

RECENT PHOTOMETRY OF AR LACERTAE

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AR Lac is an eclipsing binary of the RS CVn type. The intrinsic variability of one of the components was first announced by Wood (1946) and the presence of sharp H and K emission lines was noted by Wyse (1934). More recent work by Nha and Kang (1982) shows clearly that the light curve varies from year to year. The period is variable.

The detailed study of the variations is made difficult by the period of almost exactly two days. Thus the present study is a co-operative effort by observatories in widely different longitudes. In Korea, the observations were made at the Yonsei University Observatory and at the Kongju Teachers College Observatory while in the United States two observatories (Rosemary Hill and Fernbank) at approximately the same longitude participated. The geographical location of these observatories are given in Table I with the telescopes used and the number of observations obtained. During the 1980 observing season, complete coverage was achieved and an excellent light curve was obtained; the 1981 observing season was not nearly as good at Rosemary Hill, but even so the light curve, as plotted and shown in Figure 1, was obtained. Seasonal difference, especially in the depths of the minima, are clearly shown and will be discussed in more detail in the forthcoming publication. The accompanying plot of comparison-check star measures shows clearly that these variations are in the AR Lac system.

Table I. Location of the observatories

	Telescope	$\lambda/\phi$	No. of observations		
			V	B	U
Yonsei University Observatory	40 cm L	126° 46!0 E	504	482	---
	61 cm L	37° 41!2 N			
Kongju Teachers College Observatory	40 cm L	127° 08!4 E 36° 28!0 N	104	108	82
	Rosemary Hill Observatory	76 cm L 46 cm L	82° 35!2 W 29° 24!0 N	88	88
Fernbank Observatory	91 cm L	84° 19!1 W	154	155	156
		33° 46.7 N			
Total			850	833	326

We intend to continue observation, probably with collaboration from other observatories, to try to achieve a better understanding of these variations.

#### References

- Nha, I.-S. and Kang, Y. W. (1982), P.A.S.P. (in press).  
 Wood, F. B. (1946), Princeton Contr. No. 21, 10.  
 Wyse, A. B. (1934) L. O. B. 17, 37 (464).

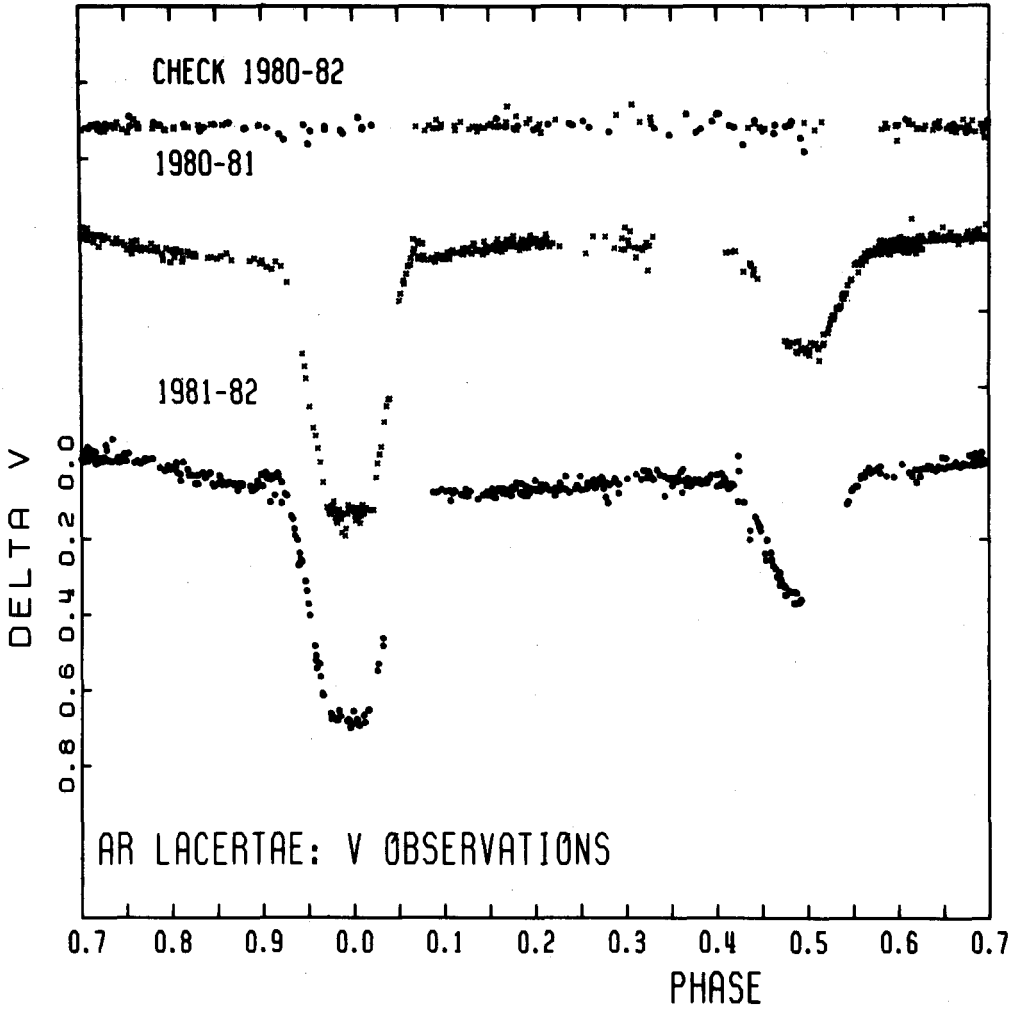


Fig. 1. Yellow light curves of AR Lac and check star, BD+44°4041. Symbols used are xs for 1980-81 and dots for 1981-82.