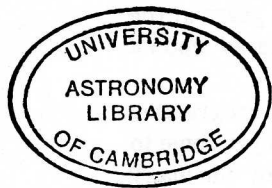


British Astronomical Association

VARIABLE STAR SECTION

CIRCULAR 4.



Deurne, Antwerp, 1923 April 13.
23, rue Thisius.

In this first Circular of the year, the Director begs to present his sincere good wishes to the members of the Section ; he hopes that they may enjoy happiness, good health, and many fine observing nights, and trusts that 1923 will witness further extension and improvement in our work.

(1) FIRST SECTIONAL MEETING, 1922 OCTOBER 25. —

The Director now begs to report upon this Meeting and to communicate the steps taken in pursuance of the results arrived at during it.

As planned, the meeting opened at 2.0 p. m. in the Smoking Library of Sion College, London and lasted about one hour. In addition to Dr. W. H. STEAVENSON, Director of the Mars Section, and the Director of the V.S.S., six members were able to attend, viz. Messrs J. H. BRIDGER, A. N. BROWN, E. H. COLLINSON, G. H. LEPPER, W. M. LINDLEY and H. THOMSON.

Col. E. E. MARKWICK and Mr. C. L. BROOK both sent their best wishes for a successful meeting.

The Director having taken the chair and welcomed the members, communicated to the Meeting a letter wherein the Rev. T. E. R. PHILLIPS, Director of the Jupiter Section, expressed his willingness to observe some of the stars on our Working List. Mr. H. THOMSON added that Mr. Wilfred HALL, F.R.A.S., of Hepple Morpeth, placed his photographic refractor at the Section's disposal in case we should like any variable star fields photographed, or other work of similar nature undertaken. Both offers were gratefully accepted.

The proposals before the Meeting, as outlined in Circular 3, were then taken up in turn, most of them being approved. The following remarks are of importance :

1. *General Policy.*— Changes in our policy have been propounded from time to time from various quarters. Some members have enquired if it is considered wise to observe thoroughly a limited number of stars, always the same, in preference to a much larger number less completely observed, or observed in turn.

The French observers have suggested lately that each of the Variable Star organizations, over and above its regular programme, should try to undertake the "rough" observation of the largest number possible of known variables in a limited and well defined area of the sky, this number to be such that it would be possible

to secure from 30 to 50 observations every year of each variable observed. This number of observations would suffice to give a general idea of the variation of the largest number of these objects.

On the other hand, there is the danger of discursiveness, which was a bad feature of our work during the first ten years of the Section's existence, before Col. MARKWICK concentrated upon a limited number of objects.

It was felt at the Meeting that, though a larger programme certainly represents a desirable ideal, the time has not yet come to embark upon too ambitious schemes, not to speak of the many practical difficulties involved. When our Working List includes all the old Rousdon stars, and a fair number of new active members have been enlisted, more extensive plans may probably be attempted without affecting the continuity and the completeness of our work, which must be considered essential.

2. *Stars to be observed.*— It has been definitely agreed to add to our Working List the following four stars: **SS AURIGÆ, S CASSIOPEIÆ, S CYGNI**, and **T DRACONIS**, for which charts and comparison star lists are being prepared and are nearing completion, Col. E. E. MARKWICK having kindly undertaken to delineate the tracing, and Mr. C. L. BROOK to furnish the blue prints for the present.

SS AURIGÆ, of the U Geminorum type, should be observed as often as possible, and it is hoped that many members will take it up. This object is very faint during its constant (?) minimum, and it is doubtful if any telescope in use by members of the Section will show it at this stage, but negative observations (indicating the faintest comparison star visible in the field) are of great value, and assiduous observers will be able to catch most of the maxima with a 4-in refractor.

3. *Allotment of stars.*— It has been decided that, in view of the value of long series of observations of the same stars by the same observers, new observers should take up in preference stars to be added to the List, or stars more or less recently added, leaving the stars which have been longest observed to the older observers. Any extension of our programme should be carried out in the first instance by those who have most recently joined the Section.

4. *Common stars.*— All observers who are not observing the following stars should try to add them as soon as possible to their working list: **o (MIRA) CETI, γ CYGNI** and **S URSÆ MAJORIS**. Observers who take up these stars should not, as a rule, estimate their brightness more than twice a month.

