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NEW ELEMENTS FOR 80 ECLIPSING BINARIES II.

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The publicly available ASAS-3 database (Pojmanski, 2002), as well as Hipparcos (Perryman et al., 1997) and TASS (Droege, 2003) databases have been used to prepare this second list presenting new elements for eclipsing binaries. Four 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) (Kazarovetz et al., 1998) and the General Catalogue of Variable Stars (GCVS) (Kholopov et al., 2003). For more details on the selection of the candidate eclipsing binaries and data analysis, see Otero (2003). For this second list, stars with no period quoted in the GCVS were investigated too and when no period was found in the literature, they were included in the list of candidates. 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)		
NSV 00470*	HIP 006200	8.77 – 9.14: (9.0:)	8736.140	19.9757	EA	F0V (2)
NSV 00675*	GSC 5858 1594	10.52–11.20(10.60)	11876.593	1.135238	EA	
NSV 00728*	GSC 8489 0651	10.86–11.31(11.30)	12222.632	0.750035	EW:	
NSV 01162*	HIP 016092	7.89 – 8.47 (8.43)	12898.794	14.21605	EA	F5V (1)
NSV 02571	GSC 6489 0506	10.71–11.5:(10.86)	12736.660	13.5166	EA	
NSV 02969*	GSC 6507 1121	9.57 – 9.79 (9.73)	11982.584	10.585	EB/GS:	
NSV 03180	HD 048419	8.22 – 8.98 (8.85)	12229.790	2.94626	EA	A1mA7-F2 (5)
NSV 03282*	HD 051082	8.28 – 8.72 (8.7:)	12896.884	2.18691	EA	A0V (22)
NSV 03305	HD 051569	9.08 – 9.7: (9.65:)	12739.532	2.85371	EA	B9V (5)
NSV 03308	GSC 7089 1282	10.60–11.05(10.76)	12967.757	0.877912	EB	

