BAV Journal

2018 No. 25 ISSN 2366-6706

Bundesdeutsche Arbeitsgemeinschaft für Veränderliche Sterne e.V.

http://bav-astro.de

Revision Variable Stars. Part 1.

Sergey I.[1]

Mira Str. 40-2, Molodechno, 222307, Belarus, seriv@rambler.ru

August 2018

Abstracts: I present the results of the revision of 25 poorly studied variable stars of the following types, according to the notation of VSX: S, VAR, CST, MISC. Among the VAR-objects were selected stars without periods.

I analyzed the data provided in VSX on the basis of the open sources ASAS-SN, NSVS, KWS. A program developed by Sergey Dubrovski was used for the period analysis, which is based on the method of Lafler-Kinman. The results of the investigation are shown in the table. I used the system of variable type designation that is used in VSX. The basis for concluding the absence of variability in a given star is the presence of variations in brightness within the errors of observations, as well as the absence of a periodic signal in the photometric observational series.

For the NSV objects which do not show any brightness variations, a comparison with light curves of nearby objects with constant brightness in ASAS-SN was performed. For example, NSV 57 has an average photometric scatter of about 0.01 mag, which is comparable to the adjacent constant star TYC 4014-1604-1 with a similar brightness. As no periodic signal could be detected either, NSV 57 was classified as constant.

Name	RA2000	DEC2000	Mag.range V (Johnson)	Type	Epoch	Period	Light curve
Mis V1367	00 08 30.58	+61 32 47.6	14.45 – 14.90	EW	2457721.862	1.04767 d	Fig.1
NSV 57	00 09 21.32	+61 25 27.44	11.23	CST			Fig.2
NSV 250	00 40 08.99	+02 56 33.50	13.3 – 13.5	I:			Fig.3
NSV 403	01 07 06.95	+03 59 20.86	11.52	CST			Fig.4
NSV 439	01 14 23.27	+47 51 05.0	10.95	CST			Fig.5
NSV 625	01 52 09.94	+80 50 19.68	11.20	CST			Fig.6
NSV 693	02 01 26.69	+64 08 37.94	8.90 - 9.60	SR	2457746		Fig.7
NSVS 2069412	04 29 36.37	+62 04 03.2	13.10 – 13.48	EA	2458013.986	1.00255	Fig.8
Mis V1371	03 53 07.20	+61 18 00.7	14.25 - 14.80	EW	2457998.071	0.421377	Fig.9
Mis V1370	03 53 24.06	+60 49 40.1	14.55 - 15.35	EW	2457682.040	0.246804	Fig.10
Mis V1420	04 09 28.79	+60 32 13.5	15.00 - 15.70	EB	2457674.901	0.69015	Fig.11
Mis V1411	04 16 52.23	+59 21 00.9	14.25 - 14.75	EW	2457807.763	0.64154	Fig.12
ASASSN-V J000007.04+551730.5	00 00 07.03	+55 17 30.63	13.75 - 14.30	SR	2457265	57.5	Fig.13
ASASSN-V J000116.63+543159.2	00 01 16.64	+54 31 59.09	14.45 – 15.80	SR	2457328	145	Fig.14
ASASSN-V J000452.75+595007.3	00 04 52.72	+59 50 07.39	14.40 – 14.95	SR	2457177	53	Fig.15

Dauban V267	00 09 22.62	+57 39 24.56	13.0 – 16.0	M	2457695	238	Fig.16
ASASSN-V J000932.63+502917.0	00 09 32.63	+50 29 17.08	12.80 – 13.25	SR	2457702	54.8	Fig.17
ISON J080841.5+224612	08 08 41.56	+22 46 12.6	11.89 – 11.95	EW	2457669.089	0.31883	Fig.18
VSX J030954.9+590358	03 09 54.99	+59 03 58.0	15.8 - >18.2	M	2457365	398:	Fig.19
NSVS 5050876	12 53 19.88	+48 13 47.0	14.05 – 14.45	BY	2457787.947	1.60784	Fig.20
VSX J023602.0+473024	02 36 02.03	+47 30 24.6	11.2 – 12.3	SR	2458154	120.5	Fig.21
NSVS 4359857	04 57 32.56	+44 55 11.8	14.5 – 16.1	M	2457659	411:	Fig.22
NSVS 4415962	05 06 34.71	+51 02 27.5	13.65	CST			Fig.23
VSX J060826.2+280643	06 08 26.23	+28 06 43.3	11.8 – 12.2	SR	2457631	81	Fig.24
NSVS 10565577	15 08 51.80	+10 06 55.4	15.50	CST			Fig.25

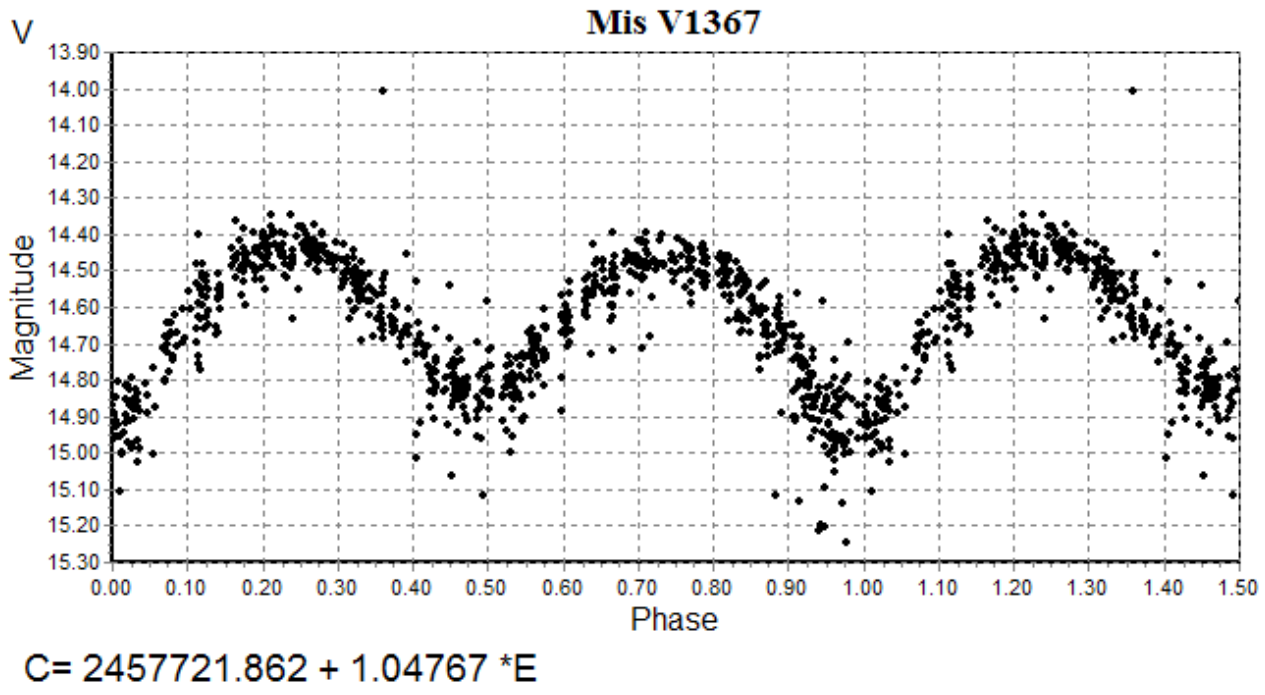


Fig.1 Phase Plot for Mis V1367

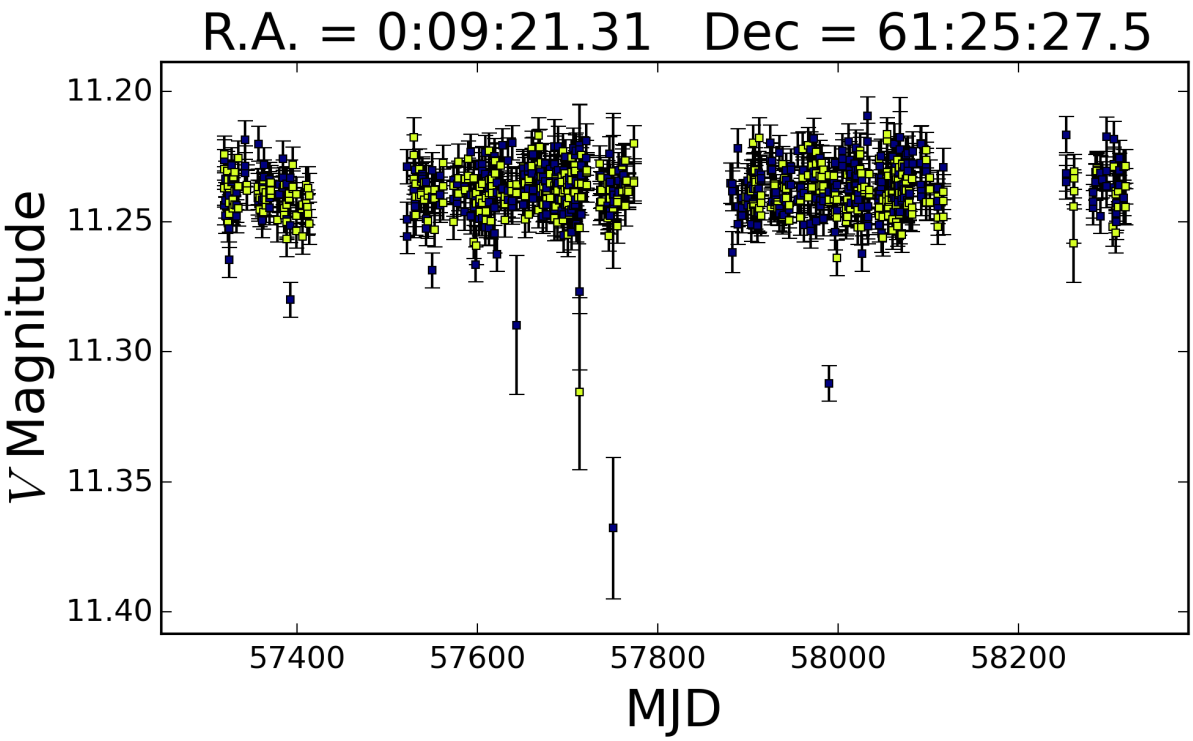


Fig.2 Lightcurve for NSV 57.

