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**CCD LIGHT CURVES OF ROTSE1 VARIABLES, XVIII: GSC 3022:996, CV_n,
 GSC 2534:216 CV_n, GSC 2536:122, CV_n, GSC 2548:936 CV_n AND VV CV_n**

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Observatory and telescope:	
Private observatory Schüsselacher, Wald, 0.15-m Starfire refractor	

Detector:	SBIG ST-7 CCD camera
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Method of data reduction:	
Standard CCD-frame reduction using AIP4WIN software	

Method of minimum determination:	
Kwee – van Woerden algorithm	

Observed star(s):				
Star name	GCVS type	Coordinates (J2000)		Comp./check star(s)
		RA	Dec	
GSC 3022:996				
ROTSE1 J130549.16+383706.1	EW	13 05 49.2	+38 37 06	GSC 3022:738 / GSC 3022:964
GSC 2534:216				
ROTSE1 J131047.78+364407.2	EW	13 10 47.8	+36 44 07	GSC 2534:733 / GSC 2534:10
GSC 2536:122				
ROTSE1 J133413.76+312125.0	EW	13 34 13.8	+31 21 25	GSC 2536:1064 / GSC 2536:752
GSC 2548:936				
ROTSE1 J140205.83+340239.1	EW	14 02 05.8	+34 02 39	GSC 2548:79 / GSC 2548:10
VV CV _n	EB	13 17 41.7	+32 39 58	GSC 2538:211 / GSC 2538:255

Ephemeris:				
Star name	E 2400000+	P [day]	Source	
ROTSE1 J130549.16+383706.1	52694.5006	0.357382	present paper	
ROTSE1 J131047.78+364407.2	52691.6833	0.2459495	"	
ROTSE1 J133413.76+312125.0	52691.7085	0.280563	"	
ROTSE1 J140205.83+340239.1	52694.3796	0.260768	"	
VV CV _n	51246.681	0. 53314	"	

Times of minima:						
Star name	Time of min. HJD 2400000+	Error	Type	Filter	$O - C$ [day]	Rem.
GSC3022:996 (CVn)	51260.863	2	s	none		ROTSE1
	51340.7375	4	p	none		ROTSE1
	52601.583	2	p	none		
	52691.4635	15	s	none		
	52691.6397	10	p	none		
	52694.4996	7	p	none		
	52694.6772	6	s	none		
	52721.3064	14	p	none		
	52723.4485	10	p	none		
	GSC2534:216 (CVn)	51274.8914	5	s	none	
51337.7364		9	p	none		ROTSE1
52337.5161		9	p	none		Diethelm 2002
52337.639		3	s	none		Diethelm 2002
52601.6656		10	p	none		
52691.4366		14	p	none		
52691.5599		10	s	none		
52691.6833		4	p	none		
52694.3889		7	p	none		
52694.5117		8	s	none		
52694.6339		8	p	none		
52721.3208		12	s	none		
52723.4119		9	p	none		
52723.5335		11	s	none		
GSC2536:122 (CVn)	51246.8100	6	p	none		ROTSE1
	51260.7012	9	s	none		ROTSE1
	52337.5003	10	s	none		Diethelm 2002
	52337.643	2	p	none		Diethelm 2002
	52601.6482	17	p	none		
	52655.511	3	p	none		
	52691.429	4	p	none		
	52691.5258	16	s	none		
	52691.7060	13	p	none		
	52694.3743	11	s	none		
	52694.5153	6	p	none		
	52694.6550	4	s	none		
	52721.3130	14	s	none		
	52723.412	2	p	none		
52723.5523	5	s	none			
GSC2548:936 (CVn)	51304.8765	7	s	none		ROTSE1
	51348.8201	10	p	none		ROTSE1
	52655.5242	10	p	none		
	52691.5112	16	p	none		
	52691.6429	18	s	none		
	52694.3801	7	p	none		
	52694.5094	4	s	none		
	52694.6420	8	p	none		
	52721.3689	5	s	none		
	52723.3241	8	p	none		
VV CVn	52723.4541	12	s	none		
	52723.5856	13	p	none		
	51246.681	4	p	none		ROTSE1
	52287.640	2	s	none		Blättler 2002
	52308.695	2	p	none		Blättler 2002
	52344.4157	8	p	none		Blättler 2002
	52347.354	3	s	none		Blättler 2002
	52601.664	3	s	none		Blättler 2003
	52655.504	7	s	none		Blättler 2003
	52691.490	3	p	none		Blättler 2003
52694.424	5	s	none		Blättler 2003	

Explanation of the remarks in the table:

ROTSE1: Observations of Akerlof et al. (2000).

