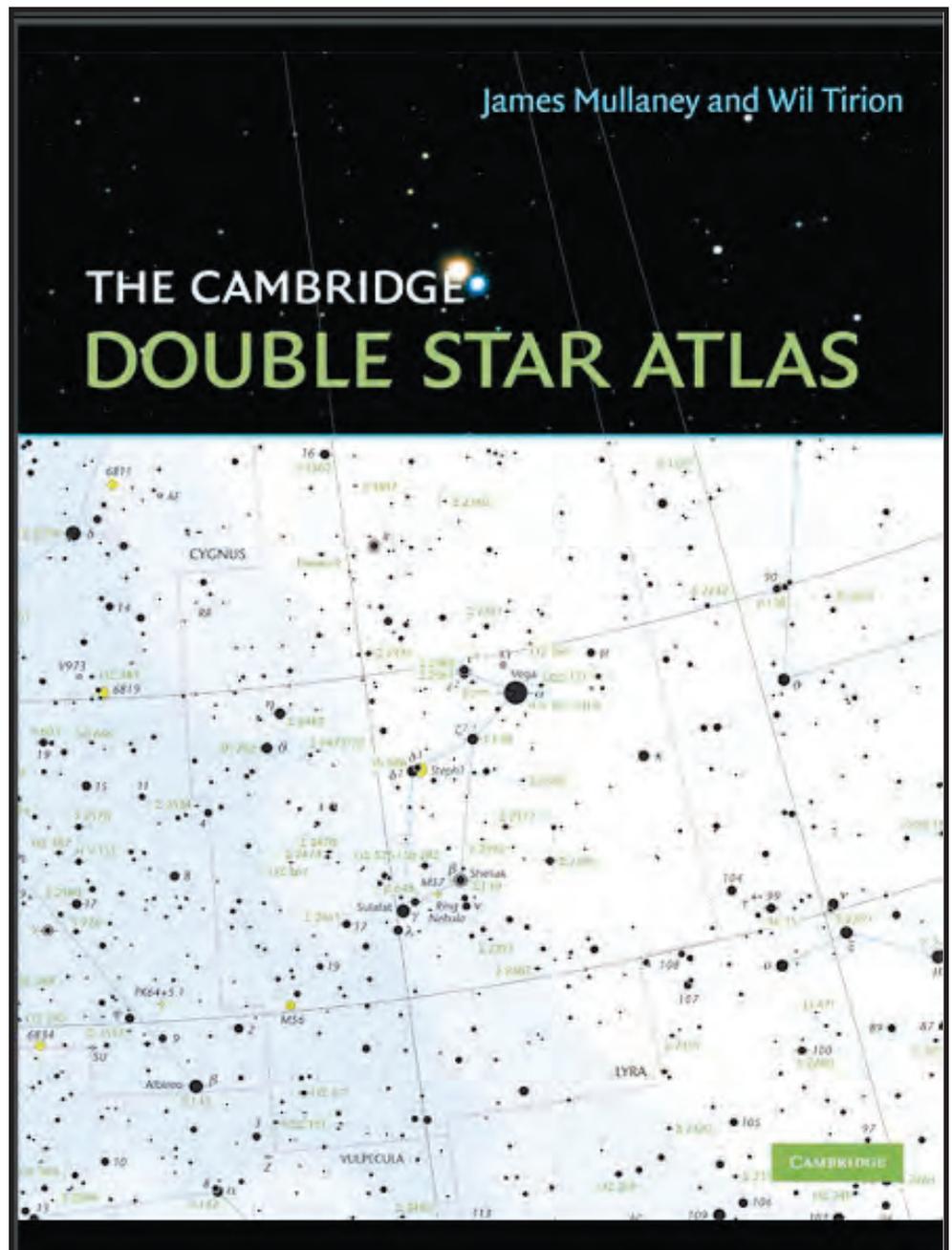


# The Cambridge Double Star Atlas

By James R. Dire, Ph.D.

I haven't been this excited over the release of a print-version star atlas since Wil Tirion's *Sky Atlas 2000* in 1981. So when Cambridge University Press announced they were ready to ship their new *Double Star Atlas* in April 2009, I must have placed the very first order on their web site. This nicely done spiral-bound book is the joint work of James Mullaney, former assistant editor at *Sky and Telescope* magazine and renowned astronomy author, and Wil Tirion, the best-known living stellar cartographer on this side of Alpha Centauri.

