

Исследование 18 переменных звезд в области M56

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Исследованы 18 переменных звезд в области $10^\circ \times 10^\circ$ с центром в M 56. 11 звезд являются вновь открытыми (СПЗ 1775÷1785).

The Investigation of 18 Variable Stars in the Area M56

by N. E. Kurochkin

18 variable stars in the area of $10^\circ \times 10^\circ$ with the centre M56 were studied. 11 stars are new variables (SVS 1775÷1785).

Исследование 18 переменных звезд в области $10^\circ \times 10^\circ$ производилось по фотографиям 40-см астрографа ГАИШ. Из них 11 новых переменных звезд СПЗ 1775÷1785 были открыты способом цветового контраста с проекцией на экран. Определение звездных величин звезд сравнения произведено привязкой к стандартам в M 56 и SA 63. На рис. 1, 2 приведены карты окрестностей переменных звезд. Север вверху. Сторона квадрата $\sim 5'$. Звездные величины звезд сравнения даны в табл. 1.

Т а б л и ц а 1

Звездные величины звезд сравнения

Звезда	a	b	c	d	e	f	g	h
СПЗ 1775	13.45	14.03	14.30	14.72				
СПЗ 1776	13.42	14.50	14.95	15.20	15.85	16.26:		
СПЗ 1777	14.80	15.28	15.64	16.36:	16.60:			
СПЗ 1778	14.44	14.92	15.12	15.62	16.12:	16.72:		
СПЗ 1779	14.09	14.35	14.95	15.17	15.68	16.88:		
СПЗ 1780	15.40	15.92	16.94:	17.13::	17.61::			
СПЗ 1781	14.40	14.81	15.34	15.85	16.34:	17.04:		
СПЗ 1782	15.04	15.23	15.43	16.28:	16.60:			
V1257 Cyg	14.56	15.49	16.19	16.38:	16.69:	16.96:		
СПЗ 1783	13.70	14.02	15.09	15.38	15.96	16.51	16.77:	17.40:
СПЗ 1784	13.16	13.91	14.15	14.87	15.16	15.85	16.47:	17.10::
V903 Cyg	14.90	15.43	15.75	16.63:	17.13:			
V911 Cyg	14.04	14.48	14.92	15.18	15.43	15.93		
ЕК Cyg	} 11.85	13.09	13.99	14.07	14.82	15.24	15.57	16.24:
V923 Cyg								
V1349 Cyg	14.91	15.51	15.78	16.42				
V925 Cyg	14.42	15.02	15.92	16.23:	16.84:	17.40:		
СПЗ 1785	12.56	13.36	13.92	14.02	14.26	14.86		

