A NOTE ON THE BBSAG VISUAL OBSERVATIONS

(Letter to the Editor)

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Abstract. This Letter contains some comments on the communication by Diethelm and Locher (1988) concerning the period variations in the eclipsing binary systems EE Aqr, BZ Eri, IZ Per, and VZ Hya. Significance of the BBSAG visual observations has been discussed.

In response to a recent communication by Diethelm and Locher (1988), the aim of this Letter is to stress my opinion that, once the observational data are published, they become the property of all investigators, and a prior approval for their use is not necessary. It is also not necessary that the views of the data-user should agree and conform with the views of the data-producer.

The factors involved in the visual observations and elaborated in the comment by Diethelm and Locher (1988) are not new to any observer and investigator. Moreover, these are not valid only for visual observations but for any type of observations. In addition, one cannot guess the factors elaborated in the comment, published by Diethelm and Locher (1988), until and unless they are specifically mentioned against each minimum which is quoted in the literature.

Some of the points, raised by Diethelm and Locher (1988) in their communication, have already been discussed and explained in my earlier paper (Srivastava, 1987). There is hardly any controversy that visual times of minima are affected by errors, but to what extent? Is there any limit? Diethelm and Locher (1988) communicate that the visual minima are affected by errors in excess of 0.01 days, but what is the extent of this excess? I have already mentioned in my papers on period studies that $O-C(S) > 0^{d}.01$ are appreciable. The reasons for this limit have also been discussed in my earlier paper (Srivastava, 1987).

The errors of times of minima can, of course, be evaluated when, either the observations of minima are published or certain parameters, such as depths of minima, durations of minima, etc., which are necessary for evaluating the errors, are given along with the times of minima by the visual observers, but these are hardly available in the literature. Mere presumption of errors without any basis is unjustified.

There is no disagreement between me and Diethelm and Locher (1988) that appreciable period changes are present in these systems, – a fact which has already been mentioned in the papers on these systems, and it has also been expressed that these results have to be confirmed in future, wherever required. However, I do not agree with Diethelm and Locher (1988) that some period changes are not present in these systems.

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I do not find any reason why O–C(S) > $0^d.01$, or at the most O–C(S) > $0^d.02$ should be ignored. In my opinion O–C(S) > $0^d.01$ are important in locating the epochs of period change, and in discussing the period behaviour.

In order to see the reduced scatter, mean O–C values have been obtained, and plotted in the O–C diagrams. In order to differentiate between different types of observations of minima, the weights have been assigned (except for BZ Eri, being the first paper of the series), and weighted means have also been given in my papers.

Also, I have tried to weigh each and every turning point of the O–C diagrams, and have defined the significance of each segment of the O–C diagrams according to my logic, which is only possible in the absence of observations and/or errors of times of minima. Wherever scantily-covered portions, and portions containing visual observations, and solitary points are found, the doubts have been cast about their significance.

To mention the errors and other related things is supposed to be the task of visual observers because these will help in enhancing the value of visual observations, otherwise their importance and significance will be defined by the presumptions of the users.

I am unable to understand how and in what way my work has discredited the visual observers (particularly, BBSAG observers like Diethelm and Locher). Also, I am unable to follow what Diethelm and Locher (1988) want to express through their incomplete comment – even what they desire to communicate to the scientific community.

It would have been better if Diethelm and Locher (1988) would have come out with concrete practicable suggestions and clear-cut approach for dealing with these systems *de novo* rather than flashing a comment.

For the purpose of completeness of the literature, BBSAG minima have been included in my papers, which is generally necessary for any related study.

It is strange that Diethelm and Locher(1988) have passed a comment only concerning the above-mentioned four systems, while their observations have also been used in the subsequent papers on other systems.

From their communication, I have come to the conclusion that Diethelm and Locher are skeptical about their (and BBSAG) visual observations. In this light, should their (and BBSAG) observations be used in future studies or not, and should any study done by them (and BBSAG observers), based on their visual observations be relied upon or not, be considered by the scientific community seriously.

They have undermined the importance of these period studies, which have been done for the first time. I have already mentioned earlier (Srivastava, 1987) that, when one presents the period study of any system for the first time, it depicts the gross features and not the refinements. Every investigator is at liberty either to support or to contradict any published work, or to improve it or to come out with completely new results, but in a scientific manner.

Moreover, wherever there is any controversy regarding any published work it should first be settled through mutual correspondence, and concrete practical suggestions, rather than taking recourse to an odd comment published by Diethelm and Locher.

References

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