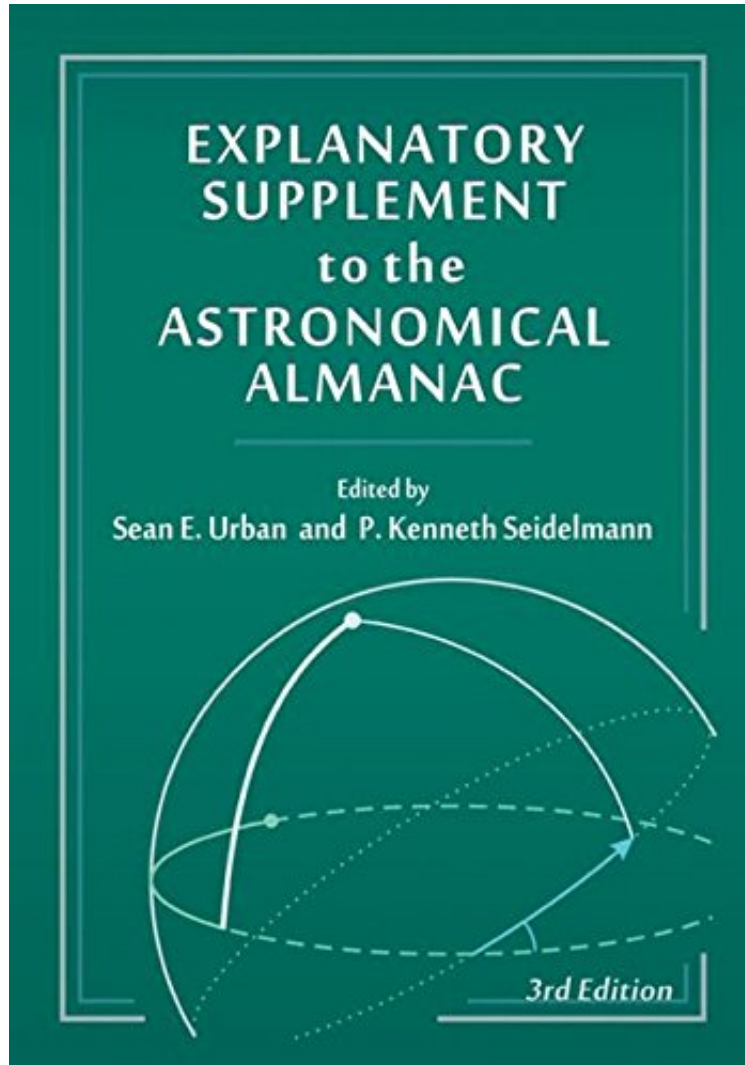


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## Explanatory Supplement to the Astronomical Almanac

*Sean E. Urban*

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**Sean E. Urban : Explanatory Supplement to the Astronomical Almanac** before purchasing it in order to gage whether or not it would be worth my time, and all praised Explanatory Supplement to the Astronomical Almanac:

1 of 1 people found the following review helpful. Keep the Previous Version!By Richard T. LeitnerFilled with great information even for those that don't use the Astronomical Almanac itself, I was excited to see an updated version offered. And a hardcover! Unfortunately, the volume suffers from the removal of some vital information in favor of provided links, urls or other external references to things that used to be included. Case in point: The previous version had a algorithm for computing the Julian Day. This quantity is required for the calculation of positions for celestial objects. This version seems to have removed that algorithm and instead states, "...URL[7} provides a useful program

