AMATEUR VARIABLE STAR OBSERVING IN CZECHOSLOVAKIA

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Abstract

Efforts at the Nicholas Copernicus Observatory and Planetarium to rebuild amateur astronomy in Czechoslovakia since World War II are described.

Even before World War II, the Czechoslovak amateur astronomers observed variable stars rather extensively. At that time, the observational program was composed mostly of bright irregular and long-period stars. The work was badly affected by the war, and most of the observational material remained unreduced. Records from these observations existed in Prague until 1960 but they were lost later.

After the war, a net of public observatories was established in Czechoslovakia. It was partly a matter of tradition, as our first public observatory is more than 60 years old. In addition to this, in the 1950's it was supposed that astronomy could help to fight religionism, and for that reason it found the support of our atheistic state. Our enthusiasts for astronomy saw from the beginning that it would not work but they had no objections to this support and they continued noiselessly building up their tabernacles. During the past 40 years, building public observatories has developed into a national custom. Nowadays the directory of Czechoslovak observatories (except for private ones) contains 89 sites. It is quite a number for such a small country.

The main task of public observatories has been, of course, education and adult programs. Nevertheless, it soon became obvious that they also had to organize amateur observations, so in 1961 the system of branch assignments was created. Each of the large public observatories has chosen one or two branches of astronomy and has coordinated work in that branch throughout the whole state. Smaller observatories and individual amateurs can join and work in one or more branches, depending on their interests, and they find support from the leading observatories.

For the field of variable stars, the coordinator has been the Observatory and Planetarium of Brno. The Czechoslovak observational program is, with very few exceptions, limited to eclipsing binaries. The first observations were dated August 21, 1960, so in a month we will commemorate the 30th anniversary.

Most of the observations are visual, although several percent are photographic. Since 1987, a photoelectric photometer has been used in the observatory in Brno; the first results with it were published in the *Information Bulletin of Variable Stars (IBVS) 3423*. Other observations (almost exclusively times of minima) to the year 1986 were published in the *Contributions* of the Nicholas Copernicus Observatory and Planetarium of Brno.

In recent years about 500 times of minima are determined each year. The number of active observers has settled to about 80 each year. Most of them have only binoculars and that is why about half of the observations concern relatively bright stars. Fortunately, the most active observers have access to larger instruments (D = 15 to 40 cm) in several

public observatories . The faintest stars observed have their maximum brightness below 12.5 magnitude (50-100 times of minimum annually in recent years). Among those stars various surprises are possible.

To support the observation of variable stars, Brno Observatory issues finding charts and predictions and publishes results. A weekend meeting in Brno and 2-week summer training session for both beginners and skilled observers in Zdánice are also held each year. A special information bulletin for variable star observers is issued several times a year as well.

During 30 years, more than 7,000 observational series for times of minimum have been obtained (and 23 maxima of RR Lyrae stars in the early 1960's). Moreover, period changes have been studied or completely new light elements have been determined for some 15 eclipsing binaries. A thorough research in the literature is necessary and in this respect Mr. D. Lichtenknecker of the BAV with his data bank helped us a great deal. Since 1987, several of our members have had the opportunity to spend 1-3 weeks at the Sonneberg Observatory, GDR, and work with the plates of the Sonneberg Sky Survey.

In the last two years we had some financial problems, e.g., the lack of money for publication of our results, but I hope we shall get over them.

A new planetarium is being put into operation in Brno. We had the idea to christen the new hall by holding an international meeting of variable star observers. You may have read of such an intention in the *BAV Rundbrief* a year or two ago. We shall not realize it now as it would, of course, be nonsense to compete with your perfectly prepared meeting. But we are here and we watch carefully how to do it. And in several years I hope we shall be able to organize something similar!