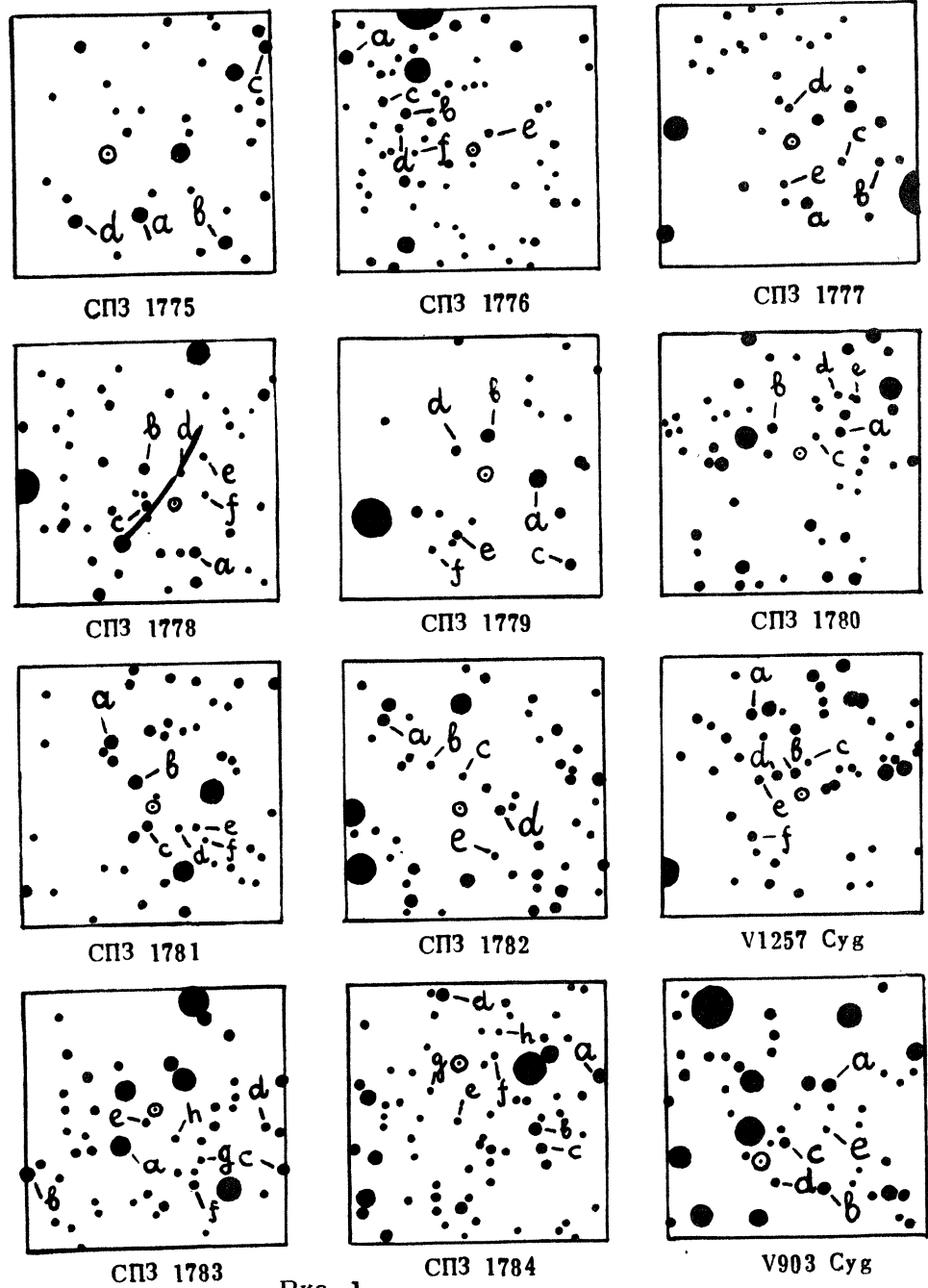


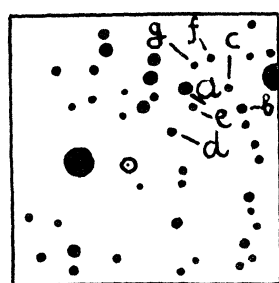
Рис. 1

Таблица 2

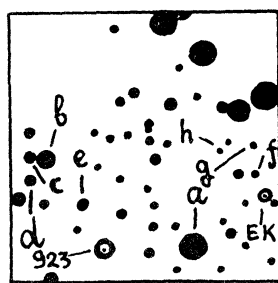
Звезда	α 1900	δ 1900	Тип	Max	Min	Эпоха J.D. 24	Период	n
СПЗ 1775	19 15 23+25	34.5	?	13.6	14.6			138
СПЗ 1776	19 20 50+27	20.7	L?	14.6	15.8			140
СПЗ 1777	19 21 12+26	30.6	RR	15.1	16.5	40381.465	0.699047	131
СПЗ 1778	19 22 12+31	40.5	L	14.8	17.0			135

Таблица 2
(продолжение)

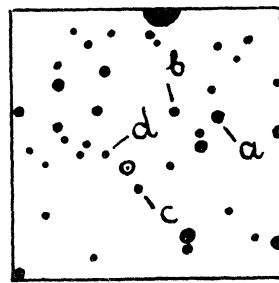
СПЗ 1779	19 23 04+25 51.0		14.5	17.0				135
СПЗ 1780	19 24 43+27 46.5	EA	15.8	17.6	39998.414	1.587045		123
СПЗ 1781	19 24 45+26 41.0	M	14.3	(17.0	38967	314.0		118
СПЗ 1782	19 24 55+31 11.1	EW	15.3	16.1	39379.273	0.4545201		139
V1257 Cyg	19 25 46+28 03.4	M	15.4	(18.0	40431	269.8		125
СПЗ 1783	19 26 02+27 22.7	E?	15.1	16.2				129
СПЗ 1784	18 26 50+28 42.0	L	13.8	15.4				131
V903 Cyg	19 30 51+31 02.3	M	14.9	(18.0	39965	328.5		125
V911 Cyg	19 31 54+27 46.1	EA	14.4	16.5	38260.408	3.4226070		127
EK Cyg	19 33 54+31 37.2	L	14.9	16.5				123
V923 Cyg	19 34 12+31 35.7	L?	13.0	14.1				129
V1349 Cyg	19 34 12+32 31.0	L	15.0	16.8				126
V925 Cyg	19 34 25+28 19.1	EA	15.8	17.3:	38552.474	2.9791900		83
СПЗ 1785	19 34 32+26 11.7	?	13.6	14.2				120



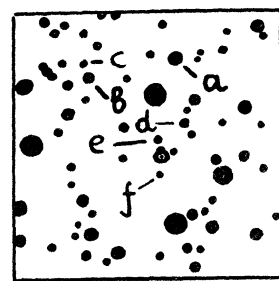
V911 Cyg



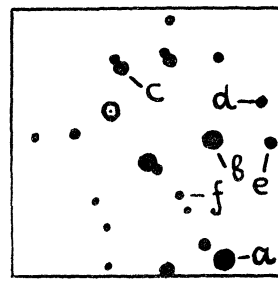
EK и V923 Cyg



V1349 Cyg



V925 Cyg



СПЗ 1785

Рис. 2

Примечания к таблице 2:

СПЗ 1777. M-m=0P25.

СПЗ 1780. D=0P09.

СПЗ 1782. Min II=16^m0.

V1257 Cyg. Использованы также моменты максимумов Миллера (1968).

V903 Cyg. Использованы также максимумы Вахмана (1961).

V911 Cyg. Min II=14.6; D=0P10. Моменты минимумов Миллера (1965)

несколько хуже представляются нашими элементами, что связано, возможно, с изменением периода.

ЕК Суг. В изменениях блеска наблюдаются сильные неправильности. Наши наблюдения элементами Вахмана (1966) не представляются. Возможно, звезда является полуправильной со значительными колебаниями периода и неправильностями.

V925 Суг. $D=0^{\circ}12$. Возможны изменения периода. Период дан средний по эпохам Миллера и Вахмана (1963) и нашим.

За предоставление вычислений периодов автор приносит благодарность П.Н. Холопову.

Наблюдения приведены в табл. 3 и на рис. 3, 4.

