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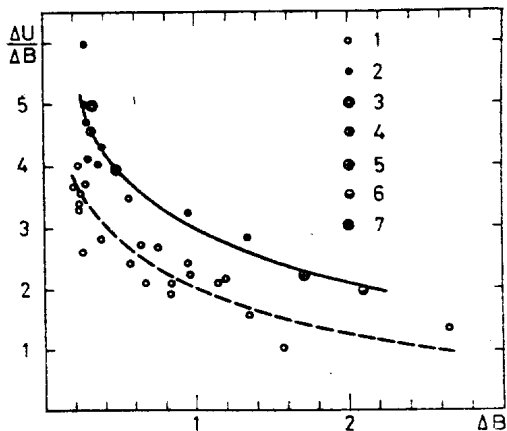
REMARKS ON THE OBSERVATIONS OF FLARE STARS  
BY JAPANESE ASTRONOMERS

Recently the first results of three-channel synchronous electrophotometric observations made by Japanese astronomers in UVB rays of flare stars were published (Osawa et al. IBVS No.608, 1971; No.635, 1972). They have obtained, in particular, amplitudes of brightness intensification  $\Delta U$ ,  $\Delta B$  and  $\Delta V$  during six flares of UV Cet, three flares of EV Lac and 17 flares of YZ CMi. There is good reason to believe, however, that the Japanese observers have witnessed a systematic reduction of the amplitude values in U for the flares they have recorded. One can get convinced of this fact when one compares the values of the ratios  $\Delta U/\Delta B$  obtained by the Japanese observers with the results of other observers, the value of  $\Delta B$  being the same. For greater evidence such a comparison is made graphically in Fig.1 in the form of empirical dependence of  $\Delta U/\Delta B$  on  $\Delta B$ . To reduce measurement errors data relating to  $\Delta B \geq 0,20$  have been used in plotting the curve.

In the Figure the upper curve depicts the empirical dependence  $(\Delta U/\Delta B) \sim B$ , resulting from the observations of 13 flares of six various flare stars. A similar dependence, based on the results of the Japanese observers (the broken curve), passes considerably lower than the first curve. On the other hand, both curves are nearly parallel to each other. The upper curve in the Figure is plotted according to the results of the observations of seven independent groups of astronomers, (1. Japanese observations of YZ CMi, UV Cet and EV Lac, Osawa et al. IBVS No.608, 1971; No.635, 1972. 2. EV Lac: Chugainov, Izv. Krymsk. obs., 40, 33, 1969; Cristaldi, Rodono, IBVS No.525, 600, 1971. 3. AD Leo: Abell, PASP, 71, 517, 1959. 4. EQ Peg: Andrews, private commun. 5. HII 1306: Johnson, Mitchell, Ap.J., 127, 510, 1958. 6. S 5114: Mumford, PASP, 81, 890, 1969. 7. BD +55°1823: Cristaldi, Rodono, Private commun.) and its weight coefficient

is therefore equal to seven. The weight coefficient, for the homogeneous group of Japanese observations, on which the lower curve is based, is equal to one. We come therefore to the conclusion that the above discrepancy must be due to a regular reduction of the value of  $\Delta U$  by the Japanese observers. This reduction is rather appreciable - 50-60 %. In other words, all the values of  $\Delta U$ , found out by the Japanese astronomers, should be multiplied by 1,5 - 1,6, in this case a complete inner harmony will be achieved with the results of other observations. An alternative assumption, that the above discrepancy might result from an overestimation of  $\Delta B$ , seems unlikely since in that case the inner harmony between  $\Delta B$  and  $\Delta V$  would strongly be disturbed.

A certain disagreement is notable also in the measurements of  $\Delta V$ , although the high relative errors in the measurement of V-rays (due to small values of  $\Delta V$ ) do not lead to unambiguous conclusions. Generally, one gets the impression that the energy calibration of the three-canal electrophotometer of the Japanese astronomers needs reconsideration.



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