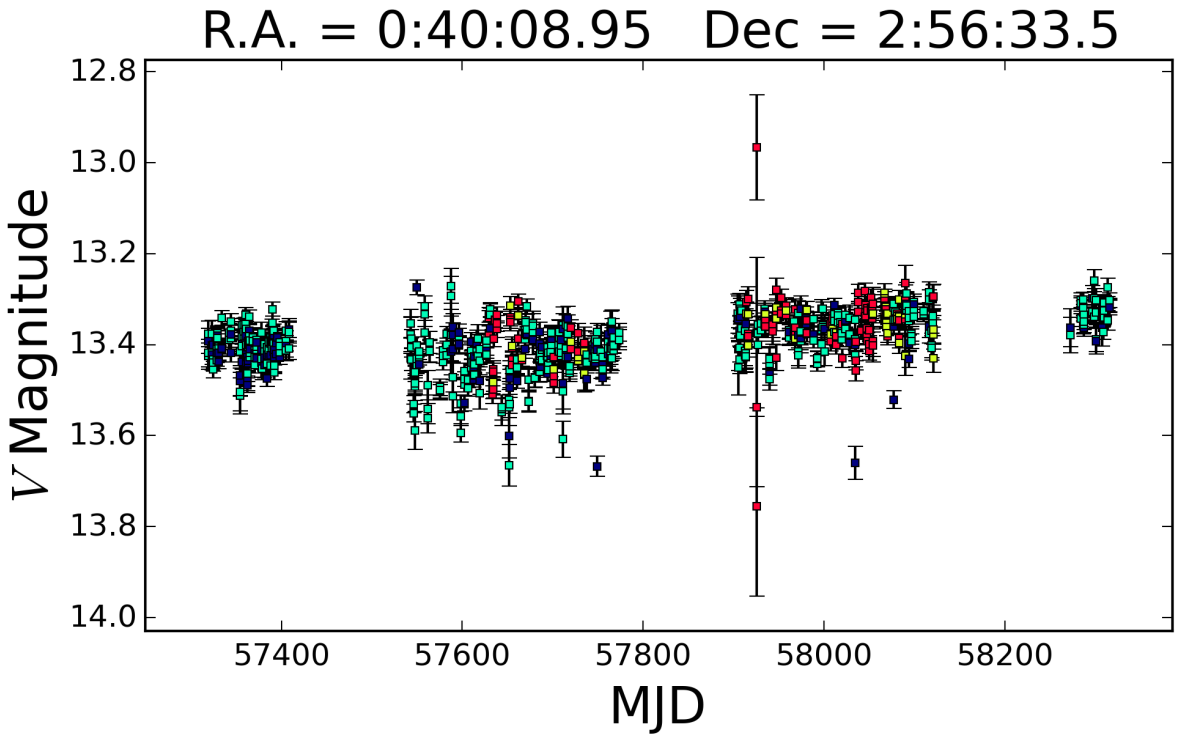


Fig.3 Lightcurve for NSV 250.

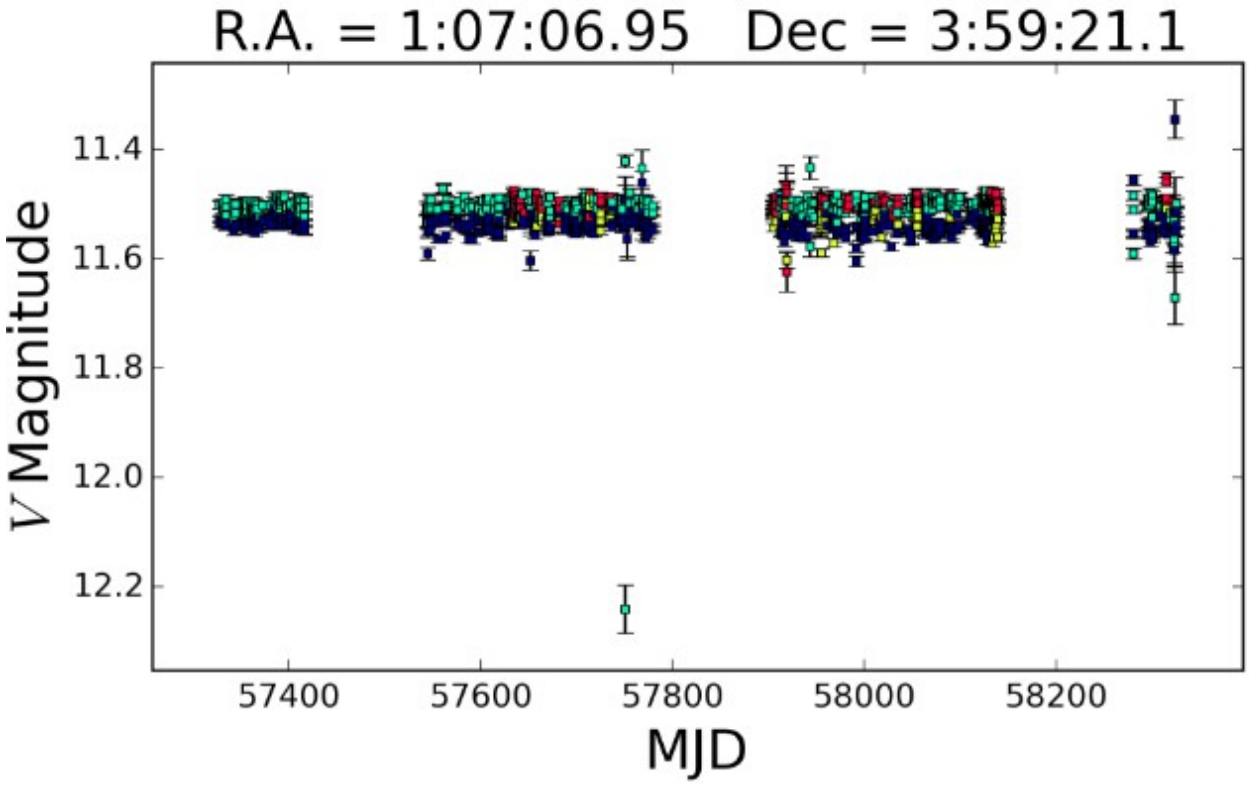


Fig.4 Lightcurve for NSV 403.