5. *Charts and Lists.*— Charts will be produced in the future on the same general lines as in the past. It has been agreed to use Hagen numbers and Harvard letters as previously, and to publish as many sketch maps as possible (starting from some fairly bright star), for the benefit of observers using instruments devoid of circles. Members using large instruments are requested to communicate any remarks they may have made on the faintest comparison stars.

6. *Colour Observations.* — It has been agreed that, whenever possible or convenient, observers should estimate the colour of the variables on our List, especially near maximum, on the following scale, which differs slightly from that proposed in Circular 3 :

0c Pure White	6c Orange
1 Yellowish White	7 Deep Orange
2 Pale Yellow	8 Reddish Orange
3 Pure Yellow	9 Red, slight tinge of Orange
4 Deep Yellow	10 Pure red (never observed).
5 Pale Orange	

These colour observations should only be made when the sky is perfectly clear and dark. No colour estimate should ever be attempted when the air is hazy, during twilight, or when the Moon is above the horizon.

7. *Publication of observations.* — It has been decided that henceforth, all observations will be published *as made*, adopting special notations for observations made by the fractional method, and for those made by estimating directly the brightness of the variable in tenths of a magnitude.

Members who have been in the habit of "reducing" their fractional estimates on the "step" method *should discontinue this practice*, and put down their fractional estimates in the usual way on the forms sent to the Director.

8. *Observation of red stars.* — It is suggested that, as far as possible, observers should make a succession of short gazes in estimating the brightness of red or ruddish stars, and that they should avoid observing them in bright moonlight or in bright twilight. When made under these adverse conditions, the fact should be expressly stated on the forms.

9. *Southern observers.* — Letters have been written to Australia and to the Cape, and it is hoped that some further help will be forthcoming from these quarters in observing the most Southern of stars on the Working List.

10. *Nova Section.* — It has been decided that, in view of the close relationship which exists between Novæ and Variable Stars, at least from an observational point of view, the V.S.S. should continue to observe the bright Novæ which may appear in the future.

Col. E. E. MARKWICK has kindly consented to prepare lists and charts for these stars.

No means has been found of publishing the large number of observations of the last two naked-eye Novæ made by the Section, as well as our numerous observations of **SS CYGNI** and "Irregular" variables. No funds can be made available for this desirable object by the B.A.A.; at least for the present.

11. *Rome Resolutions.* — It has been decided :

(a) That members of the Section should be perfectly left free to send their work to any organization of Variable Star observers ;

(b) That, pending the addition of new members, a special effort should be recommended to obtain as many observations as possible of those stars already on our list which need constant supervision, viz. **SS AURIGAE, R CORONAE, SS CYGNI, U GEMINORUM,** and **R SCUTI.**

(2) **PRESENTATION TO Mr. C. L. BROOK.** — There has been an encouraging response in this matter, and the completion of the album, which will contain 41 beautiful astronomical photographs, is well under way. A sheet on which it is proposed that all the subscribers should affix their signature has been circulated. The Director begs to thank the members who contributed to this presentation. Mr. C. L. BROOK has rendered invaluable services to the Section, which continues to owe much to his devotion.

(3) **CHARTS.** — Charts and lists of comparison stars are available for all the stars on our Working List as defined in Circular 1, with the following exceptions: **S AQUILAE** and **U GEMINORUM.** It is hoped that charts, etc. for these stars will be ready shortly.

Charts and lists for the following stars now *added* to our List are ready or will be ready within a few weeks: **SS AURIGAE, S CASSIOPEIAE, S CYGNI** and **T DRACONIS.**

Members wanting any of these maps and lists are requested to communicate with Mr. A. N. BROWN, Ludgrove, New Barnet, Herts, who has them in stock.

(4) **SENDING IN OBSERVATIONS.** — In order to economize paper, it is requested that members should write short series of observations of little observed stars on the same form, and that, when sending in observations in the course of the year, they should only forward forms *completely filled in.*

(5) **H.C.O. STARS.** — At the request of Mr. C. L. BROOK, some members of the Section have for many years been observing a certain number of stars for the Harvard College Observatory, which are not included in our Working List, and have been asking lately what they are to do with them.

It is suggested that observations of these stars should be sent to the Director (or Mr. A. N. BROWN), at the end of each year, with a statement ^{as to} ~~informing~~ whether or not a copy of them has also been sent to Harvard, either at the end of the year, or in monthly instalments.

It is considered important that these observations should be continued as far as possible, since, when the Rousdon stars are exhausted as additions to our Working List, these H.C.O. stars will evidently be suitable for inclusion among the variables regularly observed by us.

FELIX DE ROY

Director.