Таблица 3

СПЗ									
J.D.hel	1775	1776	1777	1778	1779	1780	1781	1782	V1257
2433..									
031.551	14.08::	15.10	16.29:	(16.0	(15.8	—	—	15.33	—
034.545	14.00::	14.95	15.35	16.36:	16.48::	16.12	16.76::	15.25	—
2434...									
471.473	14.30::	15.00::	—	—	(15.2	—	—	15.20	—
472.545	14.25	—	—	—	—	—	—	—	—
476.532	14.20	15.10::	—	—	—	—	—	—	—
477.461	14.30	15.33::	16.14::	14.98	15.68:	15.87	—	15.83	16.28
479.543	14.20::	—	—	—	—	—	—	—	—
480.437	14.25	15.08	16.20::	15.37	(15.7	—	—	16.08	—
2437...									
118.377	13.85	14.83	15.28	15.35	15.08	15.82	—	15.20	(16.5
135.482	14.18	15.10:	16.22:	15.52	15.15	15.92	(17.0	15.43	(16.7
137.473	14.08	14.95:	15.93	15.57	15.13	15.95	(17.0	15.30	(16.7
138.457	14.17	15.10	16.14	15.58	15.17	15.92	(16.9	15.68	(16.7
160.316	14.17	14.90	15.18	15.72	15.20	16.02	(17.0	16.28	17.50:
162.294	14.35	15.10::	15.46	15.80	15.22	16.56	(17.0	15.37	17.40::
164.337	13.95	15.20	16.24	15.87	15.17	15.87	(17.0	15.30	16.66
166.327	14.25	15.20	16.30	15.72	15.18	15.95	(17.0	15.23	16.66
168.379	—	15.10	16.32	16.12:	15.17	15.80	(17.0	15.20	16.48
175.332	14.06	15.25	16.36	16.12:	15.20	15.90	(17.0	16.28	16.59
176.512	14.00::	15.33	16.24:	16.30	15.20::	15.77	—	15.20	16.38::
194.317	14.18	14.84	16.14	16.24	14.95	15.82	(17.0	15.23	15.56
218.213	14.13	15.20	15.71	16.84	14.90	15.92	(17.0	15.23	15.63
525.504	14.38	15.08	16.40	16.35	14.59	15.75	—	15.70:	16.69:
527.512	—	15.10	16.14::	16.30:	14.47	—	—	15.37	—
546.352	14.22	15.46	15.70	16.20	14.95	16.85::	—	15.37	(16.4
549.445	—	15.80::	—	16.02::	—	15.92	—	15.30	(16.0
557.377	14.05	15.12	15.50	15.72	15.01:	15.75	—	15.52:	(16.8
761.502	14.25:	15.10::	—	—	—	—	—	15.04	—

Таблица 3
(продолжение)

2437...

845.491	14.16	14.84	15.71	15.10	14.83	15.50::	(17.0	16.28	(17.0
854.504	14.30	14.64	15.46	15.06	14.95:	15.98:	—	15.60:	(16.6
876.459	—	15.40	—	14.92	—	16.88::	—	15.50	(16.6
885.416	14.16	15.12	16.12	14.90	14.95	15.80	(17.0	15.30	(17.5
902.302	14.27	15.20	16.00:	15.08	14.95	15.82	(17.0	16.28	(17.5

2438...

142.521	14.25	14.80	15.30	15.05	15.06	15.95	(17.0	16.44	(17.5
176.422	14.16	14.86	—	15.05	14.96	—	—	15.50:	(16.0
196.450	14.27	15.33	15.57	15.32	14.95	15.80:	(16.3	15.30	(16.8
227.348	14.25	14.86	16.12	(16.1	15.15	15.95	(16.8	15.30	15.91
255.418	14.27	14.98	16.29	16.78::	15.58	15.82	(17.0	15.25	15.47
260.393	14.22	14.59	16.36	16.95::	15.70	15.87	(17.0	15.23	15.56
261.411	14.30	14.82	15.64	16.80::	15.80:	15.82	(17.0	15.50	15.56
263.447	14.45	14.59	15.64	16.12::	15.60	16.00	(17.0	15.88	15.40
268.374	14.38	14.90	15.46	16.42::	15.58	15.92	(17.0	15.60	15.44
281.270	14.24	15.26	16.22	15.95	15.27	16.74	17.25::	15.25	15.49
289.434	14.35	15.22	—	—	15.15::	—	—	15.23	16.04::
290.345	14.32	15.08:	16.42:	16.18	15.15	15.97	16.70:	15.27	15.53
326.227	14.22	15.38	15.26	15.40	15.12	15.82	14.75	15.37	16.69
552.489	14.38:	14.52	16.14:	(16.5	15.48	16.00	(17.0	16.44	15.40
560.455	14.35	14.90	15.14	(16.5	15.68	16.12:	(17.0	16.54	15.56
562.424	14.20	14.98	16.00	16.72:	15.17	15.66	(17.0	15.58	15.63
619.458	14.05	15.26	16.45:	15.95	15.53	15.90	16.70::	15.33	(16.6
676.242	14.22	14.86	—	14.96	14.89	15.45::	16.10::	15.37	(16.6
.272	14.03	14.86	16.36	15.02	14.95	15.71	15.85	15.33	(17.5
.311	14.00	14.60	15.93	15.00	14.92	16.73	16.00	15.40	(16.6
678.213	14.16	14.72	16.38	14.94	14.95	16.12	16.41:	15.51	(16.6
.255	14.20	14.60	16.03	15.02	14.77	16.05	16.00	15.37	(17.0
.316	13.92	14.55	16.33:	14.96	14.80	16.02	16.29:	15.33	(16.6
680.250	14.00	14.84	15.95:	14.92	14.83	15.76	16.19	15.75:	(17.0
.290	13.90	14.72	15.87:	14.90	14.75	15.95	16.19	15.23	(17.0
.331	13.96	14.63	16.30:	14.88	14.82	15.92	16.10	15.20	(17.0
.379	13.90	14.72	16.29	14.96	14.95	15.85	16.20	15.23	(17.5
681.308	13.92	14.95	15.60::	15.00	15.00	15.66	16.00	15.55	(17.5
.350	13.75	14.62	15.32	14.98	14.53	15.90	16.29	16.02	18.00
825.561	13.95	14.90	15.70	16.85:	14.65	17.23::	(17.0	15.38	15.40
876.435	14.14	14.92	15.57	15.72	15.27	16.96:	(17.0	15.27	16.80::
886.420	14.34	15.15	15.64	15.87	15.23	15.87	(17.0	15.33	16.85::
887.528	14.14	15.33	16.30	15.85::	15.17	16.22	(17.0	15.96	(16.6
904.400	14.16	14.95	15.18	15.10	15.60::	—	(16.0	15.30	—
907.468	14.20	15.08	15.64	15.30	15.27	16.12	(17.0	16.22	(17.0
914.402	14.23	14.90	15.78	15.37	15.58	16.73:	(17.0	15.25	(17.5

Т а б л и ц а 3
(продолжение)

2438...

