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NEW VARIABLE STARS IN THE η HERCULIS FIELD

This paper continues the study begun in my previous publication (Antipin, 1994). Eight new variables were discovered in the field $10° \times 10°$ centered on η Her (Var 11–18). This study is based on Moscow collection plates taken with the 40 cm astrograph in Crimea.

Table 1 contains coordinates and GSC identifications of new variables. Coordinates for GSC stars were taken from the Guide Star Catalog; for the rest of the stars, they were measured relative to neighbouring GSC stars. The accuracy is about $\pm 1''$. Table 2 presents for each star: number of observations, time interval (JD), type of variability, maximum and minimum brightness (in B band), $M - m$ or D. Table 3 contains light elements (epoch and period) for periodic variables. Like in my previous publication, the standard near M13 (Arp and Johnson, 1955; Forbes and Dawson, 1986) was used to obtain the magnitudes of comparison stars (Table 4). Finding charts and phased light curves are shown in Figures 1 and 2, respectively.

Table 1. Coordinates and Identifications of Variable Stars

Var	α(2000.0)	δ(2000.0)	GSC
Var 11	$16^h38^m04^s.3$	$34°20'32''$	2585.2215
Var 12	16 48 19.8	40 28 44	
Var 13	17 06 54.5	39 22 11	
Var 14	17 00 50.4	36 08 51	
Var 15	16 31 37.1	34 32 23	2584.0550
Var 16	16 22 46.3	39 11 23	
Var 17	16 38 27.8	41 11 41	
Var 18	16 44 03.8	39 23 33	3074.0305

Remarks on individual stars

Var 11. EA classification is also possible for this variable. *Min II* 15.40.
Var 15. *Min II* 15.80.

Table 2. Data on New Variable Stars

Var	N	JD24...	Type	Max	Min	$M-m$ or D
Var 11	523	37080–48778	EB	14.70	15.80	
Var 12	257	41750–48778	RRab	15.10	16.50	0.15
Var 13	245	41750–48778	RRab	15.50	17.30	0.15
Var 14	243	41750–48778	RRab	15.90	17.30	0.20
Var 15	518	37080–48778	EB	14.90	16.30	
Var 16	269	37080–48778	RRab	15.80	17.10	0.20
Var 17	252	41750–48778	RRab	15.20	17.30	0.12
Var 18	311	37080–48778	EA	12.80	13.80	0.10