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Star Name		Magnitude range	Epoch	Period	Type	Spectral type
Variable	Other ID	(V)	(HJD2440000+)	(days)		
NSV 03433	GSC 5972 2564	10.06–10.55(10.25:)	11922.660	1.75690	EA	
NSV 03497	HD 056785	9.16 – 9.64 (9.60)	11878.748	0.472292	EW	F7IV/V (24)
NSV 03598*	GSC 7655 2601	11.30–12.00(11.98:)	12239.762	4.9370	EA	
NSV 03613*	HD 060023	8.37 – 8.69 (8.68)	12723.672	0.847434	EW/KE	A3IV/V (1)
NSV 03645	HD 060389	8.49 – 8.87 (8.83)	11873.806	2.54961	EA/KE:	A5 (24)
NSV 03682	HD 061829	8.12 – 8.44 (8.18)	12566.839	0.953865	EA	B7V (3)
NSV 03687*	HD 062177	9.50 – 10.18 (9.91)	12989.797	0.688714	EB/KE	A1/A2V (1)
NSV 03702*	GSC 5992 2140	10.35–11.04(10.99)	12706.617	1.563405	EA/KE	B (25)
NSV 03812	GSC 7123 1250	10.47–11.21(10.87)	11966.575	3.17970	EA	
NSV 03836*	GSC 8135 0975	10.25–11.00 (10.69)	12437.461	0.390386	EB/KW	
NSV 03877	HD 066475	9.73 – 10.22 (9.91)	12754.550	5.79935	EA	B5III (4)
NSV 03920	HD 067956	8.87 – 9.55 (9.55)	11884.718	0.967554	EW/KE	A0V (1)
NSV 04014*	GSC 7664 1448	11.28–11.95:(11.5:)	12637.751	2.37050	EA	
NSV 04057*	GSC 6569 3827	10.25–10.95:(10.95:)	11924.692	5.4141	EA	
NSV 04237	GSC 7145 0019	10.09–10.61(10.53)	12814.457	2.56769	EA	
NSV 04245	HD 074995	9.33 – 9.76 (9.70)	12752.556	3.09154	EA	A2IV (3)
NSV 04250*	GSC 7679 0649	9.63 – 10.09(10.0:)	11981.556	7.2027	EA	A0 (15)
NSV 04253	GSC 8934 0380	9.97 – 10.54(10.48)	12613.631	0.406614	EW	
NSV 04309*	GSC 9199 2849	10.60–11.05(11.00)	12617.843	0.638940	EW	
NSV 04341	GSC 9203 0677	10.45–11.34(10.85)	11928.634	12.4398	EA	
NSV 04387*	HD 078654	9.40 – 10.10 (9.50)	12662.738	2.0340	EA	B8V (2)
NSV 04451*	HD 081243	8.60 – 8.91 (8.65)	12658.760	3.81876	EA	A1V (24)
NSV 04484	HD 300036	9.62 – 10.07 (9.81)	12634.770	1.438215	EB	A2 (9)
NSV 04657	GSC 8954 0441	11.15–12.00(11.95)	12783.535	0.2769435	EW	
NSV 04749*	HD 087982	8.86 – 9.35 (9.01)	12215.849	1.060168	EB	A5V (3)
NSV 04871*	GSC 8192 3556	11.03–11.91(11.25)	12964.806	0.85496	EA:	
NSV 05115	GSC 6661 0968	11.05–11.75(11.47)	11979.683	0.58413	EB/KE:	
NSV 05128	SAO 202195	9.68–10.23(10.03:)	11966.704	2.69535	EA	A5 (11)
NSV 05352	HD 102682	8.13 – 8.55 (8.5:)	12434.486	5.0323	EA	F5V (2)
NSV 05369	HD 309220	9.91 – 10.27(10.19)	11971.701	0.876112	EB/KE	B5 (9)
NSV 05418	HD 104328	9.58–10.23 (10.1:)	12414.567	3.3370	EA	A7/A8V (3)
NSV 05466*	HD 105355	8.84 – 9.18 (8.97)	12432.456	1.73106	EB	B5IV (1)
NSV 05525*	HD 106790	9.49 – 9.89 (9.82)	12106.482	5.90859	EA	A8/9IV (2)
NSV 05640*	HD 108627	9.54 – 10.01(9.98:)	12134.480	5.0244	EA	A0V (1)
NSV 05978*	HD 111505	9.01 – 9.37 (9.22)	12454.515	2.04388	EB:	B2/B3III (24)
NSV 06073	GSC 9413 0581	10.49–11.05(11.03:)	12093.488	2.68354	EA	
NSV 06635	GSC 7286 1252	10.71–11.93(10.88)	11948.804	8.5366	EA	G6V (26)
NSV 06792*	HD 129860	7.68 – 7.98 (7.77)	12776.748	18.569	EA	A1IV (1)
NSV 06917	GSC 7821 0523	10.33–11.05:(10.95:)	12132.527	0.374131	EW	
NSV 06959	GSC 7320 0635	10.03–10.39(10.37)	12840.696	0.360317	EW	
NSV 07118*	HD 138141	8.13 – 8.52 (8.40)	12452.533	1.298207	EA	B9+B7 (2)
NSV 07355*	HD 142634	8.64 – 8.89 (8.81)	12790.720	3.18423	EB	09.5IVn (10)
NSV 07377	HD 143085	9.11 – 9.54 (9.49)	12730.790	0.647878	EW	F2V (2)
NSV 07642	HD 147069	8.61 – 8.93 (8.85)	12442.602	1.58895	EA	B8V (2)
NSV 08029*	GSC 7880 0446	12.18–12.77:(12.72:)	12071.677	5.8082	EA	
NSV 08110	HD 153387	9.20 – 9.48 (9.3:)	11932.820	15.4908	EA	B8II/III (1)
NSV 08145*	HD 322718	11.73–12.2:(12.1:)	12501.474	7.6945	EA	A2 (9)
NSV 08720	HD 157972	8.28 – 8.6: (8.59)	12030.779	3.3682	EA/KE	B9 (14)
NSV 08808	HD 157961	8.75 – 9.09 (9.07)	11966.816	0.899788	EW	F2IV/V (1)
NSV 10456*	HD 321578	10.39–10.89(10.69)	12819.836	4.3028	EA	B9 (9)
NSV 10862*	HIP 090552	8.32 – 8.74:(8.52:)	12556.459	30.811	EA	B0.5Ib (23)
NSV 10915*	GSC 7406 0195	10.9 – 11.3:(11.05:)	12796.754	0.537745	EB/KW/RS:	
NSV 12222	GSC 8774 0632	11.36–11.9 (11.4:)	12095.622	11.2359	EA	
NSV 12502*	GSC 8399 2069	11.25–12.37(11.95)	12202.550	0.286829	EW/KW	
NSV 13263	HD 197415	9.43 – 9.87 (9.82)	12783.760	0.45364	EW	F6:V: (24)
NSV 13331	HD 198296	9.20 – 9.60 (9.59)	12227.514	0.586612	EW/KE	A5IV/V (4)