918.449	14.20	14.95	15.35	15.04	15.42	15.82	(16.3	15.30	(16.6
938.392	14.42	14.95	16.12:	15.06	15.13	15.82	16.00	15.75	(16.0
939.425	14.65	15.05	15.46	14.95	15.12	15.71	15.95	15.14	(16.6
943.395	14.34	15.02	16.22	14.94	15.13	15.90	15.50	15.65	(17.0
965.430	14.16	15.08	15.86	14.90	14.77	15.72	14.35	15.90	(17.0
967.505	14.33	15.27	15.71	14.85	14.65	15.82	14.30	15.84	(17.0
969.466	14.30	15.20	15.18	14.94	14.60	15.92	14.35	15.35	(17.0
971.481	14.36	15.52	15.23	14.92	14.53	15.90	14.60	15.23	(17.0
973.492	14.34	15.72	16.07	14.96	14.60	15.95	14.54	15.25	(17.0
975.441	14.40	—	—	—	—	—	—	—	—
978.493	14.45	15.26	15.13	15.20	14.41	15.95	14.60	15.23	(17.0
981.495	14.51	14.95	16.00:	15.08	14.60	—	14.60	—	—
998.427	14.34	14.86	16.14:	15.62	14.97	15.92	15.34	15.40	(17.0

2439...

029.413	14.16	14.82	15.70	16.48::	15.00	15.78	17.10::	15.37	(17.0
030.244	14.30	15.00	15.10	16.75	15.06	16.22	16.80:	15.43	17.00::
.291	14.32	14.90	15.52	16.60:	15.08	17.20:	16.90:	15.45	16.80:
.338	14.38	15.10	15.50	16.60:	15.08	17.08::	16.90:	15.35	16.80::
.383	14.15	14.90	15.72	16.42:	15.00	16.08	16.90::	16.26	16.80::
031.354	14.34	14.90	16.12	16.72:	15.06	15.82	16.90:	16.32	(16.7
033.291	14.12:	14.62	16.22	16.75:	14.97	15.85	17.04	15.30	16.70::
.337	14.30	14.90	15.93	16.60:	15.03	15.77	17.10	15.37	16.75::
.384	14.34	14.95	16.14	16.42:	15.00	15.92	17.00:	15.51	16.70:
034.328	14.30	15.00	15.98	16.70:	15.10	15.72	17.04	15.40	16.80::
.372	14.32	14.90	15.31	16.72:	15.00	15.82	(17.0	15.30	16.75::
035.318	14.30	14.98	15.64	16.30:	15.04	15.92	17.04	15.35	16.70:
185.589	14.12	15.40:	15.40	15.08	15.06	15.87	(17.0	15.33	(16.5
262.517	14.20	15.72	16.00	15.12	15.27	15.82	15.95	15.50	(16.5
269.470	14.13	14.95	15.78	15.33	15.68	16.08	14.86	15.85:	16.85::
290.425	14.38	14.95	15.80	16.36:	15.17	15.90	15.07	15.37	(16.7
293.472	14.05	14.98	16.40	15.87	15.12	16.07	15.39	15.40	16.80::
297.420	14.00	15.08	15.57	16.12:	15.00	15.92	15.30	15.40	16.90::
318.348	14.20	14.92	15.71	16.72:	14.89	16.05:	16.20	16.04:	16.70::
324.471	14.08	14.95	15.13	17.00::	14.95	15.77	16.34:	16.28	15.91
328.514	14.16	14.90	16.40::	16.40::	15.10	—	—	16.04:	—
330.459	14.14	14.95	16.22	(16.1	15.06	—	—	15.30	15.63
335.502	13.97	15.52	16.38	(16.7	15.06	15.92	17.04:	15.33	15.40
343.295	14.00	15.08	16.14	(16.7	15.17	15.77	(17.0	15.30	15.49
345.301	14.12	15.03	16.07	16.80::	15.20	15.92	(17.0	15.33	15.49
376.333	14.08	15.20	15.50	(16.7	15.30	17.06::	(16.3	15.37	15.49
377.320	13.92	15.33	16.40	16.66	15.22	15.97	(16.3	15.37	15.46

Таблица 3
(продолжение)

2439...

379.270	14.00	15.33	15.90	16.85::	15.17	15.92	(17.0	16.30	15.49
380.386	14.25	15.30:	15.19	(16.7	15.25	15.70	(16.3	16.50	15.52
382.249	13.97	15.38	15.88	16.84:	15.20	15.75	(17.0	16.30	15.52
383.304	13.95	15.59:	15.32	16.72::	15.12	15.77	(17.0	15.94	15.63
404.250	14.20	15.03	15.23	16.54:	15.17	15.82	(17.0	16.40	16.65
406.248	14.10	14.98	15.39	15.97	15.17	15.92	(17.0	15.50	16.69
553.497	—	14.53	—	—	—	—	—	—	—
945.577	14.10	15.20	16.22	16.42:	14.40	15.95	(17.0	16.40	16.70
969.449	14.18	14.90	16.33	14.96	15.10	15.45	(16.0	16.30	(17.0
.485	13.90	14.95	16.40	15.02	14.92	15.90	(17.0	15.96	(17.0
972.472	—	14.90	15.57	15.06	14.95	15.82	(17.0	15.33	(17.0
.496	—	14.82	15.14	14.96	14.98	15.92	(16.0	15.35	(16.8
998.422	13.62	14.64	15.39	15.10	15.15	17.61:	(17.0	15.23	16.50::

2440...

