

Interstellarum Deep Sky Atlas Desk Edition

This catalog of double stars is among the most comprehensive ever printed. With over 2,100 star pairings listed with coordinates, color, and interesting information about every pair, **Double Stars for Small Telescopes** is an essential addition to the library of every astronomy enthusiast. 248 pages, 8 1/2 x 11 inches, softcover.

Featuring 388 high-resolution photographs and concise descriptions of the Moon's topography, this atlas is an indispensable guide for amateur astronomers and astrophotographers.

Finally, a compact, reasonably-priced atlas designed with imaging in mind! Seventy full-color charts cover the entire sky, with stars down to 9th magnitude and over 2000 deep-sky objects plotted in their correct size and shape, including many nebulae not found in visually-oriented atlases. 416 emission nebulae and supernova remnants, including the complete Sharpless (Sh2) and RCW catalogs. 171 reflection nebulae, including the complete van den Bergh (vdB) catalog. 146 planetary nebulae, including the complete Abell catalog 52 dark nebulae and molecular clouds 792 galaxies (larger than 3 arcminutes) 38 galaxy groups from the Abell and Hickson catalogs 108 globular clusters (larger than 5 arcminutes) 309 open clusters (larger than 5 arcminutes) The tabular index contains important details on each object, including a description, the best time of year to capture it, and the required field of view. With information on nearly every possible photographic target in the night sky, **The Astrophotography Sky Atlas** will help you choose your targets and plan your imaging.

A good atlas is essential for travel. This excellent atlas will take the voyager on a journey through the night sky with unparalleled ease and accuracy. The long-awaited second edition of Wil Tirion's superb **Sky Atlas 2000.0** offers 43,000 additional stars with all positions now derived from the Hipparcos database. The atlas opens out to reveal 26 charts, each one 20 inches wide and 15 inches deep. This large format allows the stars, nebulas and galaxies to be displayed with unrivaled clarity. For this edition, improved isophotal (objects with same light intensity) maps are used for the Milky Way, and extra charts for crowded areas of the sky have been added. Within the constellations, Flamsteed numbers identify the brighter stars by name, while NGC and Messier numbers are used for nonstellar objects. Color coding and size graduation are used to visually convey the maximum information on star types and brightnesses. This atlas is an indispensable aid for all users of astronomical telescopes.

Luna Cognita

The Deep-sky Imaging Primer

An Anthology of Visual Double Stars

Atlas of Great Comets

The Complete Star Atlas

interstellarum Deep Sky Atlas

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 sky, 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 of 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.

Using the latest methods in digital photography and image processing, The Cambridge Photographic Star Atlas presents the whole sky through large-scale photographic images with corresponding charts. Each double-page spread shows a section of the night sky and is accompanied by an inverted chart highlighting and naming double stars, variable stars, open clusters, galactic and planetary nebulae, globular clusters, and galaxies. The 82 large-scale charts, with a scale of 1° per cm, identify over 1500 deep-sky objects and 2500 stars. Providing a giant mosaic of the entire sky, this unique atlas is unparalleled in detail and completeness, making it indispensable for visual observers and astrophotographers.

"With over 100,000 copies sold since first publication, this is one of the most popular astronomy books of all time. It is a unique guide to the night sky, providing all the information you need to observe a whole host of celestial objects. With a new spiral binding, this edition is easier to use outdoors at the telescope and is the ideal beginner's book. Keeping its distinct one-object-per-spread format, this edition is designed for Dobsonian telescopes, as well as for smaller reflectors and refractors, and covers Southern hemisphere objects in more detail. Large-format eyepiece views, positioned side-by-side, show objects exactly as they are seen through a telescope, and with improved directions, updated tables of astronomical information and an expanded night-by-night Moon section, it has never been easier to explore the night sky on your own"--

The 110 star clusters, nebulae and galaxies of Messier's catalog are among the most popular of all the deep sky objects and are beautiful targets for amateur observers of all abilities. This stunning new atlas presents a complete and lively account of all of the Messier objects. Details for each object given include a thoroughly-researched history of its discovery, historical observations and anecdotes, the latest scientific data detailing its astrophysical findings, and clear observational descriptions from naked eye through to large telescopes. In addition, this atlas has some of the world's finest color astrophotos, inverted and labelled photos pointing to hidden details and neighboring objects, as well as historical sketches alongside new deep sky drawings. Quite simply, this is the most far-reaching and beautiful reference to the Messier objects there has ever been, and one that no observer should be without!

