Astronomical Algorithms
Synopsis

Book by Meeus, Jean

Book Information

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Customer Reviews

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This is a cookbook of algorithms for solving a variety of numerical problems that come up in astronomy. Explanations of why the author chose to do things a certain way are not on the agenda, but various numerical examples are. Programs are not included, although it is fairly easy to go from the algorithms presented to code. For that information I recommend the equally affordable Textbook on Spherical Astronomy. That book is a pleasure to read and was written with newcomers to the field in mind. Read that book first. It will tell you most of the "whys" omitted in this book. To understand some astronomical problems will require studying more than one chapter of this book. For instance, to calculate the altitude of the Sun for a given time on a given date at a given place, one must first convert the date and time to Julian Day (Chapter 7), then calculate the Sun's longitude for that instant (Chapter 25), its right ascension and declination (Chapter 13), the sidereal time (Chapter 12) and finally the required altitude of the Sun (Chapter 13). This book focuses on classical mathematical astronomy, although a few astronomy oriented mathematical techniques are dealt with, such as interpolation, fitting curves, and sorting data. Astrophysics is not a topic covered in this book. Also, it is plain that not all topics of mathematical astronomy could have been covered in this book. Thus, nothing is said about orbit determination, occultations of stars by the Moon,
meteor astronomy, or eclipsing binaries. The table of contents can be hard to track down, and there are no excerpts available online, so I present the table of contents next:


About the book: I was looking for an algorithm for determining the solar declination for a given date, place & time (I’m writing a scientific paper), so I was stumbled to this book following a mountain of good recommendations and advices. This book is the *almost* perfect source of guidelines for those programmers, engineers and scientist that need to deal with astronomical predictions or related computations. Requires a more-than-basical math knowledge, this is *not* a beginners book, also doesn’t have astronomical theory or programming examples for your favorite language. Regarding
the package: The book was very well packed in a small and rugged carton box; the book, along the
proof of purchase was also covered with plastic protection. The package also included a small
catalog of other astronomical books published by the same editor. I'm very happy with the deal with
this seller, so I would recommend them at 100%.

great work, just that i am not the right person for it. bought it for information. way over my head :)

I bought this book with high hopes, and was not disappointed. It is clear, precise and very helpful in
providing many algorithms and much needed explanations on calculating ephemerides. However,
the calculations for the position of the sun was a little infuriating. I wanted a simple algorithm with
less accuracy than suggested by Meeus. By extension, Meeus then refers to the user to other works
of even greater accuracy for the calculation of the position of the sun. However, this is a minor point.
The book is well-done and is valuable extension to the Astronomical Almanac, and Explanatory
Supplement.

Well-written and easy to follow. Despite the lack of figures that could have clarified many concepts,
the book is good enough to guide readers in the calculation of many astronomical variables.

Good stuff. I found no errors in any of their examples. I used a spreadsheet and was matching all
their example answers. I specifically looked at moon position and phase and sun position.

If you love astronomy and programming then this is a must own book. Plenty of work to analyze.
Great buy! Jean Meeus is a living legend.

I haven't tried any other books than this one, so perhaps take this with a grain of salt. But it has all
the algorithms I need with the accuracy I need (for a work-related project). The explanations are
very good.

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Astrometric Techniques: Proceedings of the 109th Symposium of the International Astronomical
Union Held in Gainesville, Florida, U.S.A., 9â€“12 January 1984 (International Astronomical Union
Strategies, Evolutionary Programming, Genetic Algorithms Practical Algorithms in Pediatric