004.406	13.60	14.90	16.14	15.06	15.17	15.60	(17.0	15.37	—
085.309	13.65	14.90	16.30	15.08	14.42	15.55	(17.0	15.43	(16.6
365.521	13.74	14.90	15.46	15.52	15.42	16.02::	(16.3	15.40::	(16.0
381.455	13.86	14.80	15.18	16.42:	14.70	15.75	(17.0	15.45	16.75:
382.501	14.03	14.78	16.27	16.10:	14.97	17.37:	(17.0	15.23	16.80:
422.401	13.97	14.78	16.45::	(16.0	14.98	15.92	(16.9	15.25	15.56
428.482	13.95	14.82	16.00::	(15.8	14.65	17.12::	(17.0	16.30::	15.42
744.436	14.25	15.15:	15.58::	15.87::	14.92	—	—	15.60	—
.460	14.38	15.66:	15.64::	15.90::	14.89	—	—	15.40	—
747.476	13.98	15.00	16.36::	16.24:	14.47	17.60::	(17.0	15.30	(17.0
748.506	14.30::	—	—	—	—	—	(17.0	—	—
764.429	13.95	14.98	16.41::	15.12	14.85	15.82	(17.0	15.80::	18.20::
768.426	13.93	15.20	16.29::	15.17	14.90	15.92	(17.0	15.43	(17.0
770.377	13.68	15.03	15.57::	15.30:	15.10	—	—	15.25	—
775.422	13.57	15.08:	16.00::	14.96	15.00	15.92	(17.0	15.30	17.50::
779.390	13.74	15.08	15.64	14.98	15.17	15.82	(17.0	15.91	(17.0
793.341	14.03	14.83	15.57:	14.92	15.22	16.02	(17.0	15.15	(17.0
799.443	13.97	14.90	15.50::	14.87	15.70	16.00	(17.0	15.25	(17.0
801.387	14.14	14.81	16.14:	14.90	16.00:	15.90	(17.0	15.33	(17.0
808.451	13.98	14.92	16.22:	14.92	17.00::	15.96	16.70::	15.96	(17.0
810.472	14.11	15.15	16.15:	14.82	(16.7	—	16.00:	15.23	(16.0
822.365	14.06	—	—	—	—	—	—	16.60	(16.0
828.429	13.92	14.86	15.93:	14.82	(16.7	(16.3	15.80:	15.37	(16.0
829.401	13.93	14.77	16.40::	14.80	(16.0	—	15.65	16.30	—