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Star Name		Magnitude range	Epoch	Period	Type	Spectral type
Variable	Other ID	(V)	(HJD2440000+)	(days)		
NSV 13694*	GSC 5785 1113	12.00–12.60(12.26:)	12032.833	0.586774	EB	
NSV 13702	HD 204059	8.82 – 9.21 (9.10)	12867.648	0.690808	EB/KE	A9V (4)
NSV 13749*	HIP 106234	8.38 – 8.8: (8.75:)	12625.750	26.921	EA	F7V (2)
NSV 14254	GSC 9118 0898	9.71 – 10.17 (9.92)	12875.786	1.23501	EB	F6 (11)
NSV 14780	GSC 8018 0185	11.25–11.81(11.37)	12502.749	1.40296	EA	
NSV 19977	HIP 067712	8.44 – 8.70 (8.51)	8509.652	2.482874	EA	F5V (3)
NSV 20517	HIP 079061	8.58 – 8.68 (8.61)	8510.607	1.7587	EB/GS	A0V+K0III (4)
NSV 20859	HD 152590	8.40 – 8.47 (8.46:)	12893.699	4.48886	EA	07.5V (21)
NSV 22125*	HD 158073	8.74 – 9.07 (9.07)	12452.597	1.297320	EB	B2V:+B2V: (10)
NSV 24021*	HIP 087511	9.50 – 9.78:(9.74:)	8744.810	4.39433	EA	F2/3V (5)
NSV 24084	HD 164516	7.77 – 7.99 (7.98)	12548.530	3.03868	EA/KE	B2V (17)
NT Vel *	HIP 042061	8.32 – 9.02 (9.00)	12709.677	9.255699	EA	B6V(n) (1)
V0722 Mon	HIP 030806	7.74 – 7.96 (7.87)	8508.119	1.421785	EA	F5V (5)
V4386 Sgr*	HIP 089404	8.45 – 8.67 (8.6:)	12498.443	21.5958	EA	B1Ib/II (3)

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. (10) Garrison et al., 1977. (11) Wright et al., 2003. (14) Kholopov et al., 2003. (15) Spencer and Jackson, 1939. (17) Buscombe, 1998. (21) Walborn, 1972. (22) Claria, 1974. (23) Voigt, 1956. (24) Ochsenein, 1980. (25) Wackerling, 1970. (26) Weis et al., 1981.

Notes on individual stars:

NSV 00470 = Slightly eccentric. Too few eclipses. More photometry needed. Primary eclipse might be the secondary. Two eclipses recorded but not classified as variable in the HIP catalogue.

NSV 00675 = Wrong period in the ASAS-3 catalog (Pojmanski, 2002): 2.2702 d.