Herald-Bobroff Astro-Atlas

Cosmic Challenge

With 50 Star Charts Covering the Entire Sky

A Handbook and Atlas

A Comprehensive Observer's Handbook of the Known Moon

Foundations of International Migration Law

The first book to provide a synthesised and comprehensive account of the Magellanic Clouds.

interstellarum Deep Sky Guide Desk Edition Cambridge University Press

In this fresh list, Stephen James O'Meara presents 109 new objects for stargazers to observe. The Secret Deep list contains many exceptional objects, including a planetary nebula whose last thermal pulse produced a circumstellar shell similar to the one expected in the final days of our Sun's life; a piece of the only supernova remnant known visible to the unaided eye; the flattest galaxy known; the largest edge-on galaxy in the heavens; the brightest quasar; and the companion star to one of the first black hole candidates ever discovered. Each object is accompanied by beautiful photographs and sketches, original finder charts, visual histories and up-to-date astrophysical information to enrich the observing experience. Featuring galaxies, clusters and nebulae not covered in other Deep-Sky Companions books, this is a wonderful addition to the series and an essential guide for any deep-sky observer"

Galaxies - the Milky Way's siblings - offer a surprising variety of forms and colours. Displaying symmetrical spiral arms, glowing red nebulae or diffuse halos, even the image of a galaxy can reveal much about its construction. All galaxies consist of gas, dust and stars, but the effects of gravity, dark matter and the interaction of star formation and stellar explosions all influence their appearances. This volume showcases more than 250 of the most beautiful galaxies within an amateur's reach and uses them to explain current astrophysical research. It features fantastic photographs, unique insights into our knowledge, tips on astrophotography and essential facts and figures based on the latest science. From the Andromeda Galaxy to galaxy clusters and gravitational lenses, the nature of galaxies is revealed through these stunning amateur photographs. This well illustrated reference atlas deserves a place on the bookshelves of astronomical imagers, observers and armchair enthusiasts.

The Astrophotography Sky Atlas

The Cambridge Photographic Atlas of Galaxies

The Observing Guide to the Messier Marathon

A Journey in the Sky Through Maps

The Magellanic Clouds

Sky Atlas 2000.0

With a comprehensive guide to every deep sky object, this handy guide belongs on every astronomer's bookshelf.

The interstellarum Deep Sky Atlas heralds a new era of celestial cartography. It is an innovative, practical tool to chart stars, star clusters, nebulae and galaxies. Usually, deep sky objects are shown with just a standard symbol in the star atlas is different: all objects are shown according to their actual visibility. Four main visibility classes separate out objects to be seen through 4-, 8- and 12-inch telescopes. Within each visibility class, the objects are labeled in different type and graduated shades and colors for the symbols - the bolder the label or the darker the symbol, the easier it is to see

bound and printed in red-light friendly colors on fully waterproof material, this full-sky atlas has a limiting magnitude over 200,000 stars. It is the ideal companion for amateur observers of all levels.

Throughout the ages, comets, enigmatic and beautiful wandering objects that appear for weeks or months, have always fascinated and terrified humankind. The result of five years of careful research, Atlas of Great Comets is a generous reference on thirty of the greatest comets that have been witnessed and documented since the Middle Ages. Specific to the cultural and scientific impact of each appearance, supported by a wealth of images, from woodcuts, engravings, paintings and artifacts, to a showcase of the best astronomical photos and images. Following the introduction, giving historical context and a modern scientific interpretation, the Great Comets feature in chronological order. For each, a contemporary description of its appearance along with its scientific, cultural and historical significance. Whether you are an armchair astronomer or a seasoned comet-chaser, this spectacular reference deserves a place on your shelf.