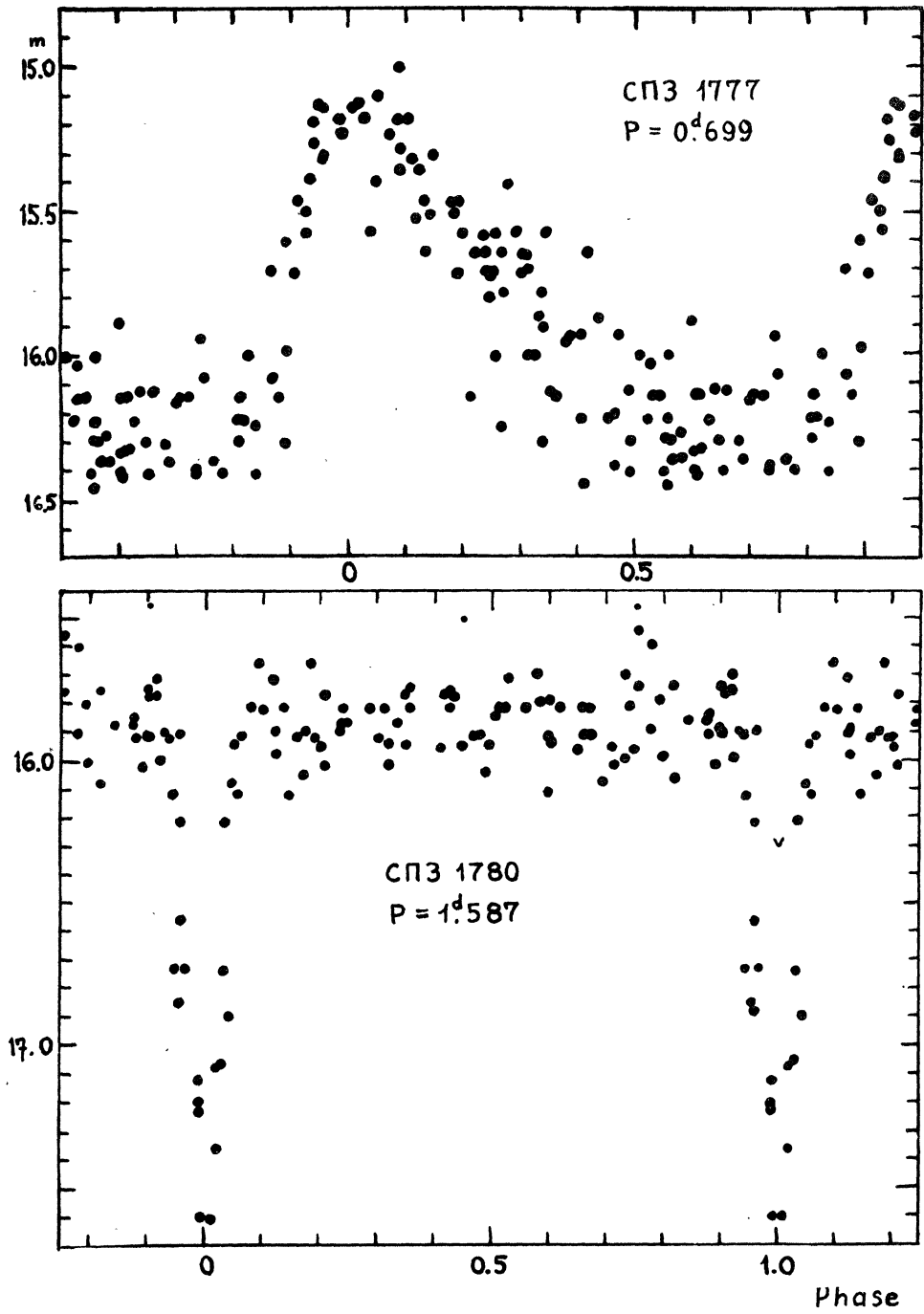


Рис. 3

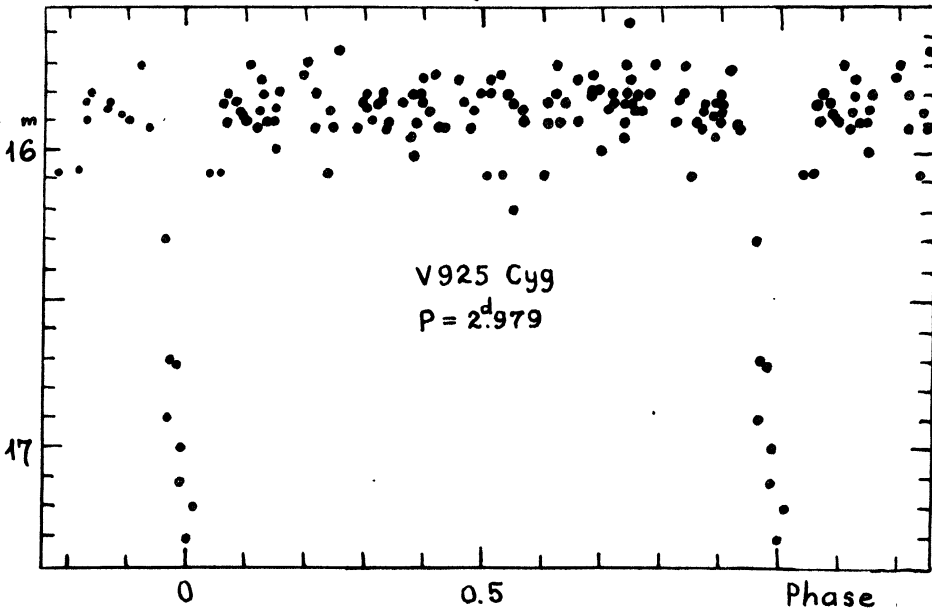
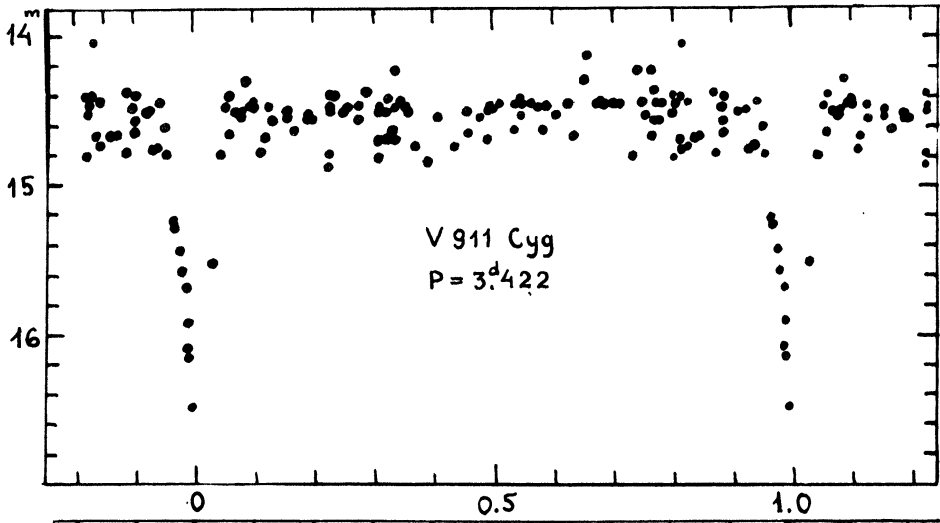
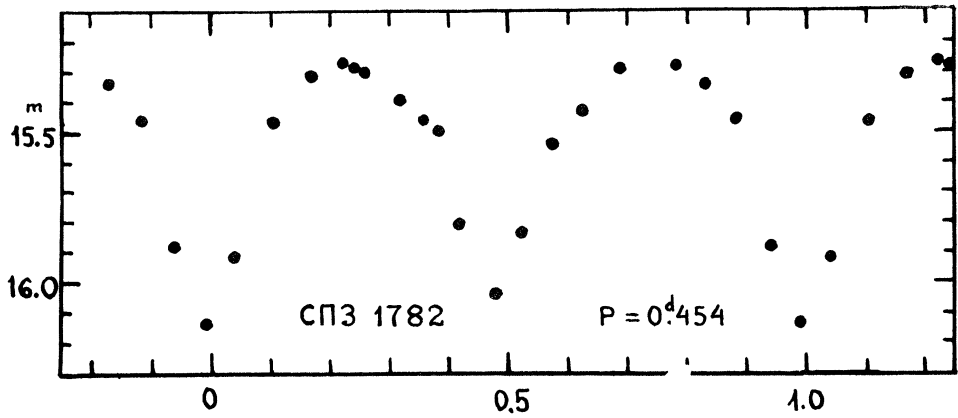


Рис. 4

Таблица 3
(продолжение)

СПЗ J.D.hel	1783	1784	V903	V911	EK	V923	V1349	V925	1785
2433...									
031.551	-	-	-	-	-	-	-	-	-
034.545	-	-	-	-	-	-	-	-	-
2434...									
471.473	-	-	-	-	-	-	-	-	-
472.545	-	-	-	-	-	-	-	-	-
476.532	-	-	-	-	-	-	-	-	-
477.461	15.49:	-	-	-	-	-	-	-	-
479.543	-	-	-	-	-	-	-	-	-
480.437	-	-	-	-	-	-	-	-	-
2437...									
118.377	15.24	14.50	(17.2	14.52	15.50::	13.40:	16.80::	15.83	-
135.482	15.22	14.21	(17.0	14.70	15.30	13.09	16.60:	16.08	-
137.473	15.20	14.30	(17.0	14.65	15.00::	13.40	16.20::	-	-
138.457	15.22	14.21	(17.0	14.57	15.20	13.70	16.10:	15.80	13.95
160.316	15.68	14.15	18.00::	14.50	15.90::	13.20	15.91	15.83	13.95
162.294	15.42	14.15	(17.5	14.52	15.65::	13.34	15.97	16.02	-
164.337	16.00	14.26	18.00::	14.48	15.98	13.73	15.94	15.80	14.02
166.327	15.81	14.15	(17.5	14.65	15.55	13.15	15.84	15.90	13.96
168.379	15.89	14.21	(17.5	14.75	15.90::	13.38	15.78	15.92	-
175.332	15.75	14.15	(17.5	15.28	15.70	13.30	15.74	15.80	-
176.512	16.18::	14.15	(17.0	14.48	16.10::	13.77	15.64	15.80	13.90
194.317	16.20:	14.81	(17.5	14.70	15.77:	13.40	15.78	15.80	-
218.213	16.07	14.93	(17.0	14.71	15.90::	13.55	15.68	15.85	-
525.504	15.28	14.56	(17.0	14.48	15.40::	13.98	15.39	15.83	13.60
527.512	15.18	14.50	(17.0	14.66	15.16	13.88	15.45	-	13.60
546.352	15.20	14.56	(17.0	14.74	15.10	13.82	15.21	-	-
549.445	15.89:	14.48	(17.0	14.57	15.50:	13.78	15.09	15.83	13.95
557.377	15.26	14.70	(17.0	14.66	15.57:	13.68	15.20	17.00::	13.98
761.502	-	14.32	-	14.84	-	13.85	-	-	-
845.491	15.26	14.21	(17.0	14.70	15.16:	13.70	15.62	16.00:	13.76
854.504	16.24:	14.87	(17.0	-	-	-	-	-	-
876.459	15.64	14.87	(17.0	14.80	15.20	13.64	15.27	15.88:	-
885.416	15.44	14.90	(17.0	14.75	-	13.35	15.51	15.90:	13.88
902.302	15.40	14.75	(17.0	14.44	15.40:	13.20	15.56	15.86	14.05
2438...									
142.521	15.26	14.50	(17.0	14.48	16.24	13.30	15.40	15.83	14.14
176.422	15.28	14.37	(16.0	14.66	-	13.78	16.10::	15.80::	14.10
196.450	15.40	14.40	(17.0	14.53	(16.0	13.25	16.04	-	-
227.348	15.62	14.80	(17.0	14.48	15.85:	13.58	16.23::	15.86	13.95