for interconverting dates and Julian dates." Not cool, especially since the calculator in question, which purports to use the Julian Calendar for dates prior to the adoption of the Gregorian Calendar, will not allow selection of February 29th for Julian Calendar years BCE which should allow this day (such as Feb 29, 1001 BCE). And it also provides URLs/sources for various calendar conversion apps ... which proved outdated on the day after I received the volume! To be fair, I'm rating the book based to a large degree on Chapter 15 (Calendars), but that was one of its greatest utilities. Now ... not so much. I wonder how much stuff was removed from other chapters ... but if I am sorely disappointed when I go to use them, I'll try to update my post. 0 of 0 people found the following review helpful. A Monumental Work By G. Gladfelter An early review complimented this edition for not having errors and typos. Actually, it has very few in comparison to previous editions, and better yet: the list of errata is available online and kept fairly current. That said, this book can hardly be praised too highly. The attention to detail given to a myriad of topics is breathtaking, as is the precision of the material. Whatever you might need by way of background information when using the annual edition of the Astronomical Almanac is almost certainly to be found in this book. Also, a familiarity with this book will alert the reader to issues in astronomical computation the reader might not otherwise be aware of. A number by itself, without knowing its unit of measurement, and a precise understanding of what it represents can be a source of misunderstanding and trouble. This book is the antidote to many such problems in its field. The editors, and contributors, to this work are to be applauded for their devotion toward understanding and rigor in the field of astronomy. 14 of 15 people found the following review helpful. ES2AA, Third Edition By Tom M. This book is an update and revision of the 1992 Explanatory Supplement to the Astronomical Almanac (ES2AA). Back when the earlier edition was released it represented a MAJOR improvement in clarity and readability over the 1970's-era Explanatory Supplement to the Astronomical Ephemeris and the American Ephemeris and Nautical Almanac. The 3rd Edition of the ES2AA is a welcome update and re-organization of the Astrometric, Timekeeping and Earth Rotation information and serves as a coherent gathering of important algorithms and theory behind this subject. Some of the material has been re-arranged and it will likely take some time to get used to quickly finding it, but generally I find the descriptions and explanations very clear. The previous edition of ES2AA was soon followed by important Errata Sheets and it appears that the new edition has none of the past typos and reference problems. Of course, time will tell if an Errata is needed for the present edition -- readers are urged to check on this in the coming months and years. The binding, fonts and paper used in production of this book are quite good, and it appears to be able to stand the heavy use I will likely give it. The cover is no longer cloth-bound, but seems to be adequate. Revisions to the ES2AA seem to come every couple of decades, and it is well worth the price to keep current on the revisions to this body of knowledge.

The Explanatory Supplement to the Astronomical Almanac offers explanatory material, supplemental information and detailed descriptions of the computational models and algorithms used to produce The Astronomical Almanac, which is an annual publication prepared jointly by the US Naval Observatory and Her Majesty's Nautical Almanac Office in the UK. Like The Astronomical Almanac, The Explanatory Supplement provides detailed coverage of modern positional astronomy. Chapters are devoted to the celestial and terrestrial reference frames, orbital ephemerides, precession, nutation, Earth rotation, and coordinate transformations. These topics have undergone substantial revisions since the last edition was published. Astronomical positions are intertwined with timescales and relativity in The Astronomical Almanac, so related chapters are provided in The Explanatory Supplement. The Astronomical Almanac also includes information on lunar and solar eclipses, physical ephemerides of solar system bodies, and calendars, so The Explanatory Supplement expounds upon each of these topics as well. The book is written at a technical, but non-expert level. As such, it provides an important reference for a full range of users including astronomers, engineers, navigators, surveyors, space scientists, and educators.

'Careful measurements have always been the key to mastery of planetary and stellar dynamics and the cosmic distance scale. The material detailed in this book is the very bedrock underlying much else that we know about our own solar system and beyond.' --- Roger W. Sinnott, Senior Contributing Editor, Sky Telescope About the Author SEAN E. URBAN is Chief of the Nautical Almanac Office of the US Naval Observatory and a member of the American Astronomical Society, the Division of Dynamical Astronomy, and the International Astronomical Union's Division I (Fundamental Astronomy), Commission 4 (Ephemerides), and Commission 8 (Astrometry). In 1985, he was hired as a staff astronomer in the Astrometry Department of the US Naval Observatory, where he eventually rose to Chief of the Cataloging and Requirements Division. He has authored or co-authored over 70 articles, most on positional astronomy. P. KENNETH SEIDELMANN is a Research Professor at the University of Virginia, USA and previously held the post of director of Astronomy at the US Naval Observatory. His recent work has focused on space astrometry missions, Origins Billion Star Survey (OBSS), Astrometric Mapping Explorer (AMEX), and the Full-sky Astrometric Mapping Explorer (FAME). He is Chair of the IAU/IAIG Working Group on Cartographic Coordinates and Rotational Elements and the Celestial Mechanics Institute.