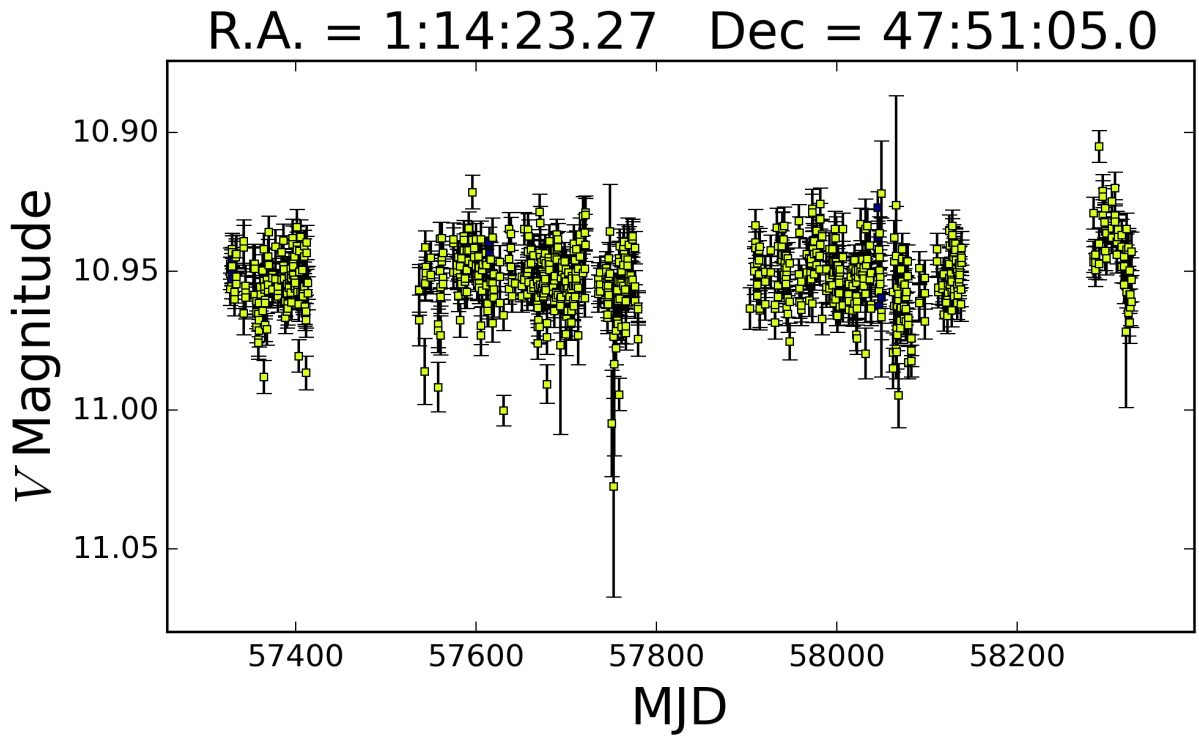


Fig.5 Lightcurve for NSV 439

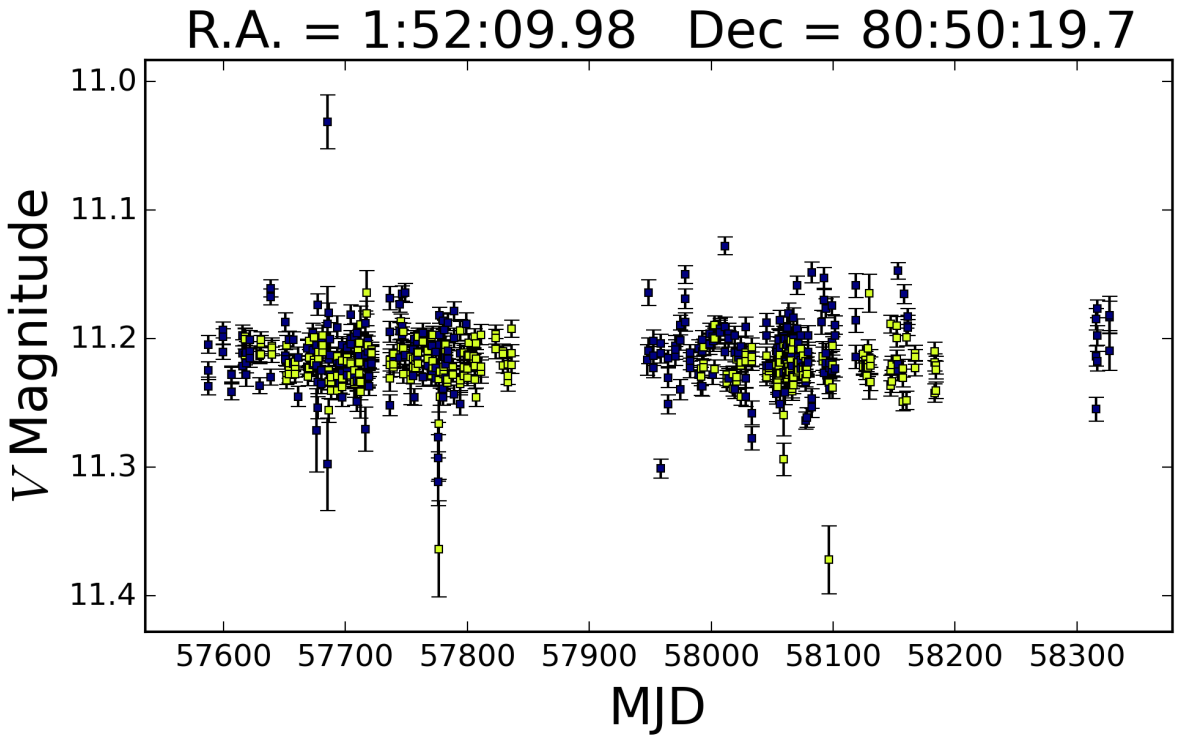


Fig.6 Lightcurve for NSV 625

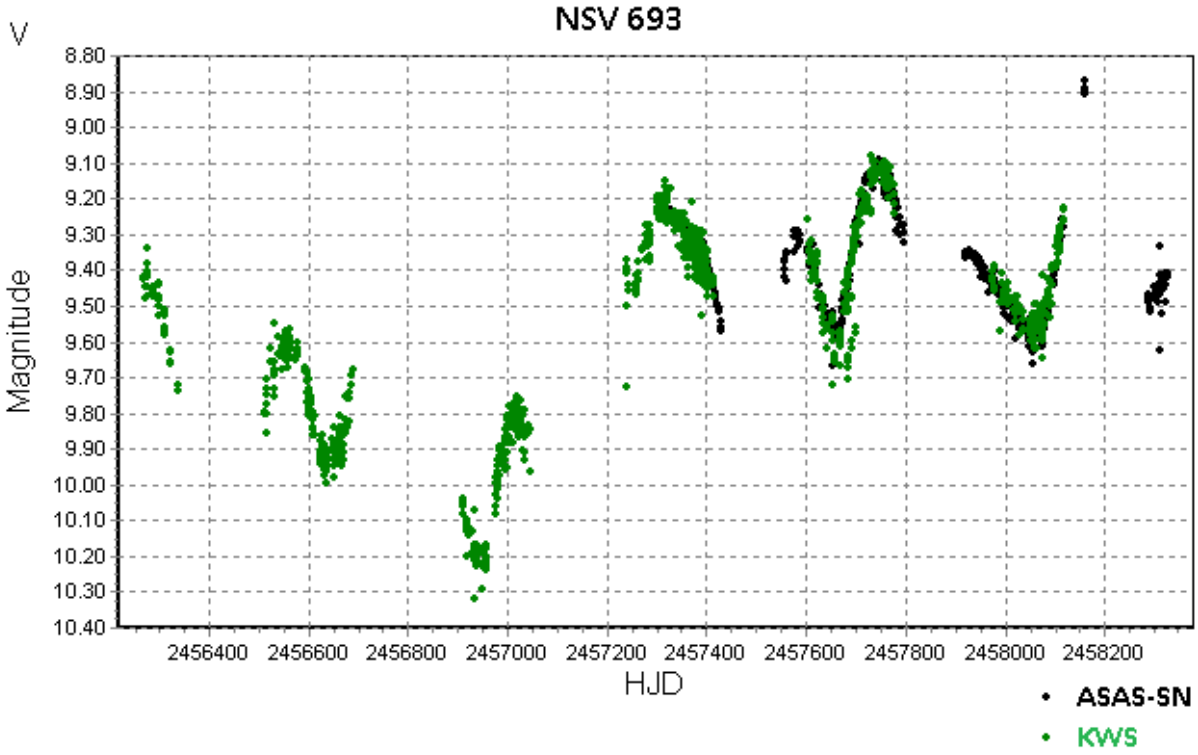


Fig.7 Lightcurve for NSV 693.

