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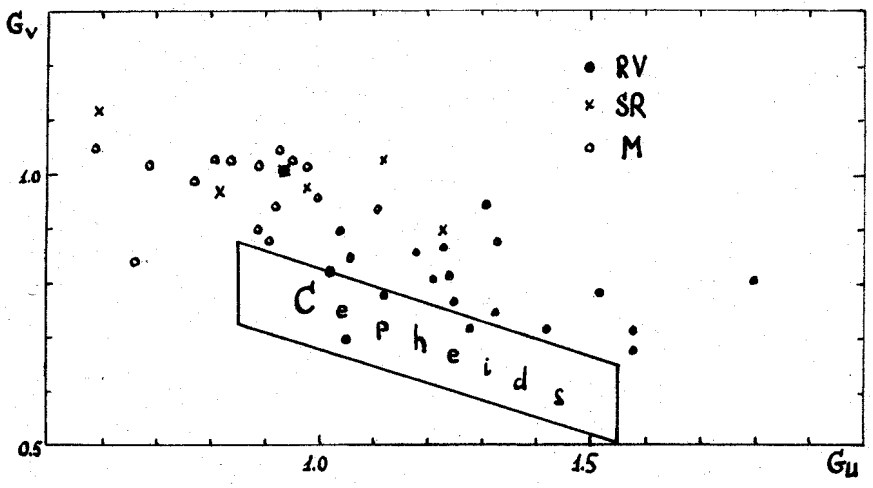
GRADIENT DIAGRAM FOR PULSATING VARIABLES

Comparison of the series of the U,B-and V,B-magnitudes for different variable stars indicates in most cases a regressive dependence. Thus, one can characterize a variable star by constant light gradients $G_u = dU/dB$ and $G_V = dV/dB$. On the gradient diagram (G_u, G_V) variables of different types form definite sequences (1). The cepheid sequence is the one mostly studied (2, 3). As to another pulsating variables they are located above the cepheid sequence on the gradient diagram as it was shown in the papers (1,4).

In this connection series of the phe UBV-magnitudes of Mira-variables, semi-regular and RV Tau type stars were studied. The gradients are given in the Table. The Figure



shows the gradient diagram for pulsating variables. One can see that M,- SR- and RV-variables form a sequence which is situated over the cepheids.Inside this sequence RV Tau type stars distinguish rather well as a rule having $G_u > 1,15$. Mira stars and semi-regular variables are not separated and are located in the left side of the sequence with $G_u < 1,15$ where there are no RV Tau type stars practically.

It is interesting that in the new edition of GCVS (11) two of the RV Tau variables given in the Table, SX Her and UU Her, are classified as SRd. Actually, UU Her has gradients typical for semi-regular variables. But SX Her, according to its location on the gradient diagram, is a star of the RV Tau type.

TABLE

Star	G_u	G_v	Source
	M		
R Boo	0.84	1.03	7
R Cuc	0.89	1.02	8
R Car	0.69	1.02	8
S Car	1.11	0.94	5
X Cen	0.89	0.90	8
U Cet	0.93	1.05	8
o Cet	0.77	0.99	6
S CrB	0.59	1.05	7
X Cyg	0.94	1.04	6
R Dra	0.95	1.03	6
S Her	0.66	0.84	7
SS Her	0.98	1.02	7
R Hya	0.92	0.94	7
R Leo	1.06	0.85	8
RS Lib	0.83	1.03	8
T Nor	0.91	0.87	8
RU Sgr	1.00	0.96	8
R Vir	0.84	1.03	7
	SR		
T Cen	1.12	1.03	5
W Cyg	0.98	0.98	7
Ch Cyg	1.23	0.90	9
30 g Her	0.94	1.01	7
R Lyr	0.60	1.12	7
L_2 Pup	0.82	0.97	5
	RV		
EQ Cas	1.25	0.77	10
DF Cyg	1.21	0.81	10
V360 Cyg	1.24	0.82	10
SX Her	1.58	0.72	10

TABLE (continuation)

Star	G_u	G_v	Source
UU Her	1.05	0.70	10
AC Her	1.33	0.75	10
EG Lyr	1.31	0.95	10
EP Lyr	1.42	0.72	10
U Mon	1.18	0.86	10
TT Oph	1.80	0.81	10
TX Oph	1.28	0.72	10
UZ Oph	1.04	0.90	10
V453 Oph	1.12	0.78	10
V564 Oph	1.23	0.87	10
R Sge	1.58	0.68	10
R Set	1.33	0.88	10
V Vul	1.52	0.79	10

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