NSV 00728 = Classified as RRc-type with a period of 0.37503 d. in the first ASAS-3 catalogue (Pojmanski, 2002). Light curve suggests an EW-type.

NSV 01162 = Hipparcos missed the eclipses. Very eccentric system.

NSV 02969 = O'Connell effect. Max. II = 9.59.

NSV 03282 = Primary eclipse might be the secondary.

NSV 03598 = Period might be half the value given.

NSV 03613 = O'Connell effect. Max. II = 8.40. Classified as DSCT with half the period by Piquard (2001).

NSV 03687 = O'Connell effect. Max. II = 9.52. Included in Piquard (2001) with uncertain type and a period of 0.098121 d.

NSV 03702 = Emission line star according to Wackerling (1970). V magnitude is contaminated by a nearby star and its real value is probably 0.2 mag. fainter.

NSV 03836 = Classified as RR/EB in the NSV (Kholopov et al., 2003)

NSV 04014 = B-V around 1.2 (Hog et al., 2000).

NSV 04057 = Eccentric binary. Primary eclipse might be the secondary.

NSV 04250 = Slightly eccentric.

NSV 04309 = Slight O'Connell effect. Max II = 10.62.

NSV 04387 = Light curve similar to that of NSV 04419 (Otero, 2003)

NSV 04451 = Houk and Swift (1999) give spectral type G6V.

NSV 04749 = Period discovered by Piquard (2001) but classified as EA.

NSV 04871 = Might be EB-type.

NSV 05466 = Might be EB-type.

NSV 05525 = Visual binary. B = 12.6. Sep. 2''8. (Worley and Douglass, 1997)

- NSV 05640 = Period might be half the value given.
 NSV 05978 = Might be EA-type.
 NSV 06792 = Very eccentric system.
 NSV 07118 = Combined brightness. Visual binary. A= 8.6; B= 9.3 V (Mermilliod et al., 1997). Sep= 3" (Worley and Douglass, 1997)
 NSV 07355 = One of the massive eclipsing binary candidates in Garrison et al., 1983.
 NSV 08029 = Eccentric system.
 NSV 08145 = Eccentric system. Uncertain eclipse depths.
 NSV 10456 = Eccentric system.
 NSV 10862 = Very eccentric.
 NSV 10915 = Scatter specially during Min II. The primary is intrinsically variable.
 NSV 12502 = Different minima but period too short for EB/KW. 2MASS colors indicate a late type star.
 NSV 13694 = Scatter at secondary minimum.
 NSV 13749 = Eccentric binary. Two HIP eclipses recorded but not classified as variable in the HIP catalogue.
 NSV 22125 = EW-like light curve. Visual binary. A= 9.0; B= 11.8. Sep. 1" (Dommanget & Nys, 2002).
 NSV 24021 = Classified as G5 in Ochsenbein (1980).
 NT Vel = Eccentric system.
 V4386 Sgr = Too few observations of minima II. Secondary minimum might be the primary.