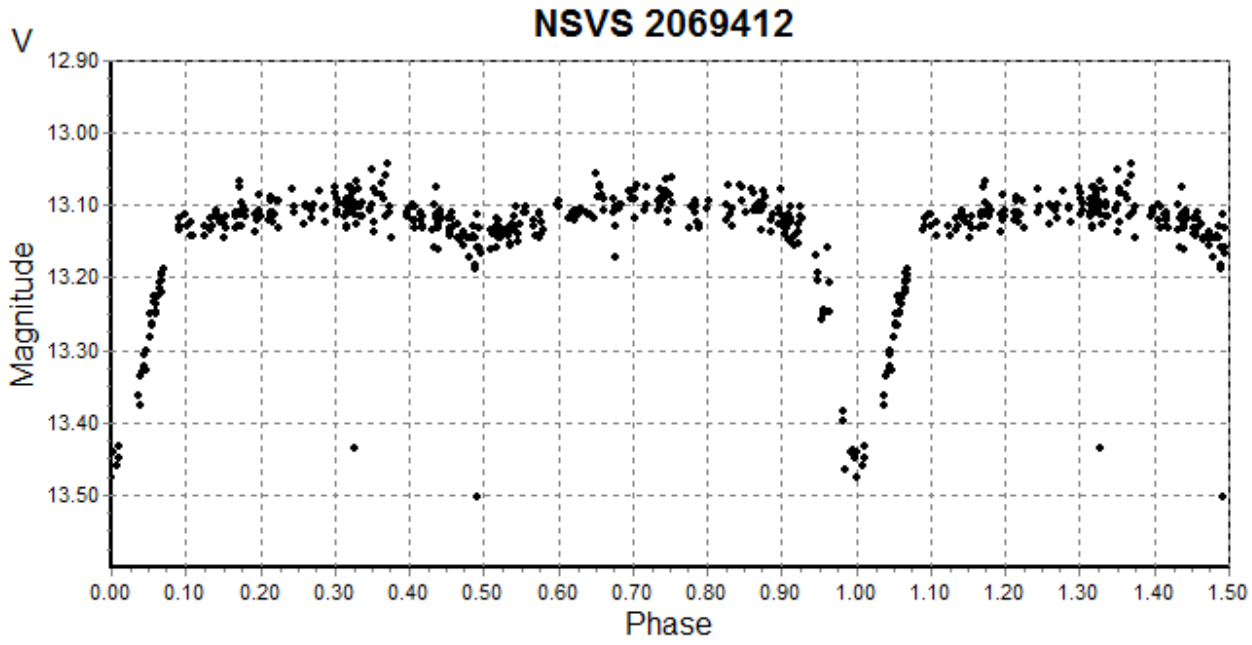


Fig.8 Phase Plot for NSVS 2069412

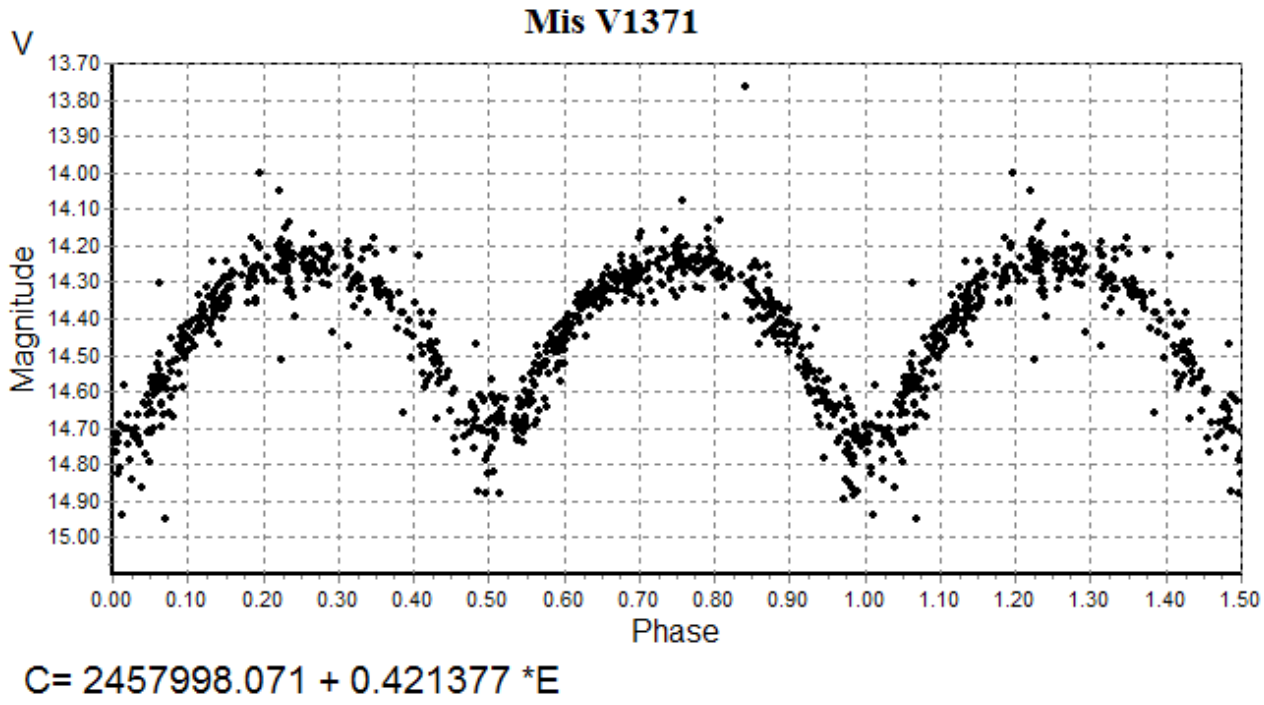


Fig.9 Phase Plot for Mis V1371

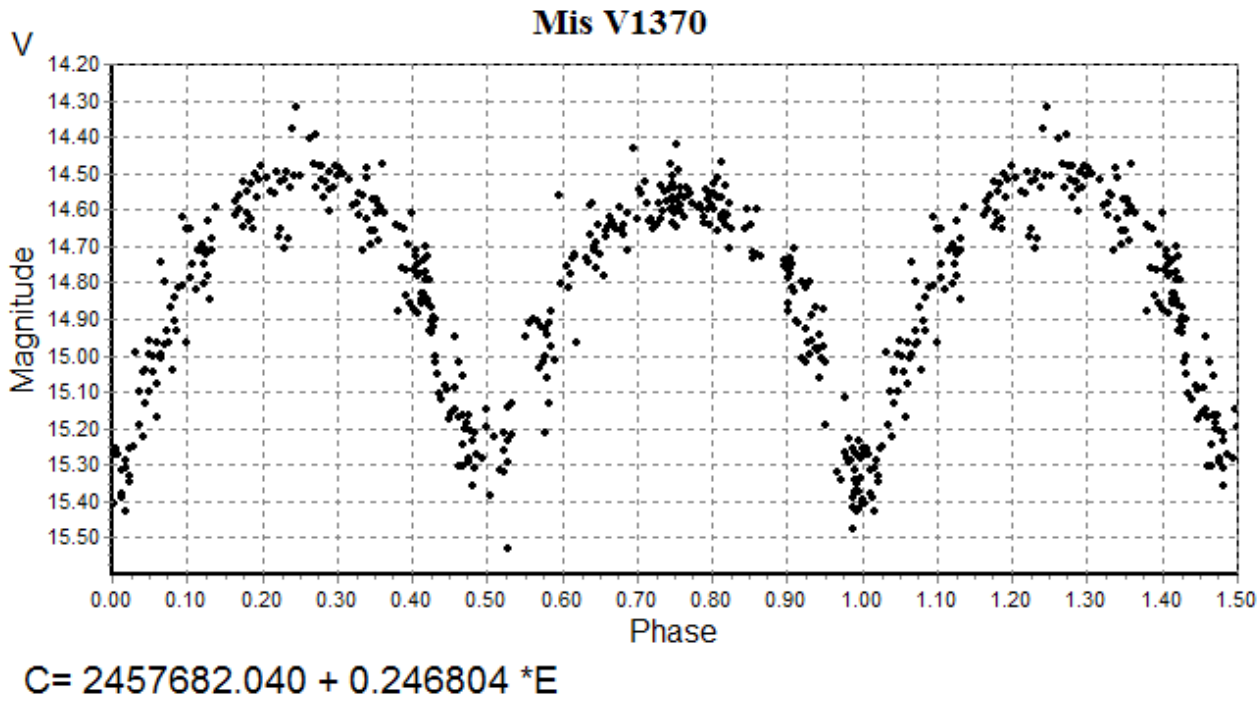


Fig.10 Phase Plot for Mis V1370

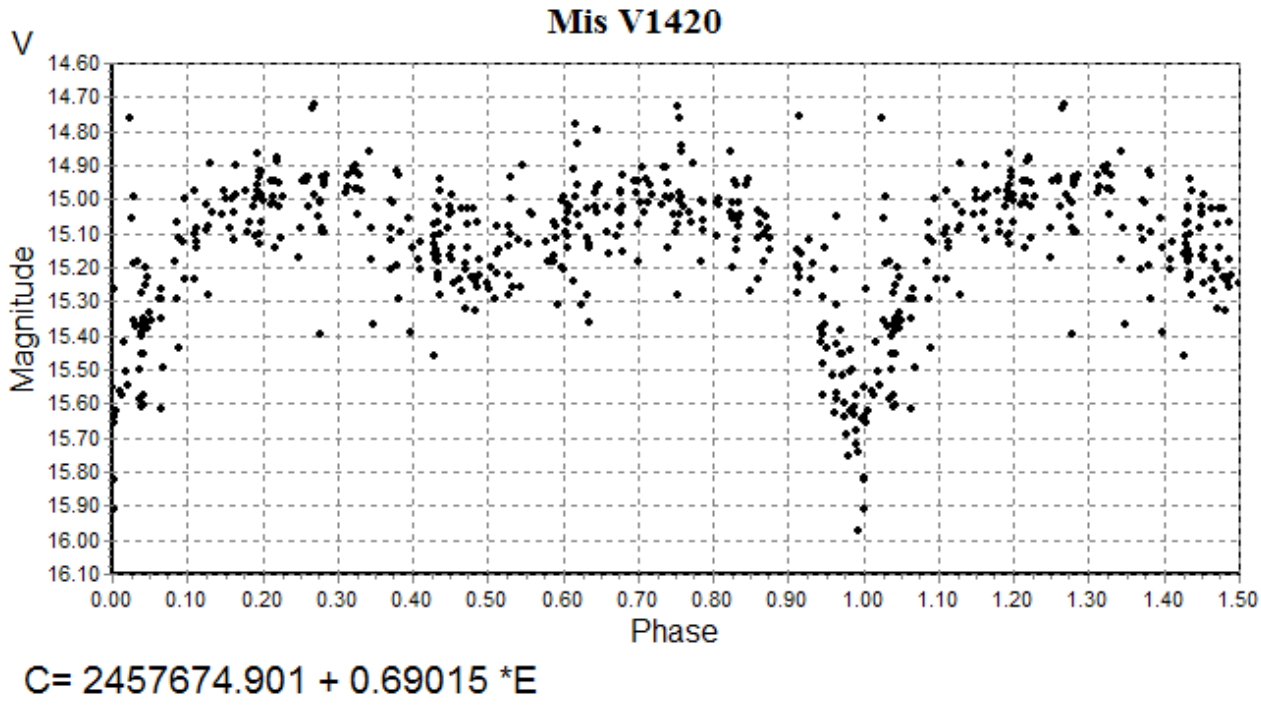


