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Seventeen New Eclipsing Variables

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#	Name	Other	Coord (J2000)	Type	Max	Min	System	Period	Epoch (JD)	type	Sp	Comment	L.Curve	Find.Chart	Data
1		GSC 3688-01184, USNO-B1.0 1447-0060670	01 54 51.366, +54 44 37.45	EW	13.32	13.55	-Ir	0.3593411	2453654.5903	min		Comm. 1	Per_AG54r_G.png	Per_AG54_K.png	Per_AG54r.txt
2		USNO-B1.0 1447-0060874	01 55 12.507, +54 42 08.78	EB	14.28	14.65	-Ir	0.623394	2453651.513	min		Comm. 2	Per_AG88r_G.png	Per_AG88_K.png	Per_AG88r.txt
3		USNO-B1.0 1206-0055028	04 15 53.424, +30 41 27.10	EW:	14.67	14.90	-Ir	0.42601	2454055.458	min		Comm. 3	Tau_AG82r_G.png	Tau_AG82_K.png	Tau_AG82r.txt
4		USNO-B1.0 1257-0092393	05 10 24.164, +35 45 36.16	EA	14.95	15.6	V	0.5211060	2453386.3956	min		Comm. 4	Aur_AG45r_G.png	Aur_AG45_K.png	Aur_AG45r.txt
5		GSC 0238-00793, USNO-B1.0 0947-0176590	09 38 04.921, +04 47 59.60	EW	13.70	13.94	-Ir	0.3216619	2454506.3981	min		Comm. 5	Hya_AG05r_G.png	Hya_AG05_K.png	Hya_AG05r.txt
6		GSC 2569-00553, USNO-B1.0 1250-0227246	15 17 24.229, +35 03 56.69	EW:	13.27	13.50	*	0.2955713	2452726.4367	min		Comm. 6	Boo_AG12r_G.png	Boo_AG12_K.png	Boo_AG12r.txt
7		GSC 2673-02495, USNO-B1.0 1232-0455951	19 50 48.750, +33 12 56.10	EB	13.1	13.45	-Ir	1.15445	2453659.3408	min		Comm. 7	Cyg_AG59r_G.png	Cyg_AG59_K.png	Cyg_AG59r.txt
8		USNO-B1.0 1041-0581206	20 23 09.764, +14 06 42.73	EB	12.5	12.9	-Ir	0.553630	2454001.384	min		Comm. 8	Del_AG74r_G.png	Del_AG74_K.png	Del_AG74r.txt
9		GSC 3575-06239, USNO-B1.0 1351-0403952	20 59 17.430, +45 06 42.97	EW	12.33	12.54	*	0.69316	2452859.4347	min		Comm. 9	Cyg_AG15r_G.png	Cyg_AG15_K.png	Cyg_AG15r.txt
10		USNO-B1.0 1183-0597128	21 39 14.479, +28 22 40.68	EA	14.39	14.85	-Ir	2.954177	2453251.4755	min		Comm. 10	Peg_AG25r_G.png	Peg_AG25_K.png	Peg_AG25r.txt
11		TYC 3612 00014 1, USNO-B1.0 1405-0422421	21 55 56.460, +50 32 20.45	EA	12.6	13.0	-Ir	2.62606	2455063.367	min		Comm. 11	Cyg_AG31r_G.png	Cyg_AG31_K.png	Cyg_AG31r.txt
12		GSC 3618-00448, USNO-B1.0 1418-0457498	22 14 17.727, +51 48 05.36	EW	13.16	13.53	-Ir	0.5792332	2454712.574	min		Comm. 12	Lac_AG06r_G.png	Lac_AG06_K.png	Lac_AG06r.txt
13		GSC 3618-00162, USNO-B1.0 1417-0458433	22 14 18.589, +51 42 54.90	EW:	12.37	12.50	-Ir	0.2407040	2455062.392	min		Comm. 13	Lac_AG07r_G.png	Lac_AG07_K.png	Lac_AG07r.txt
14		TYC 3619 00047 1, USNO-B1.0 1416-0453770	22 19 19.071, +51 39 34.96	EW	11.18	11.35	-Ir	0.4848981	2453256.591	min		Comm. 14	Lac_AG30r_G.png	Lac_AG30_K.png	Lac_AG30r.txt
15		USNO-B1.0 1398-0469064	22 44 41.411, +49 52 29.57	EW	13.67	13.93	-Ir	0.325211	2454663.4997	min		Comm. 15	Lac_AG77r_G.png	Lac_AG77_K.png	Lac_AG77r.txt
16		GSC 4285-00122, USNO-B1.0 1524-0442090	23 47 28.107, +62 26 29.39	EW	13.1	13.34	-Ir	0.3746284	2453768.3846	min		Comm. 16	Cas_AG65r_G.png	Cas_AG65_K.png	Cas_AG65r.txt
17		GSC 4009-00670, USNO-B1.0 1474-0547469	23 52 21.726, +57 27 47.42	EW	12.41	12.59	-Ir	0.5599145	2453656.4107	min		Comm. 17	Cas_AG43r_G.png	Cas_AG43_K.png	Cas_AG43r.txt

Comments:

1. In the field of BY Per, discovered in 2005. Comparison star: a = GSC 3688-00810. Check star: b = GSC 3688-00574. Fourteen minima could be observed between 2005 and 2009. Least squares ephemeris: E = 2453654.5903 +/- 0.0005, P = 0.3593411 +/- 0.0000002. MinII = 13.54.

2. In the field of BY Per, discovered in 2006. Comparison star: a = GSC 3688-01952. Check star: b = GSC 3688-00810. Eight minima could be observed between 2005 and 2009. Least squares ephemeris: E = 2453651.513 +/- 0.002, P = 0.623394 +/- 0.000001. MinII = 14.50.