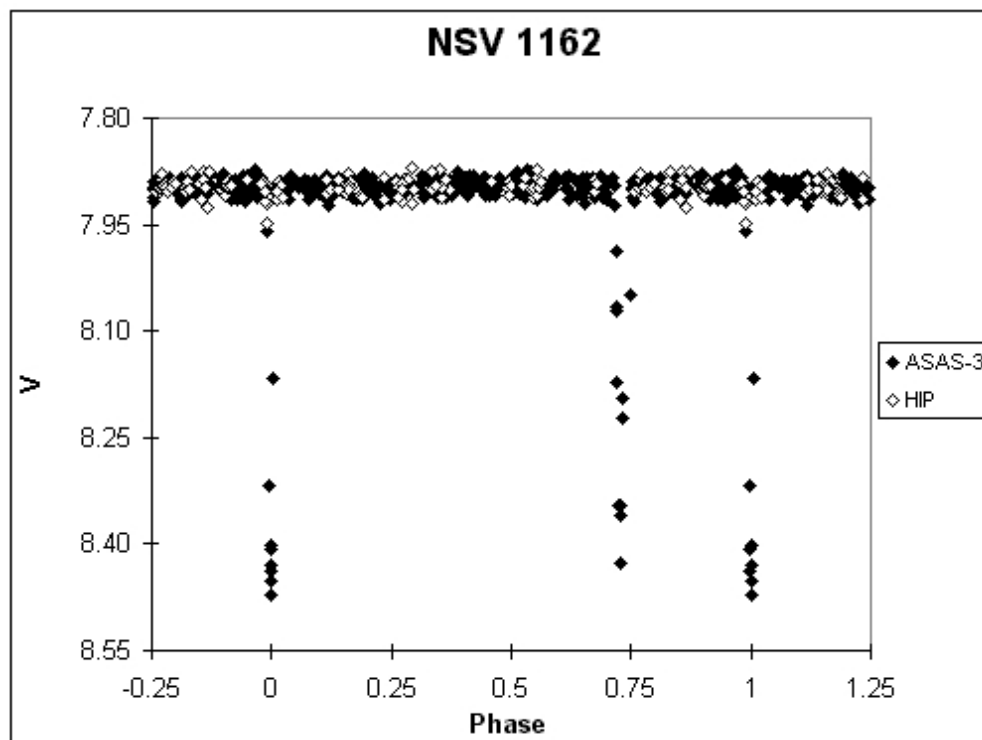


Figure 1. Light curve of NSV 01162 showing ASAS-3 and Hipparcos data.

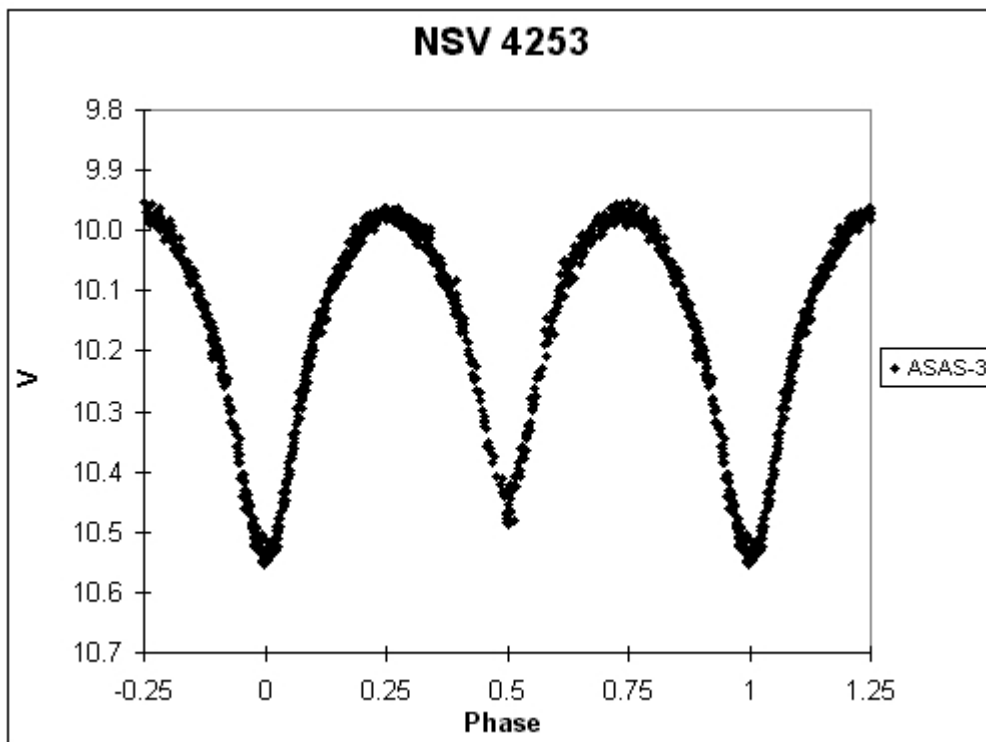


Figure 2. Light curve of NSV 04253 showing ASAS-3 data.