Fig.11 Phase Plot Mis V1420

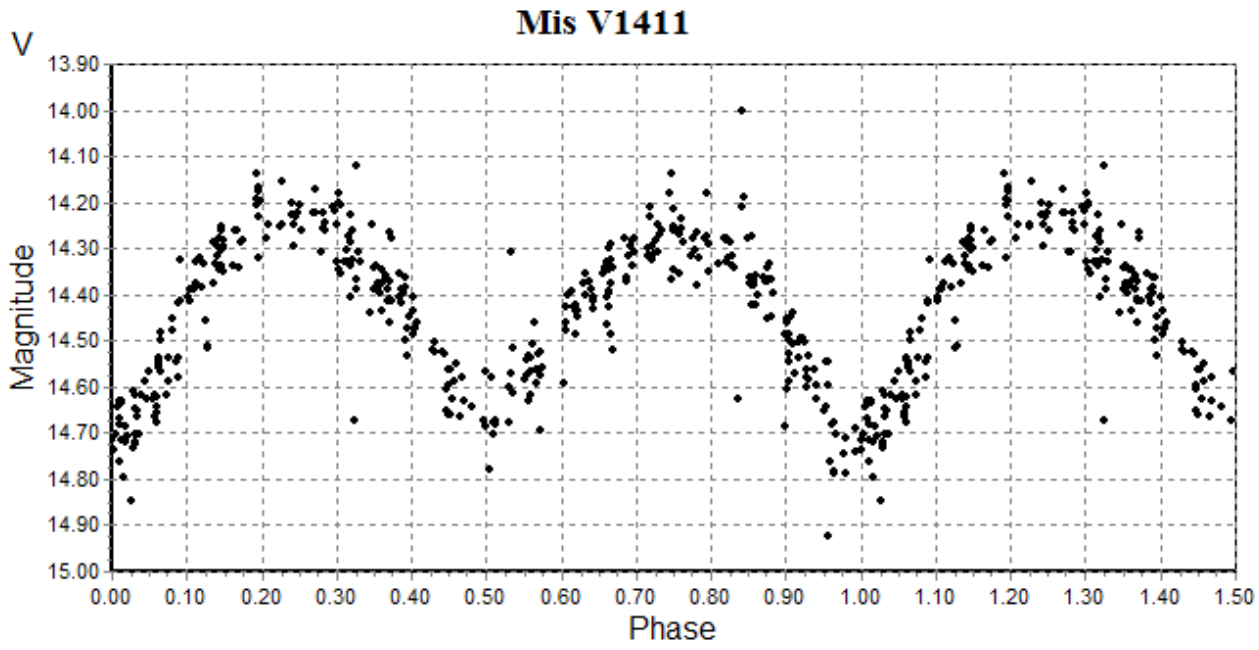


Fig.12 Phase Plot for Mis V1411

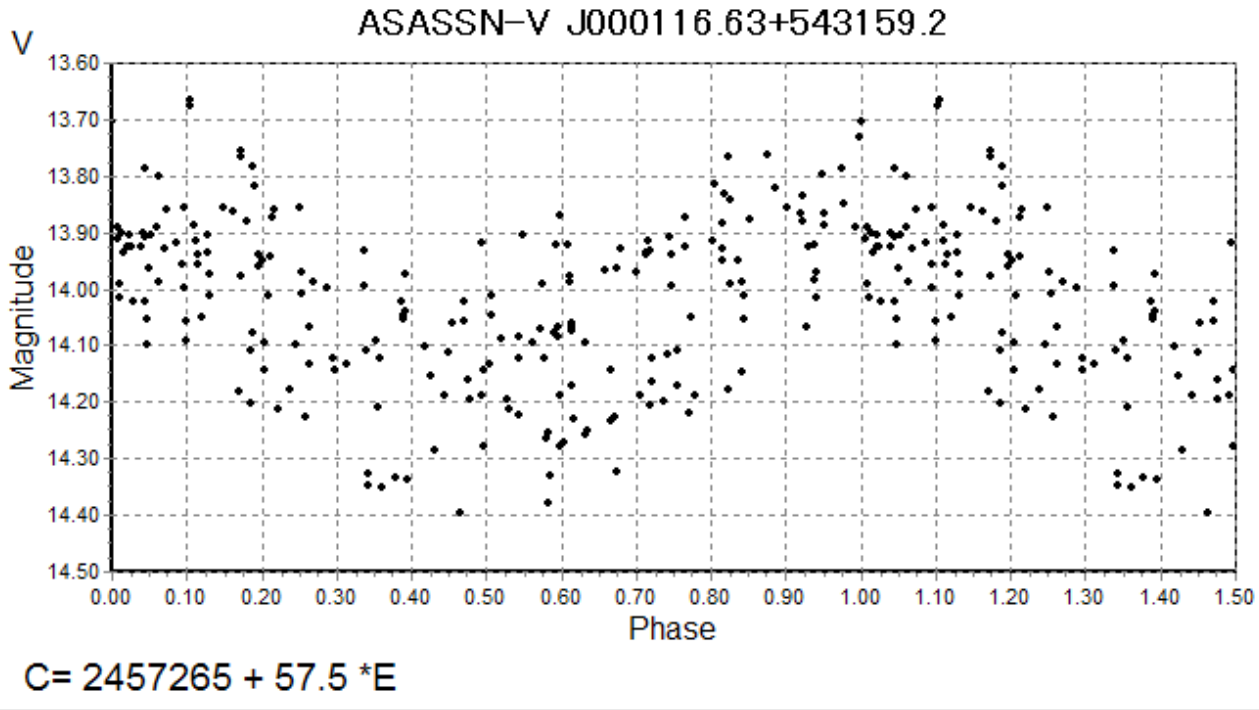
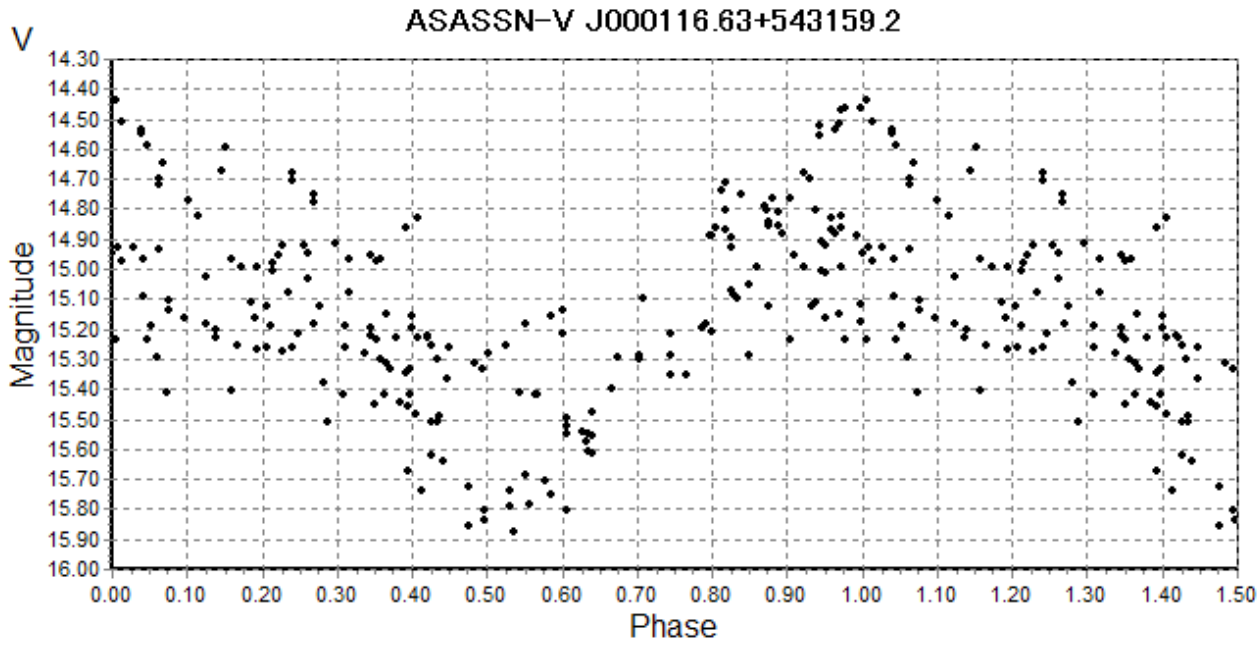
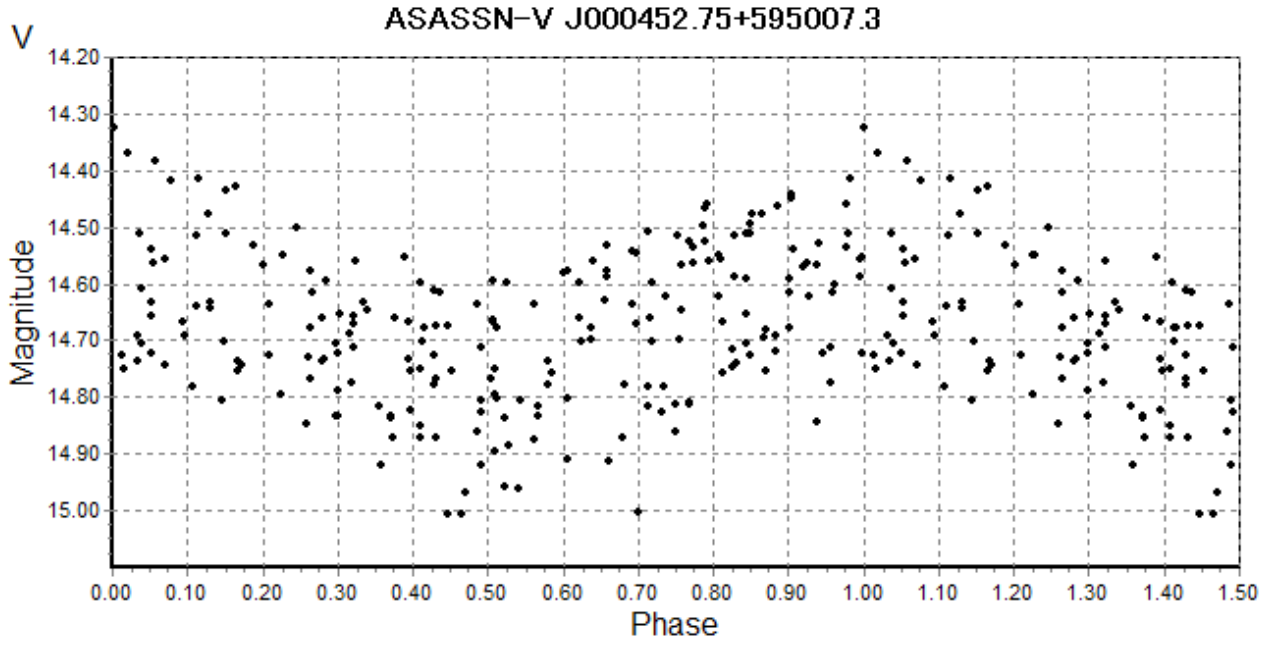


