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NEW ELEMENTS FOR 80 ECLIPSING BINARIES III.

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The publicly available ASAS-3 (Pojmanski, 2002) and Hipparcos (Perryman et al., 1997) databases have been used to prepare this third list presenting new elements for eclipsing binaries. Three catalogues have been used to detect the candidates for this study: the Hipparcos Catalogue, the New Catalogue of Suspected Variable Stars (NSV) (Kukarkin and Kholopov, 1982) and its supplement (NSVS) (Kazarovets et al., 1998). For more details on the selection of the candidate eclipsing binaries and data analysis, see Otero (2003). Elements were found with AVE (Barberá, 1999) and a Microsoft Excel period search utility kindly provided by Patrick Wils (Wils, 2003). Hipparcos observations have been transformed to V using a table by the author published electronically in IBVS No. 5482 (Otero, 2003b). Table 1 shows the list of variables. The first column gives the variable star designation according to the GCVS. The following columns give another identifier; the brightness range of the variable, with the magnitude of secondary eclipse between brackets; the epoch of minimum light derived from the complete dataset; the period; the variability class and the spectral type with a note to the spectral type source.

Table 1. New elements for 80 eclipsing binary stars.

Star Name	Magnitude range	Epoch	Period	Type	Spectral type
Variable Other ID	(V)	(HJD2440000+)	(days)		
CE Cir HIP 068750	7.93 – 8.11 (8.08)	8219.079	13.9324	EA	B9IV/V (1)
NSV 00763 GSC 7009 0216	10.58–11.17(10.82)	12129.860	6.11384	EA	
NSV 01175 GSC 8873 0040	10.83– 11.2 (11.2:)	12134.878	4.63963	EA	G5V(e?)(31)
NSV 01708 GSC 7592 0778	12.27– 13.1 (12.95)	12215.706	3.6521	EA	
NSV 03489 GSC 5965 2026	11.13–11.60(11.53)	12215.795	2.53153	EA	
NSV 03725* HIP 037763	8.31 – 8.68 (8.60:)	13042.680	12.3192	EA	B8/B9III (1)
NSV 03870 HD 066436	9.43 – 10.07(10.02)	12723.645	0.446394	EW	F3V (2)
NSV 04226 GSC 6024 2103	12.28– 14.7 (12.36)	12645.761	3.4331	EA	
NSV 04426 GSC 5470 0214	12.7 – 14.1:(12.85:)	12031.470	1.89439	EA	
NSV 04677 GSC 6053 1042	10.04–10.76(10.10)	11932.715	2.2110	EA	
NSV 04686 GSC 8610 2627	12.16–12.66(12.54)	13018.820	7.1362	EA	
NSV 04711 GSC 9214 0576	12.6 – 13.3:(12.8:)	13018.786	0.79995	EA	
NSV 04941 GSC 8210 2662	12.72–;14.5(12.85:)	12810.482	3.76173	EA	
NSV 05156 GSC 7734 0221	11.96–12.66(12.11)	12736.612	1.81033	EA	
NSV 05177 GSC 8217 0730	12.32–;13.6(12.45:)	12934.800	2.63205	EA	
NSV 05487 GSC 8241 1098	11.72– ;13.7(11.85)	12759.622	1.95074	EA	
NSV 06061 GSC 8258 0787	11.24–13.05(11.43)	12738.740	3.5116	EA	