Remarks:

As a byproduct of the ROTSE1 CCD survey, a large number of new variables have been discovered (Akerlof et al., 2000). In a series of papers, we report unfiltered CCD observations for some of the close binary systems (type EW) in the list of Akerlof et al. (2000). This installment contains information on four variables in the constellation CVn as well as a first CCD light curve of the known variable VV CVn. The five stars were observed with our CCD equipment during several nights between JD 2452285 and JD 2452723. A total of 175 CCD frames were measured of GSC 3022:996, 183 frames of GSC 2534:216, 176 frames of GSC 2536:122, 138 frames of GSC 2548:936 as well as 231 frames for VV CVn. Figures 1 through 5 show our observations folded with the elements given in the Table of Ephemeris. These elements of variation are deduced from a linear fit to the normal minima from the ROTSE1 data and the timings of minimum derived from our data given in the table of Times of Minima. The star VV CVn = SVS 1290 was reported to be variable by Kurochkin (1961), who, based on photographic material, assigned the star to the EA class, providing the elements of variation stated in the GCVS. According to the SIMBAD data base, no further observations have been reported until the CCD photometry of the ROTSE1 survey (Akerlof et al., 2000). As can be inferred from the CCD light curve, VV CVn belongs to the EB subtype of the eclipsing binaries with a marked difference in amplitude between primary (0.55 mag) and secondary (0.30 mag) minimum.

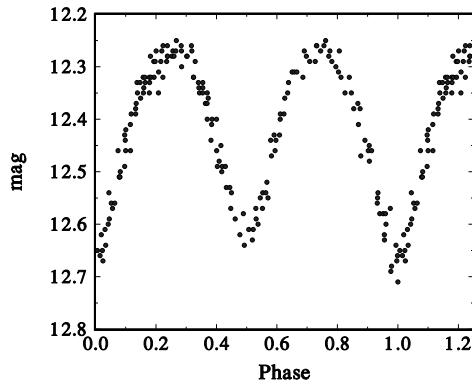


Figure 1. CCD light curve (without filter) of GSC 3022:996

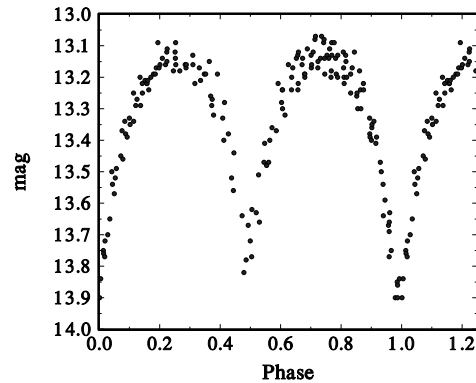


Figure 2. CCD light curve (without filter) of GSC 2534:216

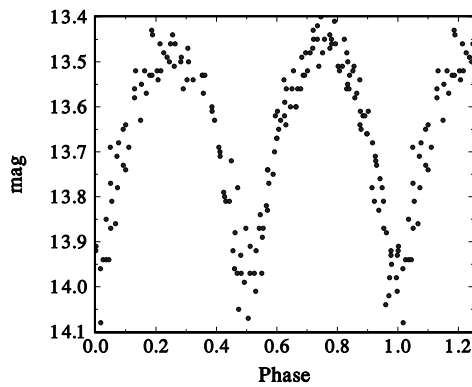


Figure 3. CCD light curve (without filter) of GSC 2536:122

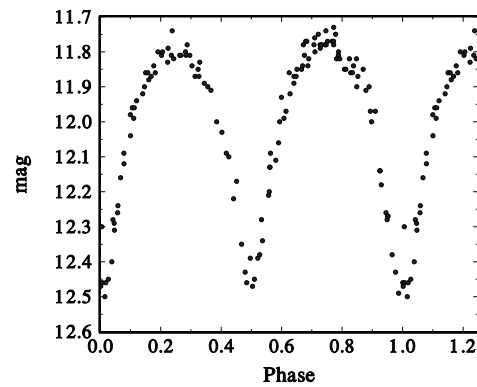


Figure 4. CCD light curve (without filter) of GSC 2548:936

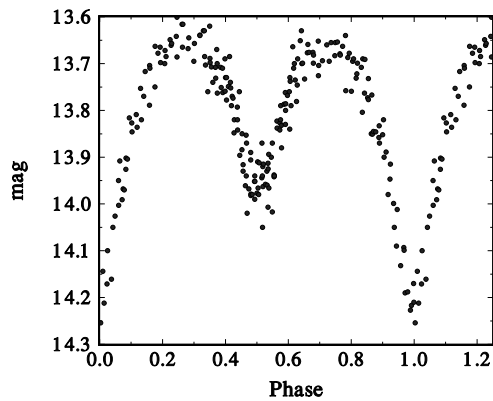


Figure 5. CCD light curve (without filter) of VV CVn

Availability of the data:

Upon request from diethelm@astro.unibas.ch
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References:

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