Fig.13 Phase Plot for ASASSN-V J000116.63+543159.2



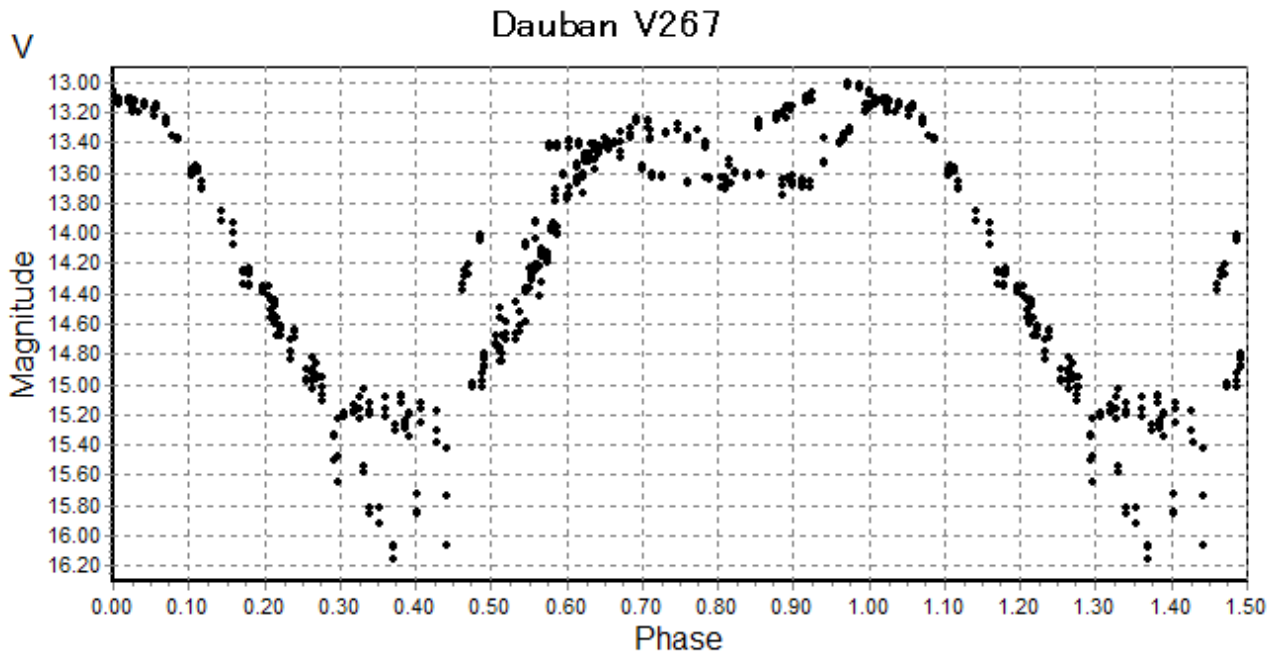
C= 2457328 + 145 *E

Fig.14 Phase Plot for ASASSN-V J000116.63+543159.2



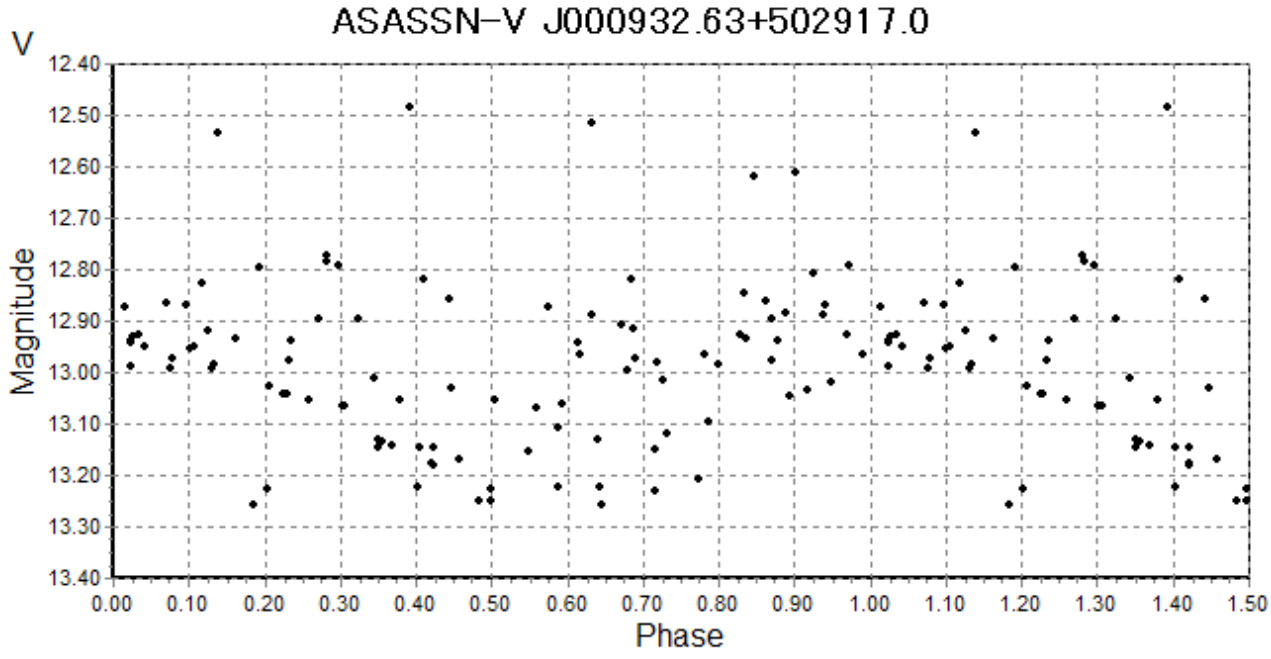
C= 2457177 + 53 *E

Fig.15 Phase Plot for ASASSN-V J000452.75+595007.3



C= 2457695 + 238 *E

Fig.16 Phase Plot for Dauban V267



C= 2457702 + 54.8 *E

Fig.17 Phase Plot for ASASSN-V J000932.63+502917.0

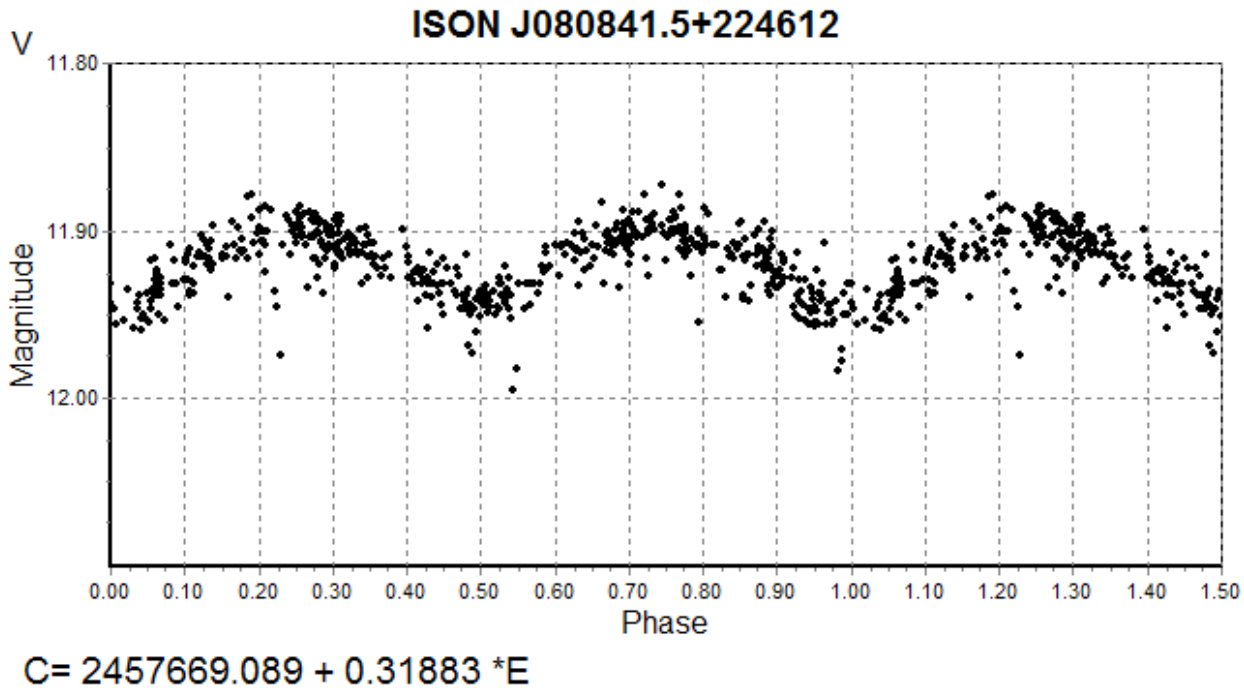


Fig.18 Phase Plot for ISON J080841.5+224612

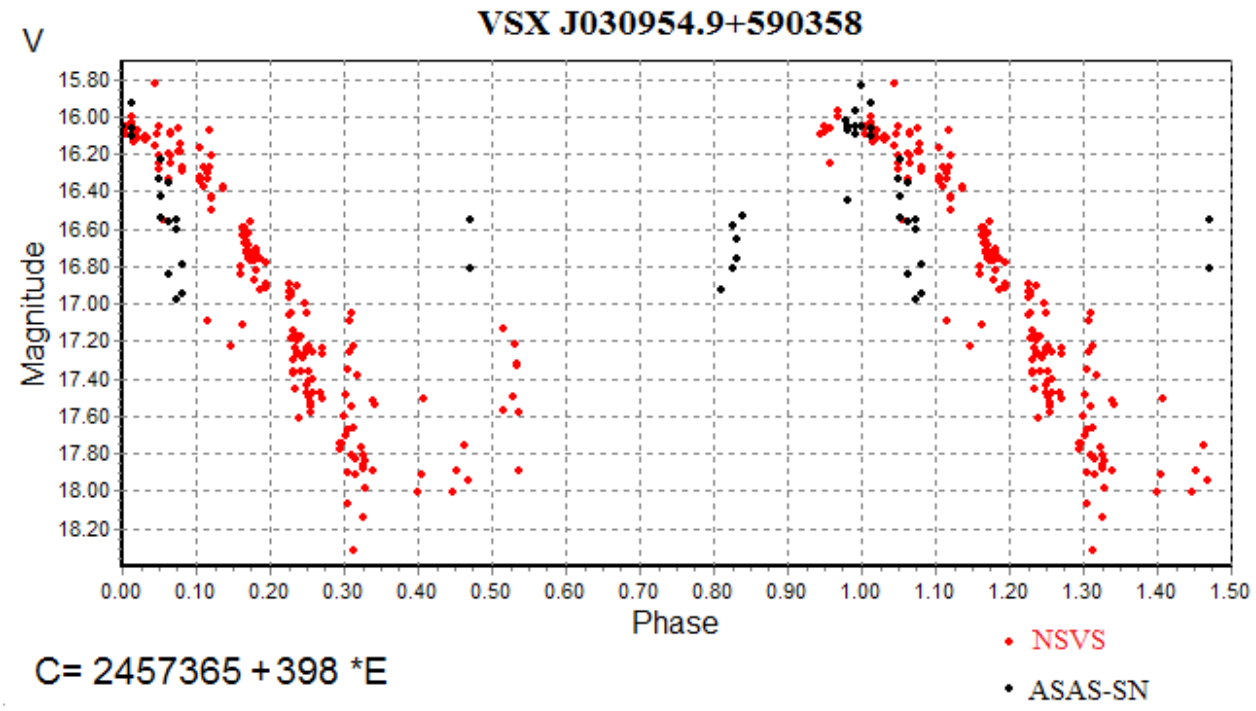


Fig.19 Lightcurve for VSX J030954.9+590358

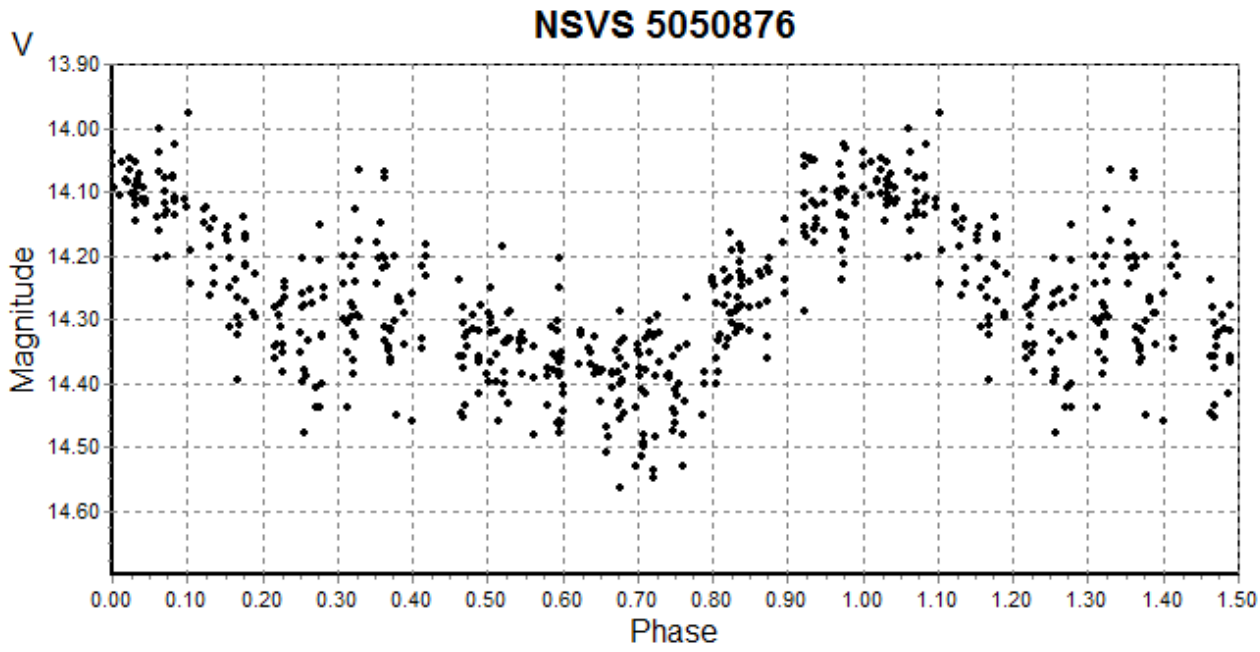


Fig.20 Phase Plot for NSVS 5050876

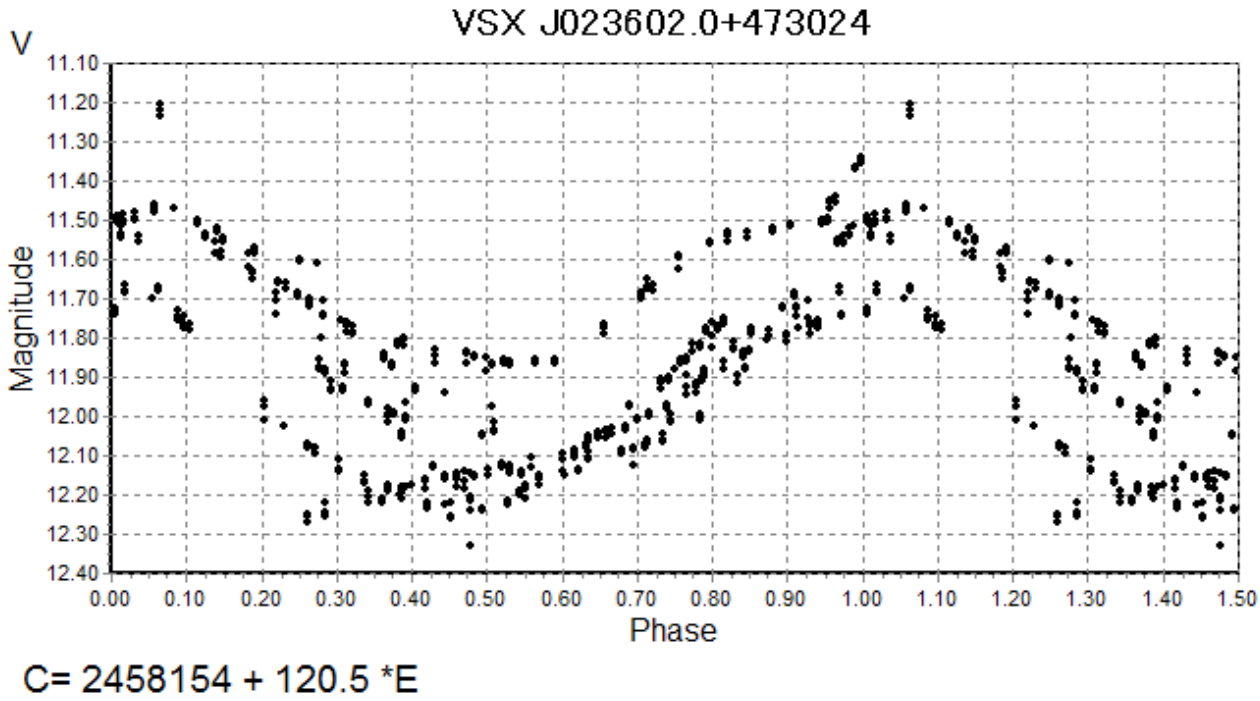


Fig.21 Phase Plot for VSX J023602.0+473024

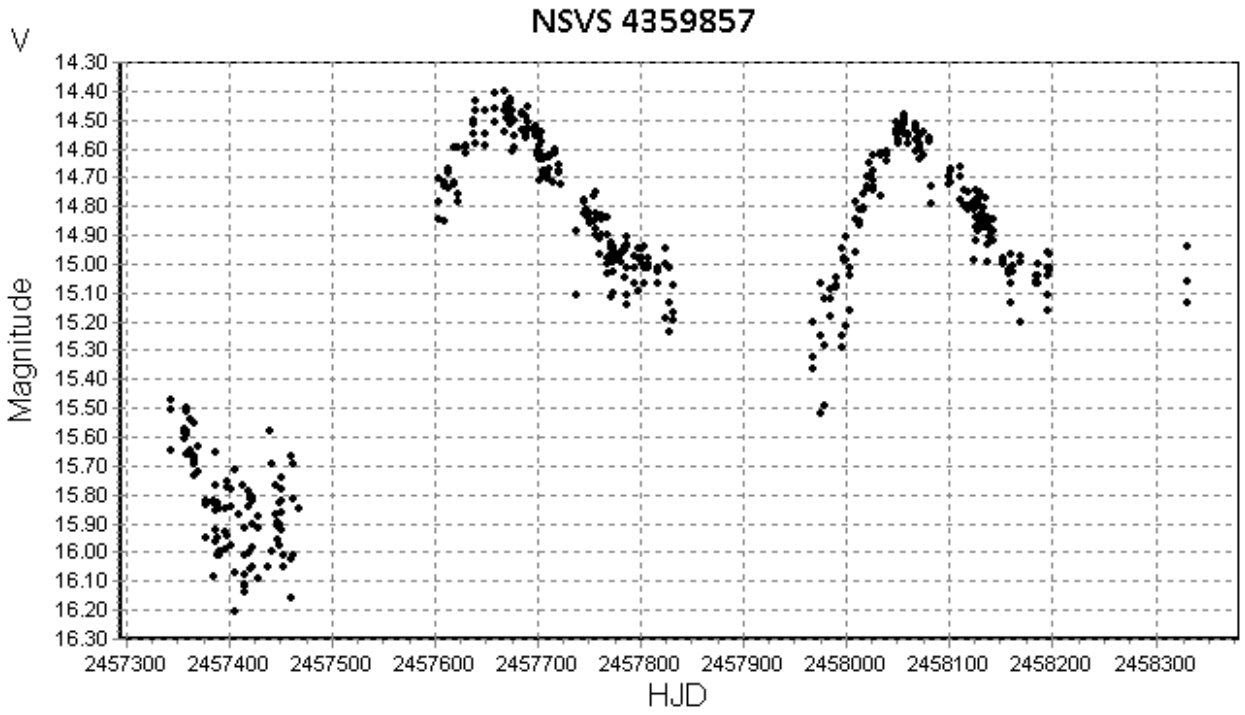


Fig.22 Lightcurve for NSVS 4359857

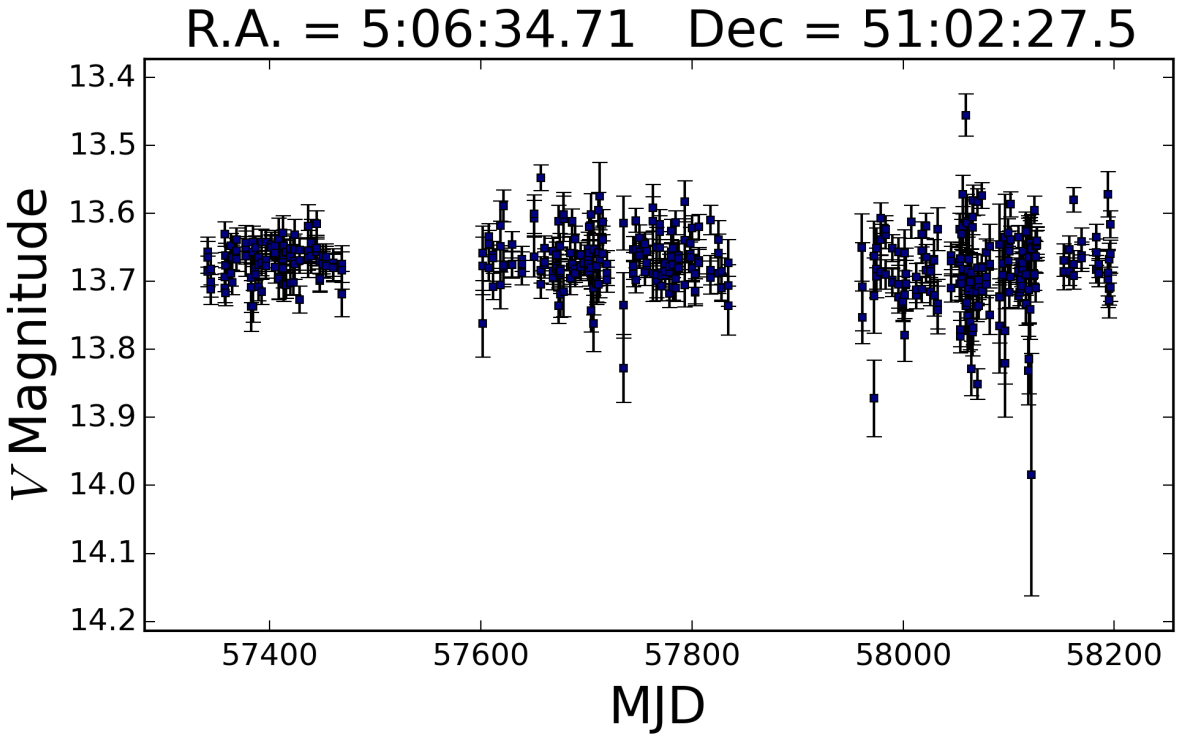


Fig.23 Lightcurve for NSVS 4415962

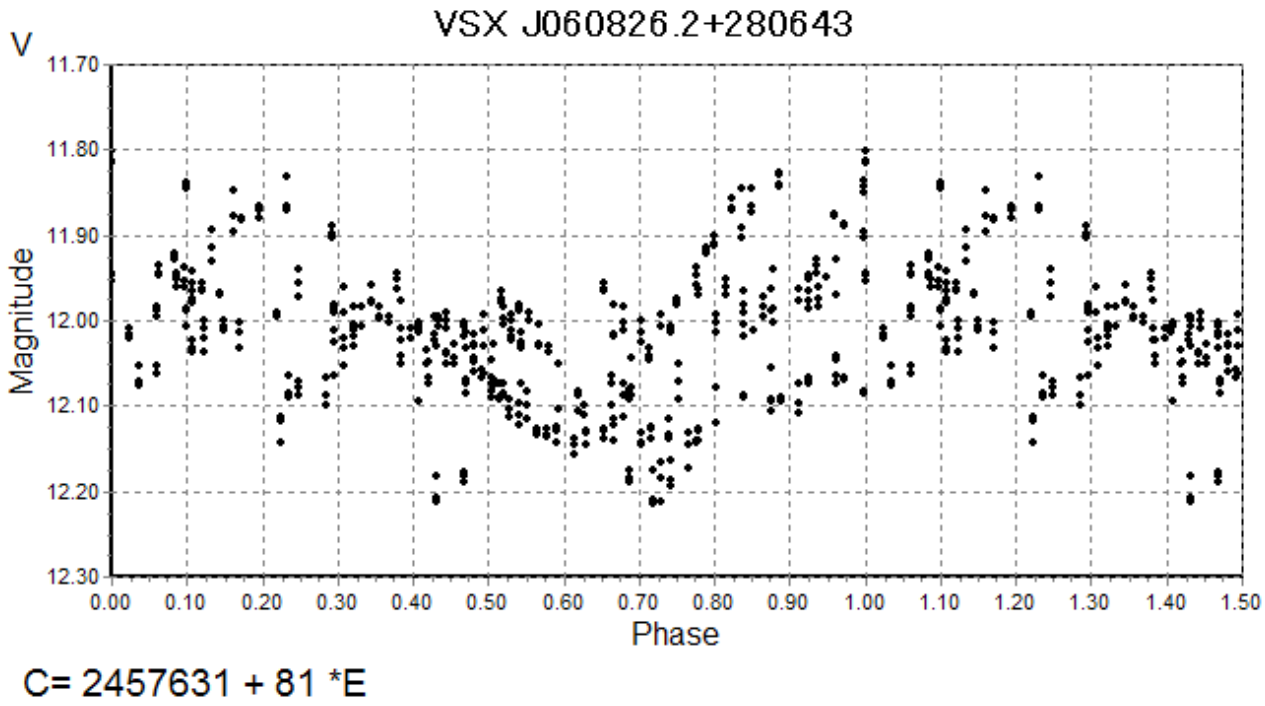


Fig.24 Phase Plot for VSX J060826.2+280643

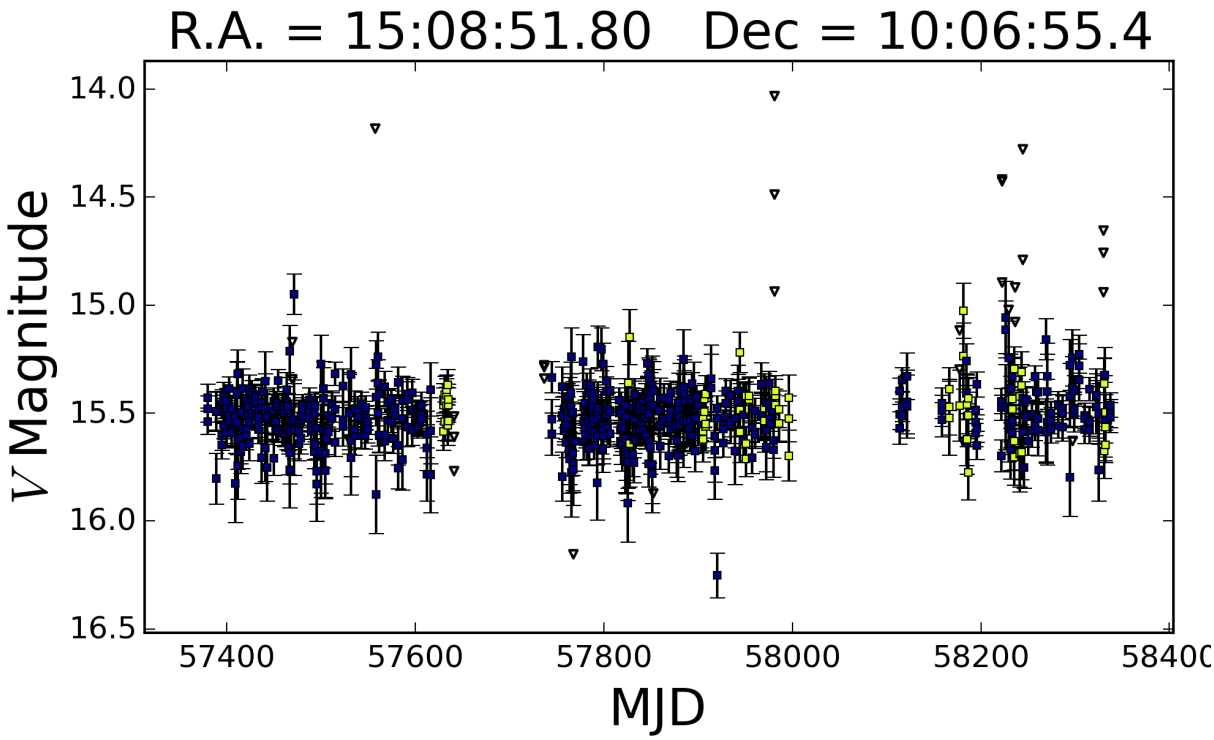