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Variable	Other ID	(V)	(HJD2440000+)	(days)		
NSV 06091	HD 113764	10.30–11.02(10.99)	12116.460	1.04222	EA/KE	A1/A2V (3)
NSV 06144	GSC 5543 1285	11.53–12.22(11.85)	12879.487	0.454857	EW/KW	
NSV 06150	GSC 9521 0323	11.88–12.6 (12.5)	12404.915	0.288906	EW/KW	
NSV 06208	GSC 8248 1062	11.81–12.61(12.03)	12793.568	0.740645	EA	
NSV 06218*	HIP 065403	9.08–9.44:(9.42:)	12014.643	5.7945	EA	G5V (3)
NSV 06354	HD 118532	9.71–9.93 (9.87)	11984.818	0.793856	EB/KE	A6IV (2)
NSV 06488	GSC 6148 0142	11.75–12.43(11.85)	13090.714	0.81672	EA	
NSV 06592	GSC 9252 1620	12.19–13.3:(12.33)	11903.842	2.74188	EA	
NSV 06714*	GSC 8691 2843	11.49–11.9:(11.9:)	11954.777	2.09093	EA	
NSV 06746*	GSC 7814 1992	11.26–11.87(11.77)	12452.523	1.14153	EW/KE:	
NSV 06800	GSC 9007 4133	12.30–13.85(12.45)	12643.849	2.43419	EA	
NSV 06921*	HD 133473	9.82–10.4:(10.4:)	11930.798	6.20673	EA	F5/F6V (2)
NSV 06933*	HD 133674	9.92–10.55(10.40)	12414.589	4.61052	EA	B9IV (3)
NSV 07038	GSC 9513 2469	12.37–13.17(13.10)	12809.693	0.448784	EW	
NSV 07044	HD 136591	9.99–10.51(10.43)	13011.851	0.386773	EW	F8 (1)
NSV 07763*	HD 328368	9.99–10.45(10.10)	12452.575	1.78686	EA:	B5 (9)
NSV 07847*	HD 149450	8.17–8.51 (8.26)	12040.789	1.108897	EA	B3III (2)
NSV 07871*	HD 149647	9.17–9.6: (9.5:)	12860.710	7.9935	EA	A2mA3-A7 (1)
NSV 08564	GSC 9276 2787	11.50–12.39(11.68)	11950.843	5.3275	EA	
NSV 09348	GSC 8729 0831	11.27–12.07(12.06)	12563.539	1.05333	EA	
NSV 09482	GSC 8355 2072	12.4–13.4 (12.7)	11994.792	0.524694	EB/KW	
NSV 09948	GSC 9067 0173	11.32–11.90(11.89)	12467.440	0.327111	EW	
NSV 10425	GSC 9290 1725	12.37–13.9: (12.6)	12055.753	5.0543	EA	
NSV 10789*	GSC 8363 3070	11.60–12.92(11.90)	11981.962	6.23975	EA	
NSV 11114	GSC 8368 0719	12.38–14.6 (12.5)	12811.846	2.76857	EA	
NSV 11217	GSC 7927 0894	10.68–11.51(10.80)	12712.879	1.00545	EA	
NSV 11381*	HD 174245	9.78–10.81(10.20:)	12922.518	2.63743	EA:	B8 (24)
NSV 11425	GSC 8385 0036	12.7–14.5:(13.2:)	12831.888	0.88483	EA	
NSV 11764	GSC 8379 1399	11.37–12.13(11.44)	12875.681	2.67524	EA	
NSV 11807	GSC 7427 0358	11.76–12.30(12.23:)	12740.875	0.948834	EA	
NSV 12215	GSC 0479 0823	10.61–11.15(11.07)	12481.639	0.531737	EW/KW	K2 (14)
NSV 12710	GSC 5746 0936	11.68–12.3 (11.9:)	12213.521	1.14177	EA	
NSV 13404*	HD 199063	10.64–11.25(10.93)	12175.543	0.597959	EB/KE	A2/A3V: (2)
NSV 13527	GSC 8793 0788	12.15–14.12(12.35)	12930.544	2.85739	EA	
NSV 13605	HD 201964	8.38–8.84 (8.77:)	12104.716	2.69592	EA	A2mA7/8-A8/9 (2)
NSV 13608	GSC 9469 0599	12.66–13.7 (13.0)	12085.710	0.510696	EB	
NSV 13711	GSC 7482 0186	11.31–12.68(11.44)	12500.634	1.86244	EA	
NSV 13717	GSC 7991 0677	10.91–11.34(11.00)	12831.720	0.801683	EA	
NSV 13766	GSC 9322 0006	12.05–12.7 (12.7)	12900.626	0.390816	EW	
NSV 13890*	HD 207570	9.28–9.56(9.54:)	12844.790	0.373882	EW	F6V(+A/F) (3)
NSV 14003	GSC 7995 0354	11.79–12.42(12.24)	12996.535	0.601954	EB/KE	
NSV 14163	GSC 9340 0292	12.6–13.4 (12.93)	12563.625	0.832102	EA	
NSV 14164	HD 212936	9.53–9.97 (9.87)	12770.852	3.64523	EA	F0IV/V (1)
NSV 14384*	GSC 9338 1173	11.5–11.95(11.85)	11869.540	121.21	EB/GS	
NSV 14532	HD 214505	9.37–10.04(10.02)	12992.612	0.336029	EW/KW	K1V (29)
NSV 17233	HIP 033274	7.88–7.98 (7.98)	8323.304	3.01351	EA	B8III (4)
NSV 17258*	HIP 033538	8.71–8.86 (8.77)	8701.550	50.363	EA	Fm del Del (5)
NSV 17336*	HIP 034262	8.25–8.43 (8.34)	13067.651	2.98260	EA	B3V (4)
NSV 18132*	HIP 044550	8.89–9.06 (9.05)	8311.779	10.31168	EA/DM	G3V (2)
NSV 18183*	HIP 045945	8.45–8.55 (8.55)	12764.617	6.64046	EA	A0V (3)
NSV 18424	GSC 8956 1910	12.5–13.3:(13.1:)	11919.730	2.87362	EA	B8V (14)
NSV 19453*	HD 110116	10.06–10.5:(10.32)	12135.445	15.493	EA	B9IV (1)
NSV 19983	GSC 1473 1049	10.25–10.59(10.57)	12751.746	0.53152	EW	F0 (28)
NSV 20009*	HIP 068339	8.42–8.62(8.62:)	7917.350	15.5543	EA/DM	B9V (1)
NSV 20245	GSC 6769 0476	11.07–11.70(11.33)	11996.772	0.782983	EA:	
NSV 20721*	HIP 081604	7.61–7.80 (7.77:)	8180.587	20.9659	EA	A2IV (1)