While a senior in college in Kansas City in 1981, I bought my first quality telescope, a Criterion RV-6 (6-inch f/8) Newtonian reflector. Living in a large, light-polluted metropolitan area, searching for nebulae and galaxies would have been very difficult. Viewing double stars seemed to be the best way to kick-off my observational career. I didn't need really dark skies, and found binary star systems quite fascinating. Tirion's first work was quite useful in helping me steer my Newtonian towards these celestial jewels.



## THE CAMBRIDGE DOUBLE STAR ATLAS

Atlas	Epoch	Limiting mag.	No. of charts	Stars	Deep space objects
Norton Star Atlas 20th Ed.	2000.0	6.5	18	8,800	600
Cambridge Double Star Atlas	2000.0	7.5	30	25,000	900
Sly Atlas 2000.0 Deluxe Ed.	2000.0	8.5	26	81,000	2,700

Table 1

However, *Sky Atlas 2000* did not contain information on the components' individual brightness and separation, resulting in my sighting countless binary stars that I could not resolve.

The *Cambridge Double Star Atlas* is an excellent composition containing all that is needed to explore double stars. It starts with an 11-page introduction to viewing double stars, followed by a table of 133 showpiece double and multiple stars that can be spied in telescopes with apertures from 2 to 14 inches. The atlas contains 30 plates, 8.5 by 11 inches in size, covering the entire celestial sphere. Nearly 2,400 double and multiple stars are plotted on the plates, each labeled with the discov-

erer, catalog and/or observatory index number. The double stars plotted have a limiting combined visual magnitude of 7.5 with no double stars identified with components fainter than 10th magnitude. Pairs separated by more than 3 arcminutes are plotted as separate stars.

Each plate covers between 1,200 and 1,400 square degrees of the sky. The background is white with solid black circles for stars; as is typical, the larger circles indicate brighter stars. Double and multiple stars have a horizontal line through the circle while variable stars have a concentric ring around a solid circle. Star clusters are yellow, nebulae are yellow-green and galaxies are red. The Milky Way is indi-

cated by two shades of purple, the darker shade denoting the inner Milky Way. All labels are black except double and multiple star labels, which are green. A legend appears at the top of every page to help identify object classes and estimate the brightness of all plotted stars to within a half magnitude.

The atlas has three appendices; the largest and most useful is a table listing all of the double stars plotted in the atlas in order of increasing right ascension. Each line also contains the stars' constellation, designation as labeled on the plates, and the components' magnitudes and separation in arcseconds. The strength of this atlas is that it contains double and multi-

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ple stars plotted on plates and catalog information all within one bound book. The catalog data and plates go hand in hand in picking observing targets and it is a simple matter to flip back and forth. The only thing that could have made this process easier is if the Appendix C table listed the stars by constellation or plate number instead of strictly by right ascension.

The *Cambridge Double Star Atlas* can be used for more than just double star hunting. As for the number of stars plotted, it falls in between the *Norton Star Atlas* and the *Sky Atlas 2000.0 Deluxe Edition*. However, the look is more like that of the *Sky Atlas Deluxe Edition* due to the similar color scheme. The *Norton Star Atlas* only uses black on white for all objects and labels, with one shade of green for the Milky Way. **Table 1** compares the three atlases.

Of the three star atlases compared in Table 1, I like the look, size and feel of the *Cambridge Double Star Atlas* the best. The

spiral bound book is just large enough to make the plates easy to read, whether under white or red light, but not so large as to monopolize desk space. Plus, each page has a thin coating that resists condensation. The double star designations contained on the plates don't excessively clutter the charts when using them for general observing.

Finally, I'll offer a few words comparing the *Cambridge Atlas* with electronic star atlases. Double star information can be found on many popular planetarium programs such as *Starry Night*, *The Sky* and *Voyager*. I use *Voyager* (by Carina Software) extensively for telescope control in my observatory ([www.wildwoodpines.org](http://www.wildwoodpines.org)). Double stars labels can be toggled on and off with one mouse click and settings can be adjusted to only display double star labels for certain limiting magnitudes, magnitude differences, and component separations. The number of double stars that can be displayed grossly exceeds those contained on a print star atlas.

So why would anyone ever need a bound paper double star atlas? Electronic star charts are great in observatories with computers and AC electric outlets. But when I am hauling my big Dob and four-step ladder halfway across the state to a remote dark site for an all night visual observing session, it's just easier keeping a light-weight paper atlas and small red flashlight (with a spare set of batteries) on the top tray of the ladder than a laptop computer. The computer battery won't last all night and it's not likely I'll have anywhere in the middle of nowhere to plug it into. *The Cambridge Double Star Atlas'* limiting visual magnitude for faint components is just perfect for visual binary star hunting! 

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