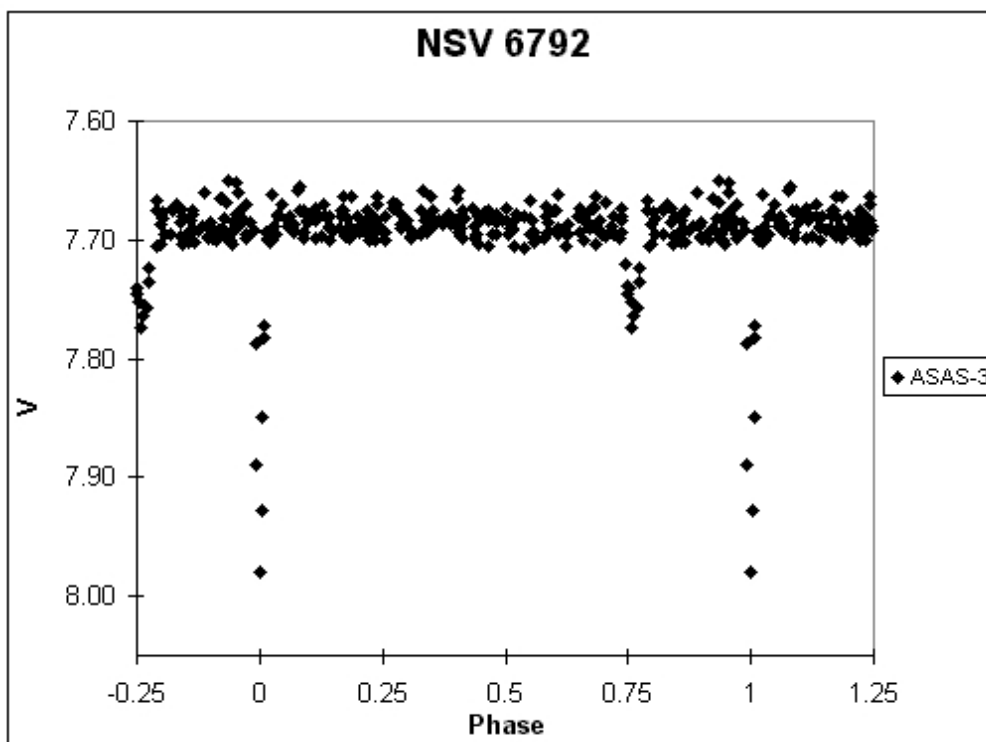


Figure 3. Light curve of NSV 06792 showing ASAS-3 data.