Table 1. New elements for 80 eclipsing binary stars.

Star Name		Magnitude range	Epoch	Period	Type	Spectral type
Variable	Other ID	(V)	(HJD2440000+)	(days)		
NSV 24926	GSC 6903 0105	10.76–11.08(10.95)	12529.568	0.80681	EB	
NSV 25992*	HIP 113654	8.13 – 8.19 (8.19)	8560.500	1.424797	EA:/KE:	A8V (27)
V0362 Pup*	HIP 034659	7.49 – 7.66 (7.66:)	8258.268	9.26581	EA	A2Vs (2)
V0920 Her	HIP 082390	7.87 – 7.98 (7.97)	7954.497	6.92644	EA	A0 (28)
V1000 Cen*	HIP 069980	8.40 – 8.67 (8.63:)	12102.514	16.6336	EA	B8IV (1)
V1375 Ori	HIP 025902	6.66 – 6.85 (6.72)	7915.300	146.33	EA/GS	K0/1III (5)
V1384 Ori	HIP 028142	7.21 – 7.45 (7.29)	8702.336	3.28023	EA	B2V (30)

Sources of spectral type: (1) Houk and Cowley, 1975. (2) Houk, 1978. (3) Houk, 1982. (4) Houk and Smith-Moore, 1988. (5) Houk and Swift, 1999. (9) Nesterov et al., 1995. (14) Kholopov et al., 2003. (24) Ochsenein, 1980. (27) Grenier et al., 1999. (28) Kharchenko, 2001. (29) Metanomski et al., 1998. (30) Guetter, 1968. (31) Torres et al., 2000.

Notes on individual stars:

NSV 03725 = Eccentric system.

NSV 06218 = One HIP eclipse recorded but not classified as variable in the HIP catalogue.

Period might be half the value given.

NSV 06714 = Primary eclipse might be the secondary.

NSV 06746 = Might be EB-type.

NSV 06921 = Period might be half the value given.

NSV 06933 = Very eccentric system.

NSV 07763 = EB-like.

NSV 07847 = Bright peak in the middle of Min II. Strong reflection effect.

NSV 07871 = Uncertain eclipse depths.

NSV 10789 = O'Connell effect. Max. II $V = 11^m63$.

NSV 11381 = EB-like.

NSV 13404 = Strong O'Connell effect. Max II $V = 10^m70$.

NSV 13890 = Classified as DSCT:/EW: by Piquard (2001) with a period of 0.373868 d.

NSV 14384 = Tycho-2 $B - V = 1^m57$.

NSV 17233 = Period might be half the value given. Min I might be min II. Visual binary. $A = 8^m1; B = 9^m7$ Hp. Sep. $0''.29$ (Perryman et al., 1997)

NSV 17258 = Slightly eccentric system.

NSV 17336 = Eccentric binary. Visual binary (sep. $2''.66$) made Hipparcos data completely useless.

NSV 18132 = Period might be half the value given. Visual binary $9''.4$ (Dommange & Nys, 2002)

NSV 18183 = Period might be half the value given.

NSV 19453 = Eccentric system.

