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NEW VARIABLE STARS IN CASSIOPEIA

In a previous report (Dahlmark, 1982) 58 new variables in Cygnus were presented. The present work is a continuation of that survey in an area  $20^\circ \times 15^\circ$  centered at  $1^{\text{h}}06^{\text{m}} + 60^\circ01'$ . Seventeen plate pairs exposed in the period 1967 to 1981 were collected and treated in the same way as described in the previous report. These observations provide approximate B and V magnitudes. In addition, six exposures were obtained in the period August 8 to September 23, 1985 on Technical Pan film. During the period 1982 to 1985 all variables were observed 4 to 9 times using a Newton 21/166 cm reflector, equipped with a Varo S20 image intensifier camera (IC) for 35 mm film. The calibrations of magnitude scales were obtained from Hoag et al. (1961) for the cluster NGC 225, which was observed with the IC at the beginning and end of each observing night.

In this survey 39 new variable stars were found. They are presented in Table I together with information on V 485 Cas (LD 68). Most of the variables are red - 20 could not be traced on the B-plates. The IC is equipped with a Schott BG 12 (2 mm) filter for the B band and GG 495 (1 mm) + BG 38 (2 mm) filters for the V band. With this system approximate B-V colors were derived for 10 variables. Since these B-V values are about 0.2 magnitudes smaller than those derived from the photographic plates we emphasize that the B-V colors given below should be regarded only as rough estimates.

In Table I the first column gives the provisional designation of the star, columns 2 and 3 the position, column 4 the range in visual magnitude, column 5 the approximate B-V color and column 6 approximate V magnitude of a close neighbour star that may influence magnitude estimations made with an instrument with small focal length. The notes in the last column refer to: 1. observed only with IC (nine observations 1982-1985); 2. LD 68 = V 485 Cas; 3. B-V from IC observations; 4. flare star?

