

COMMISSION 27 OF THE I. A. U.  
 INFORMATION BULLETIN ON VARIABLE STARS

Number 3354

Konkoly Observatory  
 Budapest  
 14 July 1989  
 HU ISSN 0374 - 0676

EPOCHS OF MINIMUM LIGHT FOR WY CANCRI, AM LEONIS, AND RR LEPORIS

An Optec photometer was used on the 41cm David Irons telescope at the observatory of the Charlotte Amateur Astronomers Club. Differential V measurements were made. B measurements were not attempted because B curves had much more scatter in previous observations. Clear (unfiltered) measurements proved to be unusable due to the contamination of light from passive red lighting and scattered light. V curves were used to find epochs of minimum light. The epochs are given as:

Star	Hel. J.D.	Method	E	(O-C)
WY Cancri	2447567.6998	Hertz.	1859	-0.0004
AM Leonis	2447567.9076	Hertz.	3875	-0.0005
	2447569.7349	Hertz.	3880	-0.0021
RR Leporis	2447472.7736	BIS.	3546	+0.0029

where Hertz. signifies the Hertzsprung method and BIS. stands for the bisection of chords technique.

The residuals for WY Cancri were computed using the light elements of Mullis and Faulkner (1988). Mullis and Faulkner presented two times of minimum light and a new set of light elements that indicated that the period had changed. The fact that the residual for WY Cancri presented here is small supports the period change noted by Mullis and Faulkner. A refined set of light elements was obtained by combining this epoch of minimum light with those of Mullis and Faulkner (1988) and Faulkner (1986):

$$\text{H.J.D. MIN.I} = 2446025.9019 + 0.82936960E^d$$

±1 p.e.            ±10 p.e.

The epochs of minimum light used to get the above light elements, as well as the residuals, are given in the next table.

Hel. J.D.	E	(O-C)
2446025.9017	0	-0.0002
2446143.6726	142	+0.0002
2447202.7774	1419	0.0000
2447241.7580	1466	+0.0002
2447567.6998	1859	-0.0002

The residuals for AM Leonis were computed from the light elements of Rafert and Twigg (1980). It should be noted that the eclipse curve from which the second epoch of minimum light was obtained suffered from an asymmetry, particularly on the ascending branch. This caused the determined epoch to be slightly early, giving rise to its more negative residual. Since the residuals of the epochs presented here are relatively small, it can be concluded that the period of AM Leonis has remained constant since the observations of Rafert and Twigg.

The residual for RR Leporis was computed based on the light elements of Bookmyer *et al* (1986). Because the residual was about 4 minutes, a new set of light elements was obtained by combining this epoch of minimum light with those of Bookmyer *et al*:

$$\text{H.J.D. MIN.I} = 2444226.6627 + 0.91542890E$$

±5 p.e.                    ±26 p.e.

Note that this period is 0.088 seconds shorter than that of Bookmyer *et al*. The epochs of minimum light used to get the above light elements, as well as the residuals, are given below.

Hel. J.D.	E	(O-C)
2444226.6635	0	+0.0008
2444231.6968	6	-0.0008
2447472.7736	3546	0.0000

CHRISTOPHER R. MULLIS  
501 Highland Forest Drive  
Charlotte, NC 28226  
U. S. A.

DANNY R. FAULKNER  
University of South Carolina-  
Lancaster  
Lancaster, SC 29720  
U. S. A.

References:

- Bookmyer, B.B., Faulkner D.R., and Samec, R.G., 1986, *Inf.Bull.Var. Stars*, No. 2873.  
Faulkner, D.R., 1986, *Pub.A.S.P.*, 98, 605.  
Mullis, C.R. and Faulkner, D.R., 1988, *Inf.Bull.Var.Stars*, No. 3206.  
Rafert, J.B. and Twigg, L.W., 1980, *Mon.Not.R.A.S.*, 193, 79.