NSV 20009 = Period might be half the value given. Visual triple. $A = 8^m5; B = 11^m4$ Hp. Sep. $7''.32$ (Perryman et al., 1997). $C = 12^m8$ B (Egret et al., 1992). The AC sep. is $44''$ (Worley and Douglass, 1997).

NSV 20721 = Period might be half the value given.

NSV 25992 = Min I might be Min II. Visual binary. $A = 8^m5; B = 9^m9$ Hp. Sep. $3''.96$ (Perryman et al., 1997). Koen and Eyer (2002) give $per = 0.7124$ d.

V0362 Pup = Visual binary. $A = 7^m8; B = 9^m4$ Hp. Sep. $0''.69$ (Perryman et al., 1997).

V1000 Cen = Eccentric system. Primary eclipse might be the secondary.

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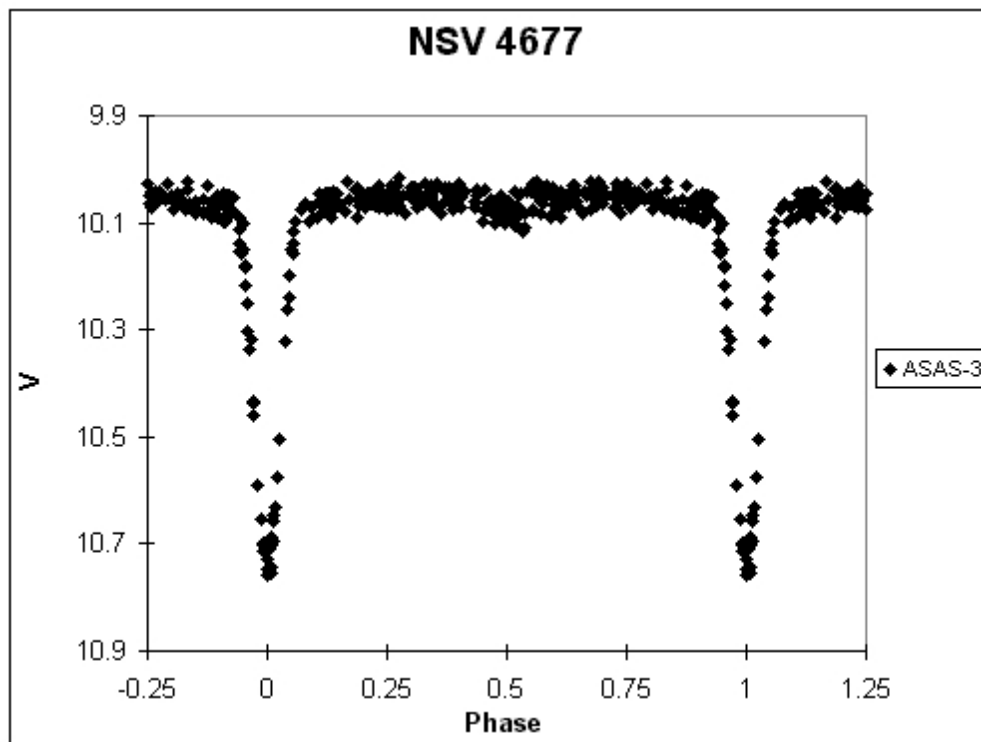


Figure 1. Lightcurve of NSV 04677 showing ASAS-3 data.