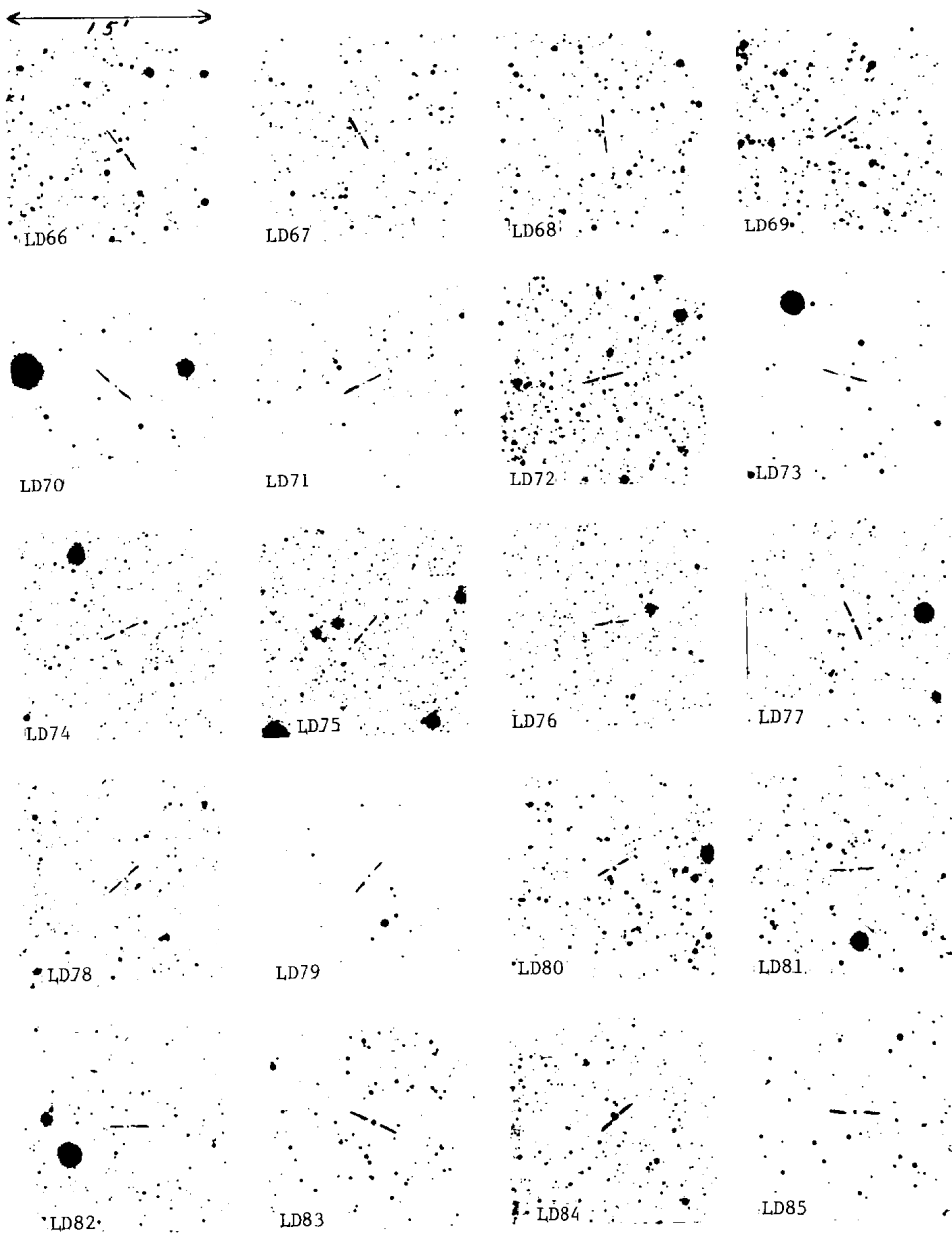


Figure 1

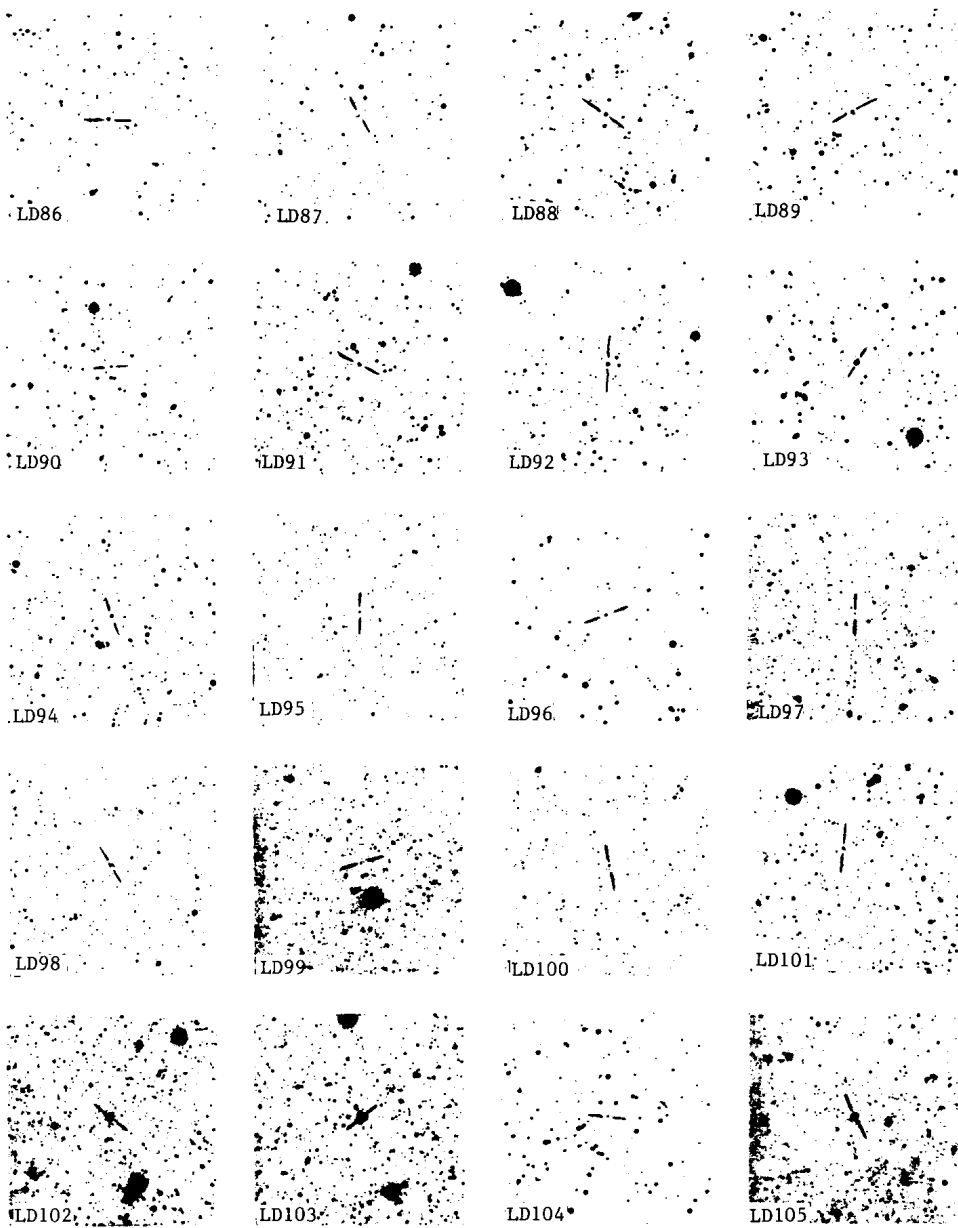


Figure 1 continued.