Т а б л и ц а 3
(продолжение)

2438...

255.418	16.01	14.51	(17.0	14.48	(16.0	13.09	(16.0	15.92	14.05
260.393	16.00	14.36	(17.0	16.50	15.57	13.00	16.30::	16.30::	13.62
261.411	15.96	14.21	(17.0	14.38	16.30:	13.28	16.30:	15.80	13.96
263.447	15.89	14.20	(17.0	14.38	16.40:	13.19	16.45	16.72:	14.02
268.374	16.00	14.18	(17.0	14.44	16.35:	13.48	16.50	15.83	13.96
281.270	15.73	14.20	18.00::	14.48	15.90:	13.38	15.78	16.70:	14.02
289.434	16.24::	14.36	—	14.57	16.50:	13.78	—	15.85::	13.90:
290.345	15.89	14.22	18.00::	14.26	16.50::	13.38	16.10	17.20::	13.98
326.227	15.50	14.90	—	14.40	16.11:	13.28	16.10	16.07:	13.98
552.489	16.07	14.66	(17.0	14.22	15.50:	13.40	15.85	17.30::	13.85:
560.455	16.10	14.22	(17.0	14.16	15.70::	13.82	15.39	15.80	—
562.424	16.00	14.44	(17.0	14.40	15.50::	13.28	15.45	15.92	—
619.458	15.28	14.12	15.33	14.57	15.34:	13.20	15.45	15.86	—
676.242	15.18	15.00	15.43	14.52	15.50:	13.80	15.54	15.80	14.10
.272	15.11	15.00	15.43	14.50	15.20	13.38	15.48	15.83	13.96
.311	15.28	14.97	15.40	14.48	15.30	13.70	15.43	15.86	13.98
678.213	15.28	14.97	15.50	14.52	15.40	13.30	15.03	15.70	13.96
.255	15.18	15.07	15.56	14.50	15.40::	13.30	15.33	15.80	13.90
.316	15.30:	15.10	15.45::	14.44	15.15:	13.40	15.35	16.08	13.96
680.250	15.18	15.00	15.45	14.48	15.26	13.18	15.25::	15.95	13.69
.290	15.11	14.90	15.60	14.48	15.16	13.40	15.45	15.80	13.60
.331	15.18	14.93	15.62	14.48	15.20	13.40	15.30:	15.72	13.82
.379	15.26	14.89	15.62	14.44	15.20	13.00	15.27	15.92	13.70
681.308	15.18	15.02	15.65	15.43	15.57	13.58	15.33	15.86	13.90
.350	15.09	14.93	15.72	16.16	15.15	13.19	15.39	15.65	13.64
825.561	15.18	14.58	(17.0	14.48	15.16	13.09	15.51	15.90	—
876.435	15.89	14.73	(17.0	16.10	15.90	13.77	15.39	15.80	13.90
886.420	15.52	14.90	(17.0	14.40	15.24	13.09	15.46	15.86	13.95
887.528	15.62	14.96	(16.0	14.80	15.20:	13.19	15.46	15.75	13.90
904.400	—	14.65	(16.0	14.56	15.15:	13.78	—	15.86::	—
907.468	16.07	14.80	(17.5	14.48	15.15	13.48	15.21	16.00::	13.90
914.402	16.00	14.87	(17.0	14.57	—	13.28	15.03	15.92	14.02
918.449	15.96	14.65	—	14.48	15.24	13.39	15.21	15.70	—
938.392	15.42:	14.58	(17.0	14.30	15.20	13.87	15.09	16.08::	—
939.425	15.80	14.80	(17.0	—	—	—	—	—	—
943.395	16.00	14.80	17.20:	14.44	15.20	13.80	15.45	—	—
965.430	16.00	14.20	15.43	15.68	15.16	13.87	15.27	15.83	14.05
967.505	15.49	14.15	15.46	14.50	15.30	13.87	15.30	15.85	14.14
969.466	15.68	14.15	15.53	14.64	15.16	13.82	15.33	16.90:	14.16
971.481	15.56	14.15	15.38	14.57	15.50	13.38	15.21	15.83	14.15
973.492	15.50	14.15	15.43	14.48	—	13.38	15.27	15.90	14.14
975.441	—	—	—	—	—	—	—	—	—
978.493	15.26	14.15	15.38	14.50	15.20	13.38	15.68	17.12	14.10

Таблица 3
(продолжение)