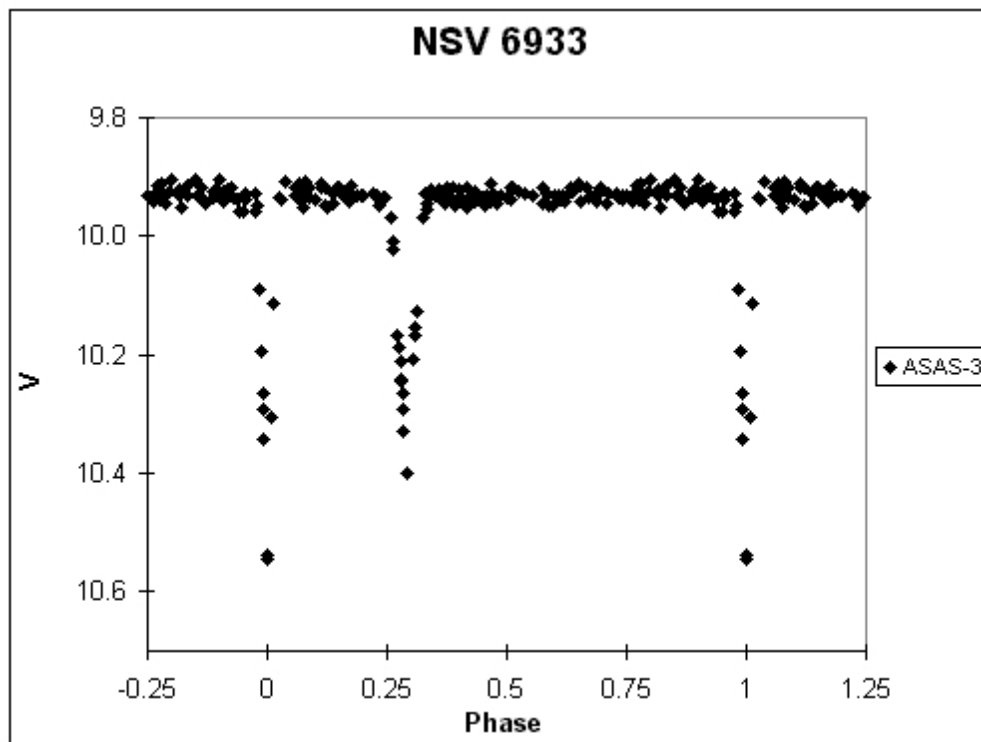


Figure 2. Lightcurve of NSV 06933 showing ASAS-3 data.

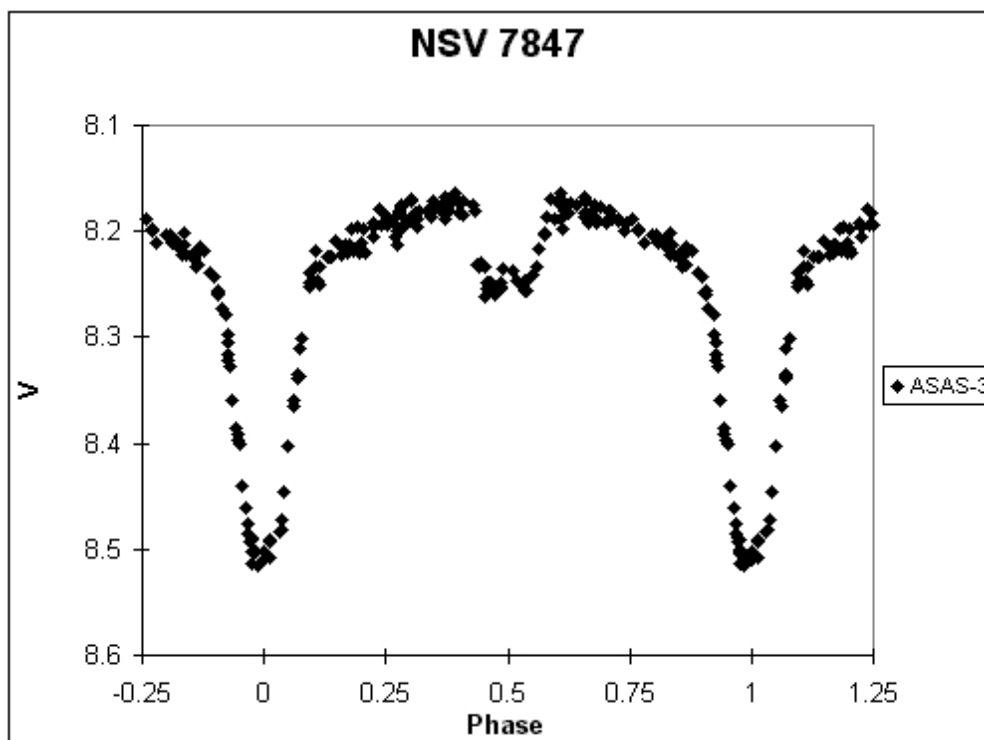


Figure 3. Lightcurve of NSV 07847 showing ASAS-3 data.