Table I. New variables in Cassiopeia Plate centre  $1^h06^m+60^s$

No	R.A. (1950)	Decl. (1950)	mV max min	B-V color	n.s.	notes	No	R.A. (1950)	Decl. (1950)	mV max min	B-V color	n.s.	notes
LD 66	$23^h48^m32^s$	$60^{\circ}39'$	13.0-(16.5	-	13.6	1	LD 86	$00^h32^m49^s$	$63^{\circ}53'$	12.3- 14.7	)2		
LD 67	23 56 33	61 47	13.5- 16.0	)1	13.8		LD 87	00 46 43	66 12	13.5- 14.3	0.5	14.5	
LD 68	23 59 35	64 38	13.0- 15.5	0.5	12.0	2	LD 88	00 48 03	58 20	12.6- 13.6	)1.8		
LD 69	23 59 45	57 49	13.3- 14.5	)1			LD 89	00 50 21	64 46	13.0- 15.5	)1	14.0	
LD 70	00 00 43	66 52	13.6- 15.0	)0.7			LD 90	00 53 27	59 24	12.2-(15.0	)2		
LD 71	00 01 10	59 28	13.6- 15.8	-			LD 91	00 53 40	66 59	12.2- 14.0	2.0	15.5	3
LD 72	00 01 37	60 32	13.8- 15.0	)1			LD 92	00 54 12	67 05	13.0-(15.0	)1.5		
LD 73	00 01 40	65 02	13.6- 14.5	)0.5			LD 93	00 56 03	63 32	10.9- 13.2	2.7		3
LD 74	00 04 33	61 32	11.5- 14.0	2			LD 94	00 56 21	60 28	11.9- 14.7	1.8		3
LD 75	00 04 52	63 04	12.4- 13.4	0.6			LD 95	01 11 01	56 05	12.7- 13.8	0.1		
LD 76	00 05 00	64 27	12.0- 16.0	2.2		3	LD 96	01 11 39	63 21	10.8- 16.2	3.0		
LD 77	00 05 40	52 29	11.6- 16.8	2.4			LD 97	01 15 51	53 12	13.5- 16.0	)1		
LD 78	00 08 40	64 03	11.5- 16.5	2.7	14.0	3	LD 98	01 16 55	64 12	12.7- 13.7	1.7	15.0	
LD 79	00 13 51	65 45	12.0-(16.4	)0.7			LD 99	01 30 47	61 56	13.5- 14.5	0.1		4
LD 80	00 14 12	58 02	13.0- 14.3	0	13.7		LD 100	01 40 00	59 45	11.5- 13.0	1		3
LD 81	00 15 20	58 53	13.5-(17.0	)1	14.5		LD 101	01 53 12	59 42	12.8- 15.0	1.2		3
LD 82	00 17 14	56 19	12.5-(16.5	)0.5			LD 102	01 57 35	58 22	11.3- 13.5	2.2	15.5	
LD 83	00 24 38	59 03	11.4- 13.2	2			LD 103	01 57 53	58 03	9.8- 12.0	3.8		
LD 84	00 31 33	64 16	12.8- 15.0	1.8	13.5	3	LD 104	01 59 13	62 48	13.0- 14.7	)1.5		
LD 85	00 32 25	52 37	12.2-(15.0	2.3			LD 105	02 26 40	62 19	12.0- 14.0	2	13.8	

The finding charts, Figure 1, were obtained with the IC without filter connected to the Newton 21/166 cm reflector. Individual magnitude estimates can be delivered upon request.

LENNART DAHLMARK  
Montlaur  
F-04230 St. Etienne les Orgues  
France

References:

- Dahlmark, L. 1982, Information Bull. on Variable Stars, No 2157.  
Hoag, A.A., Johnson, H.L., Iriarte, B., Mitchell, R.I., Hallam, K.L. and Sharpless, S. 1961, Publ. U.S. Naval Obs. 17, 1.