All three volumes sold as a combined set for a one-time purchase! This comprehensive three-volume set takes you on an incomparable journey of our closest celestial neighbor. Not since the golden age of 19th-century lunar guidebooks has anyone managed to cover the Moon in such detail as this all-in-one handbook. Volume 1 begins with a section on the Moon's history, mythology and lore, before gravitating closer to the Moon itself through scientific sections on the Earth-Moon motions and cycles. Following these are technical chapters on how to purchase, use and care for lunar observing and observing equipment. Techniques for observing the Moon (both with the naked eye and optical instruments) are detailed as the spacecraft approaches the Moon's surface on this visual tour-de-force. A close-up exploration of the Moon is the result. The "close-up" chapters in Volumes 1 and 2 discuss the physical aspects of the Moon's features, offering brief biographical information on the person for whom the feature is named, as well as how each individual was involved in the development of science and technology from ancient to modern times. Volume 3 contains a plethora of useful appendices that cover a range of topics, from lunar features such as nearside lunar domes to a comprehensive list of publishers and observing organizations. Lunar knowledge far beyond any recent work in both breadth and depth of coverage on the Moon. Written in an accessible, engaging style for readers of all backgrounds and levels of expertise, this handbook is thus an invaluable resource for anybody who looks up at the glowing sphere in the night sky and wants to learn more about the "Known Moon."

The Cambridge Photographic Star Atlas

The Cambridge Photographic Moon Atlas

The Secret Deep

Celestial Atlas

The Backyard Astronomer's Guide

The Cambridge Double Star Atlas is back! It is the first and only atlas of physical double stars that can be viewed with amateur astronomical instruments. Completely rewritten, this new edition explains the latest research into double stars, and looks at the equipment, techniques and opportunities that will enable you to discover, observe and measure them. The target list has been completely revised and extended to 2500 binary or multiple systems. Each system is described with the most recent and accurate data from the authoritative Washington Double Star Catalog, including the HD and SAO numbers that are most useful in our digital age. Hundreds of remarks explain the attributes of local, rapidly changing, often measured or known orbital systems. The color atlas charts by Wil Tirion have been updated to help you easily find and identify the target systems, as well as other deep-sky objects. This is an essential reference for double star observers.

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.

International migration law is an important field of international law, which has attracted exceptional interest in recent years. This book has been written from a wide variety of perspectives for those wanting to understand the legal framework that regulates migration. It is intended for students new to this field of study who seek an overview of its many components. It will also appeal to those who have focussed on a particular branch of international migration law but require an understanding of how their specialisation fits with other branches of the discipline. Written by migration law specialists and led by respected international experts, this volume draws upon the combined knowledge of international migration law and policy from academia; international, intergovernmental, regional and non-governmental organisations; and national governments. Additional features include case studies, maps, break-out boxes and references to resources which allow for a full understanding of the law in context.

This book is a unique work satisfying the need for a modern, comprehensive review of all major aspects of galaxy observation. The book combines the physical background on the nature and data of galaxies, the relevant instrumentation and viewing techniques, and finally the targets and their individual appearance in telescopes of various apertures. A comprehensive sample of galaxies, including quasars, groups and clusters of galaxies is presented. This combination of theoretical knowledge and practical information guarantees successful observing sessions. Furthermore, the book is clearly structured with outstanding images and graphics.

Turn Left at Orion

The Cambridge Double Star Atlas

More Than 2,100 Stellar Gems for Backyard Observers

Highlights of the Deep Sky

Interstellarum Deep Sky Atlas

Atlas of the Messier Objects

The Complete Star Atlas: A Practical Guide to Viewing the Night Sky is the all-in-one guide to the stars. It is a must-have book for

anyone who wants to learn the constellations, find the brightest stars, and view the best deep-sky objects. Perfect for all stargazers! This 160-page book from Michael E. Bakich, retired Astronomy magazine Senior Editor, introduces readers, from novice to experts, to observing the night sky with accurate, easy-to ready star maps optimized for use with red flashlights. Maps are accompanied by informative articles and full-color photographs to show everything you can see in the night sky with the naked eye or with a small telescope.