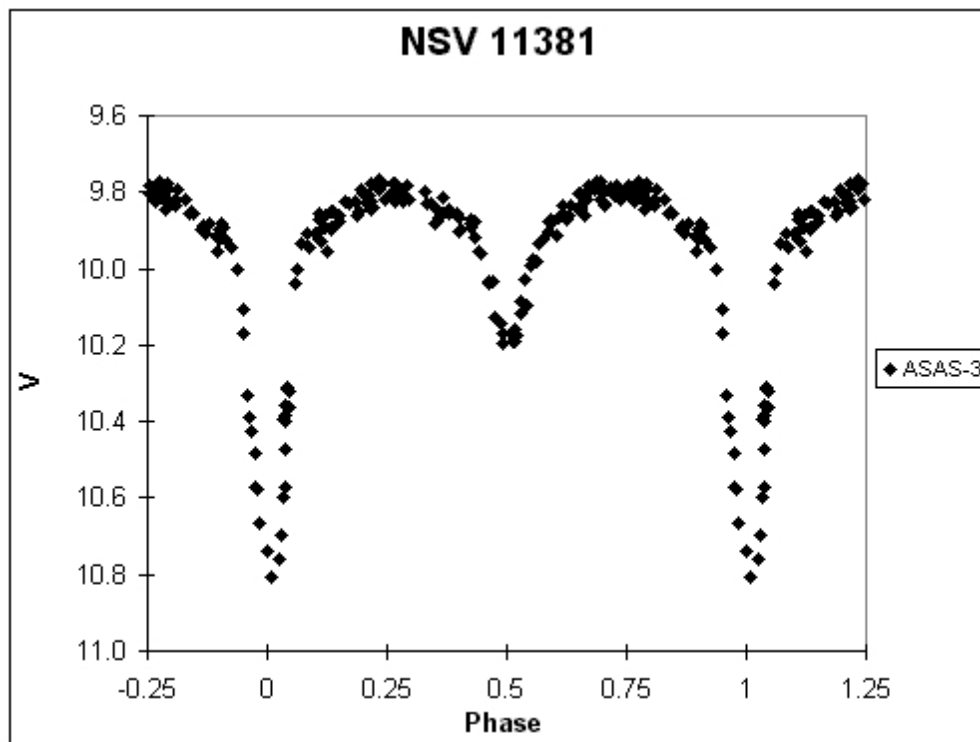


Figure 4. Lightcurve of NSV 11381 showing ASAS-3 data.

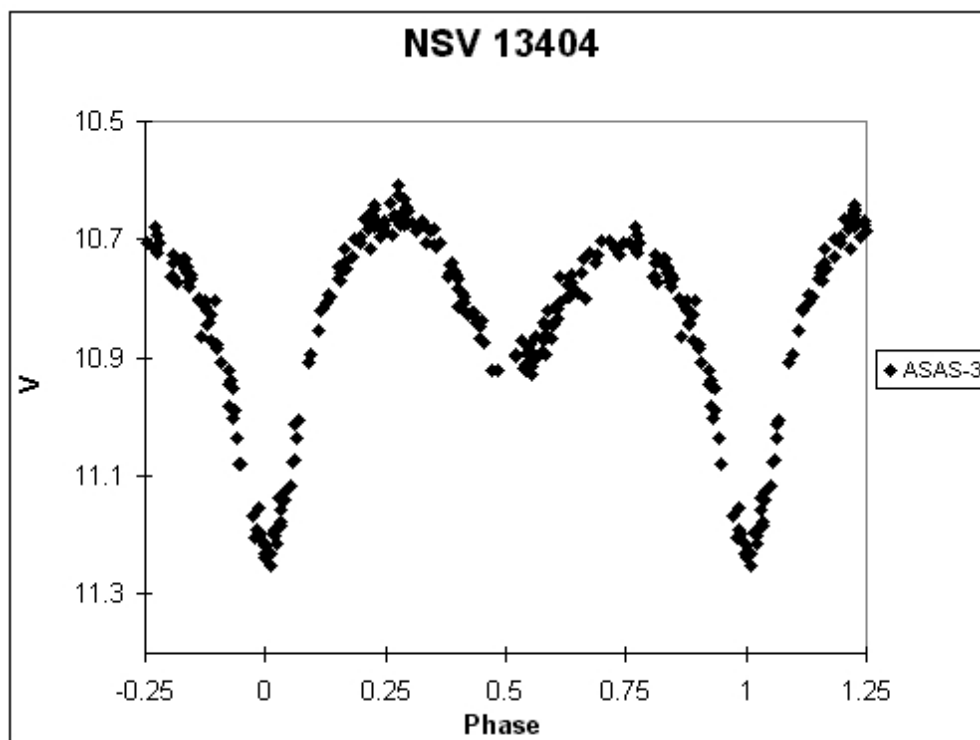


Figure 5. Lightcurve of NSV 13404 showing ASAS-3 data.

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ERRATUM FOR IBVS 5532

Geert Hoogeveen reported the following error:

IBVS No.	item	printed	correct
5532	identifier (NSV 14532)	HD 214505	HD 220345