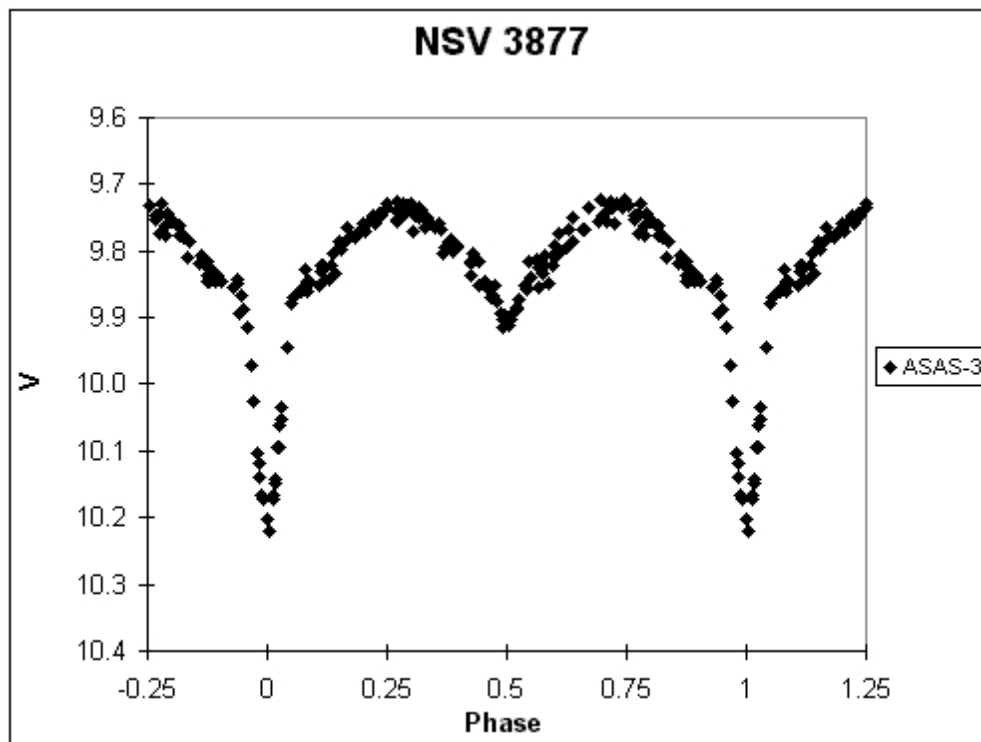


Figure 4. Light curve of NSV 03877 showing ASAS-3 data.

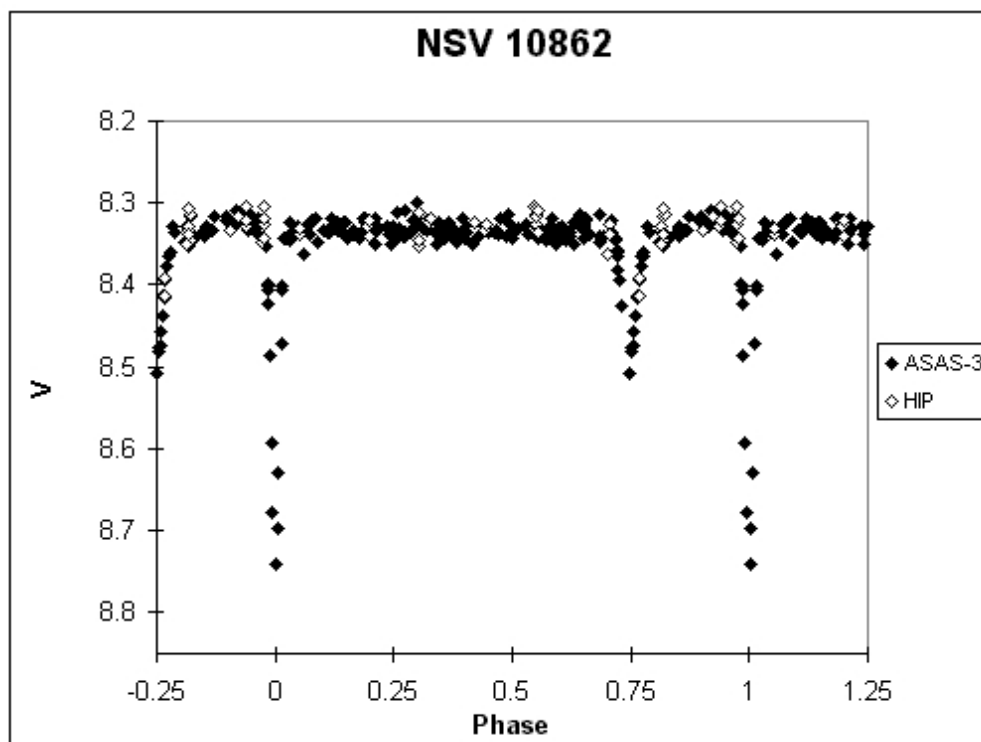


Figure 5. Light curve of NSV 10862 showing ASAS-3 and Hipparcos data.

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