2438...									
981.495	—	14.29	15.43	14.46	15.50::	13.70	15.65	—	14.40
998.427	15.24	14.36	15.40	14.48	15.20	13.58	15.84:	15.74	—
2439...									
029.413	15.24	14.22	16.83	—	15.10:	13.48	16.30:	15.83	13.95
030.244	15.28	14.22	17.03	14.50	15.15:	13.97	15.85:	15.83	—
.291	15.24	14.20	17.10	14.74	15.20	13.48	15.80	15.95	—
.338	15.24	14.35	17.08	14.80	15.16	13.50	15.54	15.80	—
.383	15.30	14.18	17.03	15.28	15.15	13.28	15.60	15.86	—
031.354	15.32	14.15	16.60	14.52	15.20	13.58	15.95:	15.83	13.70
033.291	15.30	14.30	17.10	14.75	15.18	13.25	15.73	15.90	—
.337	15.28	14.15	17.05	14.40	15.20	13.38	15.90	15.75	—
.384	15.32	14.36	17.08	14.44	15.18	13.58	15.64	15.74	—
034.328	15.35	14.44	17.15	14.68	15.10	13.55	15.65	15.95	—
.372	15.67:	14.36	17.15	14.57	15.05	13.68	15.85	15.75	—
035.318	15.35	14.42	17.15	14.57	15.10	13.45	15.64	15.90	—
185.589	15.30	14.30	(17.5	14.52	15.31	13.37	15.45	16.08	13.62
262.517	15.96	14.80	17.03	14.48	15.35	13.97	15.60::	15.83	14.02
269.470	15.90	14.90	16.88	14.40	15.98	13.68	15.85	15.75	14.05
290.425	15.90	14.93	15.21	14.50	15.80	13.88	16.50:	15.78	14.02
293.472	15.61	14.90	15.28	14.04	15.57	13.85	16.36:	15.80:	14.18
297.420	15.50	14.97	15.32	15.93	15.75	13.70::	16.35	16.08::	—
318.348	15.15	14.93	15.27	14.48	15.54	13.50	15.69	15.83	14.02
324.471	15.18	14.90	15.32	14.78	15.60	13.68	15.89	15.92	14.20::
328.514	—	—	—	—	—	—	—	—	—
330.459	15.12	14.80	15.11	14.70	15.57::	13.75	15.64	15.75	13.96
335.502	15.35	14.90	15.33	14.78	15.85::	13.70	15.45	15.90	13.93
343.295	15.15	14.73	15.38	14.85	15.70:	13.45	15.45	15.92	13.96
345.301	15.09	14.70	15.53	15.58	15.64:	13.65	15.40	15.70	14.00
376.333	15.28	14.80	17.00::	14.80	15.40	13.58	15.38	15.74	—
377.320	15.19	14.93	17.20::	14.04	15.45::	13.78	15.33	15.90::	—
379.270	15.38	14.73	17.50::	14.48	15.57	13.68	15.09	15.75	—
380.386	15.30	14.66	—	14.48	15.30::	13.63	15.15:	15.83	13.92
382.249	15.15	14.51	17.03:	14.40	15.40:	13.72	15.46	15.80	—
383.304	15.35	14.44	17.50::	14.52	15.50::	13.78	15.27	15.92	13.96
404.250	15.50	14.30	(17.0	14.57	15.30:	13.40	15.70	15.84	13.85
406.248	15.38	14.15	(17.0	14.60	15.24	13.60	15.63	15.90	13.90
553.497	—	—	—	—	—	—	—	—	—
945.577	15.90	15.44	15.38	14.52	15.20	13.99	16.10::	—	—
969.449	16.13	14.73	14.90	14.70	15.24:	13.78	15.56	15.90	13.75
.485	15.96	14.58	15.38	14.48	15.15	13.10	15.54	15.80	13.75
972.472	15.96	14.75	15.22	14.88	15.20	13.08	15.64	15.70	13.70
.496	16.00	14.44	15.33	14.52	15.90::	15.35	15.90::	15.90	13.70
998.422	15.58	14.30	15.32	14.55	15.15	13.09	15.60	15.80	13.96

Таблица 3
(продолжение)

2440...

004.406	15.50	14.22	15.56	14.57	15.05	13.19	15.55	15.90	13.82
085.309	15.55	14.51	(17.0	14.57	15.10	13.70	15.53	15.80	—
365.521	15.26	14.66	(17.0	14.40	15.15	13.09	15.33::	16.20::	13.90
381.455	15.15	15.06	(17.0	14.48	14.90:	13.20	15.30	15.86	—
382.501	15.18	15.13	(17.0	15.53	15.03	13.68	15.33	15.92	—
422.401	15.50	14.87	(17.0	—	—	—	—	—	—
428.482	15.30	14.21	(17.0	14.52	15.12	13.23	15.51	15.78:	13.90
744.436	—	14.40::	—	14.26	15.65::	13.70	15.50	15.70::	—
.460	15.23	14.51	(16.0	14.60	15.57::	13.25	15.60:	15.56:	—
747.476	15.72	14.73	(17.0	14.32	15.60	13.25	15.45	15.86:	13.76
748.506	—	—	—	—	—	13.58::	—	—	—
764.429	15.69	14.10	(17.2	14.57	15.65	13.50	15.50	15.83	13.70
768.426	16.00	13.83	(17.2	14.48	15.34:	13.58	15.60	15.70	—
770.377	—	—	—	—	—	—	—	—	—
775.422	15.88	13.85	(17.5	14.52	15.50: :	13.28	15.45	15.90:	13.98
779.390	15.90	13.85	(17.5	15.58	15.30	13.10	15.45	15.83	13.70
793.341	16.10	14.03	(17.5	14.66	15.20:	13.10	15.45:	15.90	13.82
799.443	15.70	14.07	(17.5	14.74	15.50::	13.28	15.55	15.74	13.90
801.387	16.00	14.21	(17.0	14.57	15.30:	13.78	15.50	16.08::	—
808.451	15.78	14.30	(17.5	14.52	15.60::	13.20	15.45	15.92	—
810.472	—	—	—	—	—	—	—	—	—
822.365	16.00	14.93	(17.0	14.66	15.30	14.00	15.45	15.83	14.20::
828.429	15.85	15.10	(17.0	14.83	15.20	14.00	15.39	15.90	14.14:
829.401	15.82:	14.96	(17.0	14.48	15.40:	14.10	15.64:	—	—

Литература:

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Москва,

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им. П.К.ШтернбергаПоступила в редакцию
13 июня 1972 г.