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PECULIARITIES OF SOME β LYRAE-TYPE STARS
AND THE NEED OF THEIR FURTHER INVESTIGATION

During recent years an extensive study of β Lyrae-type binaries was performed in order to study mass transfer between the components. As change in the orbital period is one of the important features of the systems in which mass transfer occurs we performed a study of this phenomenon. As a result of our research several O - C diagrams were constructed and the parabolic shape of the O - C curve was found. This suggests monotonous mass transfer when mass loss from the system is not taken into consideration. In some cases short term or secular deviations from this course may exist. This gives evidence for nonstationary processes in mass transfer. As the study of nonstationary processes in the evolution and physics of β Lyrae-type stars is very important, we prepared a list of those stars with peculiarities in the shape of the O - C curve. The list below contains some of the β Lyrae-type stars on the northern hemisphere brighter than ca 11th magnitude in maximum light with observed irregularities of period change. The Table also includes some stars for which reliable data do not exist. For the investigation of the system the photoelectric observations of times of minimum are highly desirable.

Table 1

Star name	Range of the light variations	Period	Reason for the investigation
DS And	10.8 - 11.4	1. ^d 010	Gaps in the observations. Light curve and elements desirable
V 337 Aql	8.7 - 9.7	2.734	Massive components, variations in the light curve.

Table 1 (cont.)

V 609 Aql	11.7 - 12.4	0.797	Change in period ? Gap in the observations
AP Aur	10.9 - 11.4	0.569	Large changes in period ?
EP Aur	10.8 - 11.3	0.591	Shortening of period
TX Cas	9.2 - 9.8	2.927	Period changes ? Gap in the observations
IR Cas	10.8 - 12.1	0.681	Large change in period ?
QQ Cas	10.5 - 11.1	2.142	Period variations
WY Cep	10.7 11.6	1.249	Gap in the photoelec- tric observations
XZ Cep	8.4 - 9.2	5.970	Gap in the observa- tions
AH Cep	6.9 - 7.1	1.775	Large changes in the period
CQ Cep	8.9 - 9.4	1.621	WR component
EY Cep	10.1 - 10.7	5.517	No photoelectric obser- vations
V 366 Cyg	10.0 - 10.5	1.096	Gap in the observa- tions
V 367 Cyg	7.4 - 8.0	18.597	Important from the point of evolution
V 388 Cyg	9.7 - 10.3	0.859	Great period change
V 680 Cyg	10.2 - 10.9	1.199	Period not correct. No phe observations
V 729 Cyg	10.6 - 10.9	6.598	Asymmetry of the light curve
V 885 Cyg	9.9 - 10.3	1.695	Gap in the observations
RZ Dra	10.0 - 10.9	0.551	Period change. Asymme- try of the light curve. Secular terms in O-C curve ?
TT Her	9.7 - 10.5	0.912	Shortening of the period
VY Lac	10.2 - 11.0	1.036	Changes in the period started recently ?
AW Lac	10.6 - 11.3	1.143	Gap in the phe observa- tions
TZ Lyr	10.4 - 11.4	0.529	Change in the period

Table 1 (cont.)

AN Tau	10.3 - 11.2	1.615	Large change in the period ?
V Tri	10.9 - 11.9	0.585	No phe observations
AG Vir	8.8 - 9.4	0.643	Changes in the period. Asymmetry of minima
AX Vir	10.3 - 10.9	0.703	Few observations

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