Aimed at the relative newcomer to astronomy, this guide explains in straightforward, non-technical language what is meant by the 'deep sky', and how to observe the universe beyond our Solar System.

A valuable reference that fills a number of niches including that of a buyer's guide, technical desk reference and observer's field guide. It documents the past market and its evolution, right up to the present day. In addition to appealing to practical astronomers - and potentially saving them money - it is useful both as a historical reference and as a detailed review of the current market place for this bustling astronomical consumer product. What distinguishes this book from other publications on astronomy is the involvement of observers from all aspects of the astronomical community, and also the major manufacturers of equipment. It not only catalogs the technical aspects of the many modern eyepieces but also documents amateur observer reactions and impressions over the years, using many different eyepieces. Eyepieces are the most talked-about accessories and collectible items available to the amateur astronomer. No other item of equipment commands such vigorous debate, or has evolved into such a remarkable array of forms and functions. 'Choosing and Using Astronomical Eyepieces' provides a vast amount of reference material to point readers towards the best buys and the right eyepieces for different kinds of observing.

The interstellarum Deep Sky Atlas set a new high standard for modern celestial cartography. The same team now presents the interstellarum Deep Sky Guide, its unique observing companion. Taking an intuitive visual approach, for each spread of the Atlas, the Guide focuses on carefully selected objects, either as colored composite POSS plates or through the authors' own eyepiece sketches. They allow you to estimate the visibility of features in the telescope while planning observations. Stars and other objects in the vicinity are highlighted, so they also serve as finder charts at night. An index map on each spread allows you to quickly find each object's location in the Atlas. The interstellarum Deep Sky Guide takes all the hassle out of preparing for observing sessions - there's no need to print star charts or photos. Simply grab your Atlas and your Guide, and go observe!

Current Concepts in Astronomical Image Processing

The Cambridge Star Atlas

The Greatest Maps, Myths, and Discoveries of the Universe

Choosing and Using Astronomical Eyepieces

Uranometria 2000.0: Deep sky field guide

Philip's Deep Sky Observer's Guide

Provides information about the moon, star charts and monthly sky maps covering that which is visible each month in different hemispheres.

Listing more than 500 sky targets, both near and far, in 187 challenges, this observing guide will test novice astronomers and advanced veterans alike. Its unique mix of Solar System and deep-sky targets will have observers hunting for the Apollo lunar landing sites, searching for satellites orbiting the outermost planets, and exploring hundreds of star clusters, nebulae, distant galaxies, and quasars. Each target object is accompanied by a rating indicating how difficult the object is to find, an in-depth visual description, an illustration showing how the object realistically looks, and a detailed finder chart to help you find each challenge quickly and effectively. The guide introduces objects often overlooked in other observing guides and features targets visible in a variety of conditions, from the inner city to the dark countryside. Challenges are provided for the naked eye, through binoculars and the largest backyard telescopes.

Modern telescopes of even modest aperture can show thousands of double stars. Many are faint and unremarkable but hundreds are worth searching out. Veteran double-star observer Bob Argyle and his co-authors take a close-up look at their selection of 175 of the night sky's most interesting double and multiple stars. The history of each system is laid out from the original discovery to what we know at the present time about the stars. Wide-field finder charts are presented for each system along with plots of the apparent orbits and predicted future positions for the orbital systems. Recent measurements of each system are included which will help you to decide whether they can be seen in your telescope, as well as giving advice on the aperture needed. Double star observers of all levels of experience will treasure the level of detail in this guide to these jewels of the night sky.

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.

Deep-sky Companions

Galaxies and How to Observe Them

Sky & Telescope's Pocket Sky Atlas

Sky Catalogue 2000.0: Volume 1

The Observer's Sky Atlas

interstellarum Deep Sky Guide Desk Edition

Perfect for experienced observers and beginners alike, this second edition of Sky & Telescope's Pocket Sky Atlas will quickly have you exploring the heavens with depth and mastery.

