

THE VARIABLE STAR ASSOCIATION (ARBEITSKREIS VERÄNDERLICHE - AKV) IN THE GERMAN DEMOCRATIC REPUBLIC

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Abstract

The work of the variable star association (Arbeitskreis Veränderliche) (AKV) is described and numbers of observations in 1988-89 are tabulated.

In 1972, at a time when astronomy became increasingly popular due to extraordinary achievements of space research, the association of amateur observers of variable stars in the German Democratic Republic was founded by the teacher Helmut Busch at the Hartha Observatory.

Only a few years after World War II, systematic observations were begun at the Hartha Observatory in close cooperation with astronomers from the Sonneberg Observatory. From the very beginning, short-period stars and eclipsing binaries were the main items in our program. From the original group of about 20 founding members, a permanent core of 60 amateurs evolved. The association was, in its way, the champion of a specialized cooperation among amateur astronomers in the GDR. Associations of observers of the sun, of the planets, and of meteors followed later on.

The members of our association's management group are:

- H. Busch (chairman, short periodic stars)
- D. Böhme (semi-regular and irregular stars)
- K. & M. Rätz (finding charts)
- E. Zische (Mira stars)
- H. Lachmann and Th. Berthold (computer-related projects).

The observation period starts in April and ends in March of the following year. The report for the period 1988-89 presented the observations summarized in Table 1.

Table 1. Summary of AKV Observations, 1988-89

<i>Type</i>	<i>Observers</i>	<i>Stars</i>	<i>Observations</i>	<i>Extrema</i>
Algol	12	23	3830	57
RR Lyr / δ Cep	8	14	1616	58
Mira	20	101	5691	236
SR/Irr	24	100	8842	

Approximately 200,000 observations are saved in the archives of our association. The computer-aided recording of observations is a problem that must be solved in the

future. We are working on it at the moment.

Almost all of our observations are done visually, although in Hartha and Nessa two members are working with photomultiplier equipment.

The priorities of our observations increasingly were shifted from short-period stars to Mira stars. Unfortunately, our observation equipment is rather modest; in most cases we observe only with the help of binoculars or with telescopes up to 80 mm. Therefore, the very interesting eruptive stars are not part of the program.

In October 1989, a conference on exactly those stars was held in Jena, Germany, together with astronomers from the Sonneberg Observatory. This conference underlined the importance of the systematic observations of cataclysmic and symbiotic stars.

Important organizational and specialized information for members has been published since 1982 in the small journal of our association, called *Informations*. Since 1973 an annual summary of observations has been included in the *Mitteilungen über Veränderliche Sterne* published by the Sonneberg Observatory. The results of the long-term observations, which were performed by our members on variables of all types are published in almost every issue.

In Hartha, eclipsing binaries with a distinct shift of their second minima are considered to be a very important goal for observations.

Contacts with specialists in Sonneberg were of great importance for the positive development of our association. Names like Hoffmeister, Ahnert, Götz, Richter, and Wenzel have to be mentioned here. The understanding from this side and the opportunities to work in the archive of sky patrol plates cannot be overestimated. With the help of this archive it is possible to trace the light variation of each variable star that is brighter than 13th magnitude and has a declination north of -20° .

In 1982 we began to cooperate with the French variable star association AFOEV in order to publish all observations. In the *AFOEV Bulletin* we publish all individual observations of semiregular and irregular variables. We also have close contacts with our Czech friends, particularly with the Brno Observatory, the center of variable star observers of the CSFR. It should be mentioned that there were a lot of private contacts between the Berliner Arbeitsgemeinschaft für Veränderliche Sterne (BAV) and AKV even before the historic event in October 1989. W. Braune of the BAV has been, and we hope will be, a most important partner for us. We, the variable star observers of the GDR, would like to establish good relations in all fields with the members of BAV. Therefore we would like to invite them to a joint conference in the GDR as soon as possible.