3. In the field of BN Tau, discovered in 2006. Comparison star: a = GSC 2371-01912. Check star: b = GSC 2371-01091. Three minima could be observed in 2006. MinII = 14.86.

4. In the field of HP Aur, discovered in 2005. Comparison star: a = USNO-B1.0 1257-0092299. Check star: b = GSC 02401-01128. Seven minima could be observed between 2005 and 2007. Least squares ephemeris: E = 2453386.3956 +/- 0.0003, P = 0.5211060 +/- 0.0000007.

5. In the field of UV Hya, discovered in 2002. Comparison star: a = GSC 0238-01955. Check star: b = GSC 0238-00985. Nineteen minima could be observed between 2002 and 2008. Least squares ephemeris: E = 2454506.3981 +/- 0.0004, P = 0.3216619 +/- 0.0000001. MinII = 13.87. Two minima observed by the author and published in IBVS 5657 led to an entry in the VSX.

6. In the field of UU Boo, discovered in 2003. Comparison star: a = GSC 2569-01442. Check star: b = GSC 2569-00527. Twenty-two minima could be observed between 2003 and 2005. Least squares ephemeris: E = 2452726.4367 +/- 0.0003, P = 0.2955713 +/- 0.0000003. MinII = 13.50.

7. In the field of V1004 Cyg, discovered in 2005. Comparison star: a = GSC 2673-02423. Check star: b = GSC 2673-00102. Five minima could be observed between 2003 and 2005. MinII = 13.40.

8. In the field of CD Del, discovered in 2006. Comparison star: a = GSC 1086-01465. Check star: b = GSC 1086-02079. Six minima could be observed between 2006 and 2008. Least squares ephemeris: E = 2454001.384 +/- 0.002, P = 0.553630 +/- 0.00005. MinII = 12.8.

9. In the field of V351 Cyg, discovered in 2003. Comparison star: a = GSC 3575-06158. Check star: b = GSC 3575-06602. Two minima could be observed in 2003 and one in 2009. MinII = 12.53.

10. In the field of CC Peg, discovered in 2004. Comparison star: a = GSC 2201-00707. Check star: b = GSC 2201-00061. Twelve minima could be observed between 1999 and 2006. Least squares ephemeris: E = 2453251.4755 +/- 0.0004, P = 2.954177 +/- 0.000001. MinII = 14.75.

11. In the field of V1401 Cyg, discovered in 2004. Comparison star: a = GSC 3612-00440. Check star: b = GSC 3612-00050. Five minima could be observed between 2004 and 2009. MinII = 12.74.

12. In the field of IZ Lac and V342 Lac, discovered in 2002. Comparison star: a = GSC 3618-01328. Check star: b = GSC 3618-01160. Fifteen minima could be observed between 2002 and 2009. Least squares ephemeris: E = 2454712.574 +/- 0.001, P = 0.5792332 +/- 0.0000005. MinII = 13.45. The lightcurve seems to be distorted by a spot - O'Connell effect.

13. In the field of IZ Lac, discovered in 2002. Comparison star: a = GSC 3618-00514. Check star: b = GSC 3618-00358. Ten minima could be observed between 2002 and 2009. Least squares ephemeris: E = 2455062.392 +/- 0.001, P = 0.2407040 +/- 0.0000001. MinII = 12.50.

14. In the field of ER Lac, discovered in 2004. Comparison star: a = GSC 3619-01839. Check star: b = GSC 3619-00445. Nine minima could be observed between 2004 and 2009. Least squares ephemeris: E = 2453256.591 +/- 0.002, P = 0.4848981 +/- 0.0000007. MinII = 11.34.

15. In the field of CH Lac, discovered in 2006. Comparison star: a = GSC 3629-02231. Check star: b = GSC 3629-01635. Three minima could be observed between 2006 and 2008. MinII = 13.93:.

16. In the field of EL Cas, discovered in 2006. Comparison star: a = GSC 4285-00860. Check star: b = GSC 4285-00928. Nine minima could be observed between 2006 and 2009. Least squares ephemeris: E = 2453768.3846 +/- 0.0006, P = 0.3746284 +/- 0.0000003. MinII = 13.33.

17. In the field of EP Cas, discovered in 2004. Comparison star: a = GSC 4009-01412. Check star: b = GSC 4009-00901. Five minima could be observed between 2004 and 2009. Least squares ephemeris: E = 2453656.4107 +/- 0.0008, P = 0.5599145 +/- 0.0000004. MinII = 12.59.

Remarks:

In the course of my investigation of known variable stars on a regular basis, nearby stars are sometimes detected as variables. The observations were carried out with two semiautomatic telescopes, 8-inch and 14-inch Schmidt-Cassegrain ones, operated at my private observatory. Before 2008, both telescopes were equipped with cooled SBIG ST6 CCD-cameras. Beginning with 2008, these cameras are replaced with SIGMA 1603 cameras, containing a cooled Kodak KAF1603ME chip. Normally, the exposures are 60s through a minus-Ir filter; in some cases B, V, or R filters are used.

Differential magnitudes are calculated using a comparison star ("a" in the charts) with a B-R color index resembling that of the variable. The constancy of the comparison is controlled using several check stars in the field, one of them is labeled "b" in the charts. Rough instrumental magnitudes are calculated simply by adding the R-magnitude of the comparison star taken from the USNO-B1.0 catalogue to the differential magnitudes. The coordinates are also taken from the USNO-B1.0 catalogue. Concentric aperture photometry is carried out by means of a self-written program, after bias, dark- and flatfield correction of the exposures.

The elements for each of the new variables are calculated using a linear least squares fit to all available extrema found in my collected CCD frames of the corresponding sky position. These timings of minima are to be published in one of the next compilations of BAV results.

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