring new chapters on astro-software and CCD-imaging techniques, a book for amateur astronomers covers astrophotography, telescope construction, planetary observing, comet hunting, variable star recording, and nova discovery, and features both novice and advanced techniques. UP.

In The Art of Astrophotography, astronomer and Astronomy Now 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.

Enrich your next sea vacation with this fun how-to guide to observing and doing astrophotography on water. Collecting together the author’s five decades of astrophotography and teaching experience, this book shares all the practical information you will need to start on your own astronomy adventure. Part I is full of practical advice on what to pack, the best ways to enjoy the night sky from your cruise ship observatory, specific astronomical objects and events to look out for, and myriad other useful tips. Part II gives you a crash course on astrophotography at sea, teaching you the nitty-gritty details of taking pictures of the night sky. Proof that it can be done is provided by the many amazing color astrophotographs taken by the author while following the steps laid out in this book.

Totality — The Great American Eclipses of 2017 and 2024
Practical Astrophotography
Astrophotography Equipment: Instructions for Several Budget-Friendly Astrophotography
Practical Amateur Astronomy Volume 1
Spectroscopy: The Key to the Stars
The Guide to Amateur Astronomy

Today's photographic equipment allows amateurs to take pictures of the stars that far surpass images taken just a few decades ago by even the largest observatories-and this book will teach you how. Author and world-renowned astrophotographer Thierry Legault teaches the art and techniques of astrophotography: from simple camera-on-tripod night-scene imaging of constellations, star trails, eclipses, artificial satellites, and polar auroras to more intensive astrophotography using specialized equipment for lunar, planetary, solar, and deep-sky imaging. Legault shares advice on equipment and guides you through techniques to capture and process your images to achieve spectacular results. Astrophotography provides the most thorough treatment of the topic available. This large-format, richly illustrated book is intended for all sky enthusiasts-newcomers and veterans alike. Learn how to: Select the most useful equipment: cameras, adapters, filters, focal reducers/extenders, field correctors, and guide telescopes Set up your camera (digital, video, or CCD) and your lens or telescope for optimal results Plan your observing sessions Mount the camera on your telescope and focus it for razor-sharp images Polar-align your equatorial mount and improve tracking for pin-point star images Make celestial time-lapse videos Calculate the shooting parameters: focal length and ratio, field of view, exposure time, etc. Combine multiples exposures to reveal faint galaxies, nebulae details, elusive planetary structures, and tiny lunar craters Adjust contrast, brightness, light curves, and colors Postprocess your images to fix defects such as vignetting, dust shadows, hot pixels, uneven background, and noise Identify problems with your images and improve your results

Sets out a simple month-by-month program to reveal all of the night sky's biggest and most beautiful secrets in just one year – and with only a few hours of stargazing each month By investing just an hour a week and $50 in binoculars, it’s possible to learn a few simple techniques and quickly gain a real insight into the night sky's ever-changing patterns – and what they tell us about Earth, the seasons and ourselves. Searching more for a learned appreciation of nature and our exact place within the cosmos than academic scientific knowledge, science and travel writer Jamie Carter takes the reader on a 12 month tour of the night sky's incredible annual rhythms that say so much about Earth. During the journey he learns about the celestial mechanics

at work in the skies above that are – to the beginner – almost beyond belief. As well as the vital constellations and clusters, and the weird and wonderful nebulas, he searches out “dark sky destinations” across the globe that help increase knowledge and give a new perspective on familiar night sky sights. On the journey he witnesses a solar eclipse and grapples with star-charts, binoculars, smartphone apps, telescopes, spots satellites and attempts basic astro-photography. By year's end, the reader will be able to glance at the night sky from anywhere on the planet and tell what direction he or she is facing, what time it is, where all the planets are and even where the Galactic Center Point is.

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.

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.

A Stargazing Program for Beginners

Astrophotography Unleashed

A Pocket Field Guide

Digital Astrophotography

Creating Stunning Images Is Easier Than You Think!

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.

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.

The Total Skywatcher's Manual

The Definitive Guide

Current Concepts in Astronomical Image Processing
A Monthly Guide for CCD Imaging with Amateur Telescopes
Lessons from the Masters
Astrophotography is Easy!