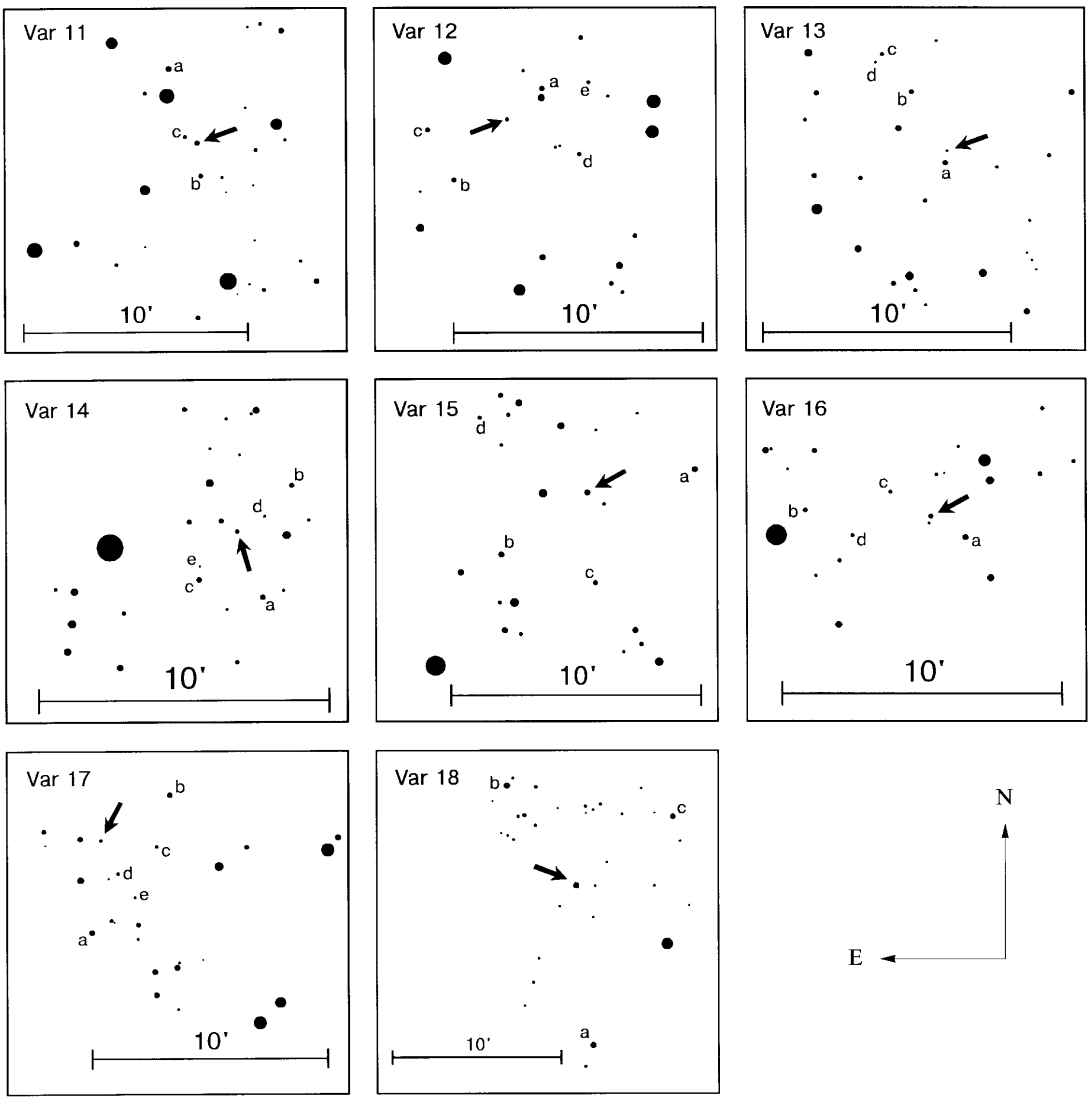

Figure 1. Finding charts

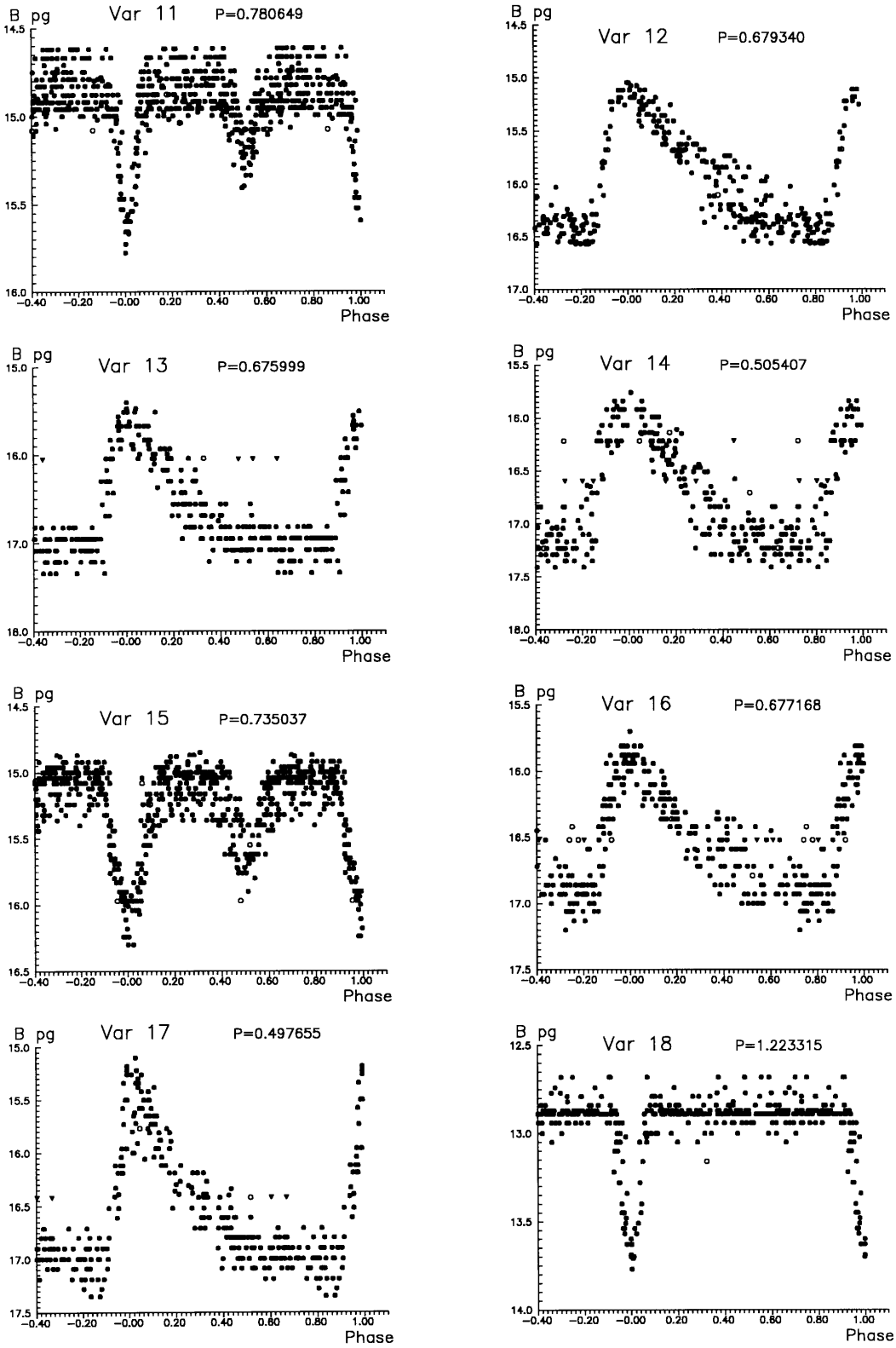

Figure 2. Light curves

Table 3. Light Elements

Var	Max (Min), JD	Period
Var 11	2441947.33	$0^{d}.780649$
Var 12	2445589.26	0.679340
Var 13	2441974.21	0.675999
Var 14	2442302.31	0.505407
Var 15	2442635.43	0.735037
Var 16	2441926.36	0.677168
Var 17	2441829.49	0.497655
Var 18	2442949.45	1.223315

Table 4. Comparison Stars

Var	a	b	c	d	e
Var 11	14.67	15.08	15.73		
Var 12	14.94	15.30	15.85	16.29	16.55
Var 13	15.10	15.51	16.04	17.34	
Var 14	15.46	16.22	16.48	17.23	17.82
Var 15	14.85	15.08	15.48	16.18	
Var 16	15.38	16.00	16.52	17.20	
Var 17	14.69	15.50	16.27	16.42	17.38
Var 18	12.58	13.10	13.69		

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