Fig.25 Lightcurve NSVS 10565577

Acknowledgements

This publication makes use of the SIMBAD and VizieR databases operated at the Centre de Données Astronomiques (Strasbourg) in France, of the International Variable Star Index (VSX, AAVSO) and of the Two Micron All Sky Survey (2MASS), which is a joint project of the University of Massachusetts and the Infrared Processing and Analysis Center/California Institute of Technology, funded by the National Aeronautics and Space Administration and the National Science Foundation. I thank S.Dubrovski for the provided software. I thank Dr.Pagel and Dr. Bernhard for his help in the work. I thank A.Tkachenko for the program of the conversion of civil time into the Julian time.

References

Monet, D., Bird, A., Canzian, B., et al., 1998, USNO-A2.0, A Catalog of Astrometric Standards (U.S. Naval Observatory, Washington, DC), Centre de Données Astronomiques de Strasbourg, I/252

C. S. Kochanek; et al., 2017, The All-Sky Automated Survey for Supernovae (ASAS-SN) Light Curve Server v1.0 , http://adsabs.harvard.edu/abs/2017arXiv170607060K

(Lafler J., Kinman T.D.) // Astrophys. J. Suppl. Ser., 1965 v.ll, p. 216.
http://adsabs.harvard.edu/abs/1965ApJS...11..216L

Ochsenbein F., Bauer P., Marcout J., The VizieR Database of Astronomical Catalogues (2000A&AS..143...23O)

Skiff B.A., 2009-2016, Catalogue of Stellar Spectral Classifications 2014yCat....1.2023S. Originally published in: Lowell Observatory (October 2014)

Skrutskie M. F., Cutri R. M., Stiening R., Weinberg M. D., Schneider S., Carpenter J. M., Beichman C.,Capps R., Chester T., Elias J., Huchra J., Liebert J., Lonsdale C., Monet D. G., Price S., Seitzer P., Jarrett T., Kirkpatrick J. D., Gizis J. E., Howard E., Evans T., Fowler J., Fullmer L., Hurt R., Light R., Kopan E. L., Marsh K. A., McCallon H. L., Tam R., Van Dyk S., Wheelock S., 2006, The Two Micron All Sky Survey (2MASS), AJ, 131, 1163 (2006AJ....131.1163S)

Watson C. L., 2006, The International Variable Star Index (VSX) (2006SASS...25...47W)

Woźniak, P.R., Vestrand, W.T., Akerlof, C.W., et al., 2004, Astron. J., 127, 2436