

SOME BACKGROUND INFORMATION ON R AQUARII  
AS AN ECLIPSING SYSTEM

EDWIN B. WESTON  
80 Oak Street  
Lexington, MA 02173

Abstract

Recently Willson, Garnavich, and Mattei (1981) suggested that the symbiotic Mira variable R Aquarii may be an eclipsing system with a period of 44 years. Over 40 years ago, Dr. Paul W. Merrill at Mount Wilson Observatory and over 30 years ago, Dr. Dean B. McLaughlin at the University of Michigan also considered the possibility that it might be eclipsing, but neither considered the observational data at that time sufficient to warrant publication. Merrill appears to have kept an open mind as to whether R Aquarii was a single or a binary star, and he continued to study it for the remainder of his life. McLaughlin favored a binary system, but also kept an open mind. Both recognized the physical relationship of R Aquarii with an inner nebulosity and with the extended lower-density optical nebulosity. During my years as a graduate student at Michigan and Research Assistant to Dr. McLaughlin, we discussed R Aquarii many times in terms of the possible similarities and contrasts with other systems such as certain old novae; VV Cephei,  $\epsilon$  Aurigae, and other long-period eclipsing binaries; the  $\circ$  Ceti system; symbiotic stars; and certain other peculiar objects.

Today we have, thanks to the dedicated work of the AAVSO, a much larger data base, but additional observations of R Aquarii will continue to be needed for many years to come.

REFERENCE

Willson, L. A., Garnavich, P., and Mattei, J. A. 1981, Inf. Bull. Var. Stars, No. 1961.

\* \* \* \* \*

FREE INDEX TO N.A.S.A.'S ASTRONOMY BOOKS

Some of the most interesting and useful books on astronomy have been published by N.A.S.A. during the last two decades. The restrictions of government publishing, however, have meant that these books, many of which are still in print, have received almost no publicity.

Now, the Astronomical Society of the Pacific is making a subject index to these publications available as a public service.

Among the books listed are non-technical descriptions of the more recent missions to Mars, Jupiter, and Saturn, and summaries of conferences concerning the search for extra-terrestrial life and the building of space habitats. Specific addresses and phone numbers for ordering these publications are also included.

To receive a copy of the index, send two first-class stamps (to help cover the cost of mailing) with your name, address, and zip code to:

N.A.S.A. Index  
A.S.P.  
1290 24th Avenue  
San Francisco, CA 94122