This classic star atlas is ideal for both beginning astronomers and more experienced observers worldwide. The clear, full-color maps show stars, clusters and galaxies visible with binoculars or a small telescope. The atlas also features constellation boundaries and the Milky Way, and lists objects that are interesting to observe. This new edition features a clearer map of the Moon's surface, showing craters and features; a second Moon map, mirror reversed for users of telescopes with star diagonals; enhanced index charts

showing the constellations more clearly; and a new data table listing stars hosting planetary systems. It is now spiral bound, making it ideal for use at the telescope.

The Sky Atlas unveils some of the most beautiful maps and charts ever created during humankind's quest to map the skies above us. This richly illustrated treasury showcases the finest examples of celestial cartography—a glorious art often overlooked by modern map books—as well as medieval manuscripts, masterpiece paintings, ancient star catalogs, antique instruments, and other curiosities. This is the sky as it has never been presented before: the realm of stars and planets, but also of gods, devils, weather wizards, flying sailors, ancient aliens, mythological animals, and rampaging spirits. □ Packed with celestial maps, illustrations, and stories of places, people, and creatures that different cultures throughout history have observed or imagined in the heavens □ Readers are taken on a tour of star-obsessed cultures around the world, learning about Tibetan sky burials, star-covered Inuit dancing coats, Mongolian astral prophets and Sir William Herschel's 1781 discovery of Uranus, the first planet to be found since antiquity. □ A gorgeous book that delights stargazers and map lovers alike With thrilling stories and gorgeous artwork, this remarkable atlas explores our fascination with the sky across time and cultures to form an extraordinary chronicle of cosmic imagination and discovery. The Sky Atlas is a wonderful book for map lovers, history buffs, and stargazers, but also for those who are intrigued by the many wonderful and bizarre ways in which humans have sought to understand the cosmos and our place in it. □ A unique map book that expands beyond the terrestrial and into the celestial □ A wonderful book for map lovers, obscure-history fans, mythology buffs, and astrology and astronomy lovers □ Great for those who enjoyed What We See in the Stars: An Illustrated Tour of the Night Sky by Kelsey Oseid, Maps by Aleksandra Mizielińska and Daniel Mizieliński, and Atlas of Remote Islands: Fifty Islands I Have Never Set Foot On and Never Will by Judith Schalansky

The one stop reference book for hard information on the brighter stars.

Hundreds of Night Sky Objects to See in a Home Telescope-- and how to Find Them

The Ultimate Observing List for Amateurs

Sky Atlas 2000.0 Companion

Double Stars for Small Telescopes

The Sky Atlas

The Universe Explained to My Grandchildren

The touchstone for contemporary stargazers. This classic, groundbreaking guide has been the go-to field guide for both novice 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 a new generation of stargazers as well as longtime devotees. Technology and astronomical understanding are evolving at a rapid 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 new essays on binocular, telescope and Moon tours by renowned astronomy writer Ken Hewitt-White. With new content on LED 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 sky reserves, astro-tourism, modern astrophotography and cellphone astrophotography, making this book an enduring guide for anyone looking to improve his or her astronomical viewing experience. *The Backyard Astronomer's Guide* also includes 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.

When on a summer evening, astrophysicist Hubert Reeves went for a walk with his granddaughter, he was immediately captivated by her questions: 'How big is the Universe? How far are the stars? Are there other universes like ours?'. This little book is the result of their discussion - a very clear and fulfilling explanation on where we come from and our place in the Universe. A perfect occasion for everybody, and not only children, to revise their conceptions about the cosmos.

Featuring splendid illustrations of the most famous, rare, and impressive star atlases created from the sixteenth to the nineteenth centuries, this gorgeous book takes a journey through the constellations. Find out about the work of history's greatest astronomers, their sometimes-fantastic interpretations of extraterrestrial phenomena, and how our knowledge of the universe evolved over time. An art and scientific knowledge, *Celestial Atlas* offers a fascinating glimpse into the past.

Offers advice, illustrations, and celestial maps to aid astronomers seeking to complete the "Messier marathon," a traditional challenge that attempts to locate, in one night, the 110 galaxies, star clusters, and nebulae cataloged by the French astronomer since the late eighteenth century, over a hundred years ago.

Lessons from the Masters

21st Century Atlas of the Moon

Field Edition

Wil Tirion's Bright Star Atlas 2000.0