A search for photometric variability in magnetic chemically peculiar stars using ASAS-3 data

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Received 28 April 2015 / Accepted 4 June 2015

ABSTRACT

Context. The (magnetic) chemically peculiar (CP) stars of the upper main sequence are well-suited laboratories for investigating the influence of magnetic fields on the stellar surface because they produce abundance inhomogeneities (spots), which results in photometric variability that is explained in terms of the oblique rotator model. CP stars exhibiting this phenomenon are normally classified as α^2 Canum Venaticorum (ACV) variables. It is important to increase the sample of known rotational periods among CP stars by discovering new ACV variables. An increased sample size will contribute to the understanding of the CP stars' evolution in time.

Aims. We aim at discovering new ACV variables in the public data of the third phase of the All Sky Automated Survey (ASAS-3). Furthermore, by analysis of the available photometric data, we intend to derive rotational periods of the stars.

Methods. The ASAS-3 data were cross-correlated with the Catalogue of Ap, HgMn, and Am stars in order to analyse the light curves of bona fide CP and related stars. The light curves were downloaded and cleaned of outliers and data points with a flag indicating bad quality. Promising candidates showing a larger scatter than observed for constant stars in the corresponding magnitude range were searched for periodic signals using a standard Fourier technique. Objects exhibiting periodic signals well above the noise level were considered and visually inspected, whereas borderline cases were rejected.

Results. In total, we found 323 variables, from which 246 are reported here for the first time, and 77 were probably wrongly classified before. The observed variability pattern of most stars is in accordance with an ACV classification. For some cases, it is difficult to distinguish between the light curves of double-waved ACVs and the variability induced by orbital motion (ellipsoidal variables/eclipsing variables), especially for objects exhibiting very small amplitudes and/or significant scatter in their light curves. Thus, some eclipsing or rotating ellipsoidal variables might be present. However, we are confident that the given periods are the correct ones. There seems to be a possible weak correlation between the rotational period and colour, in the sense that cooler magnetic CP stars rotate more slowly. However, this correlation seems to disappear when correcting for the interstellar reddening.

Conclusions. The next steps have to include a compilation of all available rotational periods from the literature and a detailed investigation of the astrophysical parameters of these stars. This includes a determination of the individual masses, luminosities, ages, and inclination angles. However, this information cannot be straightforwardly determined from photometric data alone.

Key words. binaries: eclipsing – stars: chemically peculiar – stars: variables: general – techniques: photometric

1. Introduction

Chemically peculiar (CP) stars are upper main sequence objects (spectral types early B to early F) whose spectra are characterized by abnormally strong (or weak) absorption lines that indicate peculiar surface elemental abundances. The observed chemical peculiarities are thought to arise from the diffusion of chemical elements due to the competition between radiative pressure and gravitational settling (Richer et al. 2000; Turcotte 2003). CP stars constitute about 10% of all upper main sequence stars and are commonly subdivided into four classes (Preston 1974): metallic line (or Am) stars (CP1), magnetic Ap stars (CP2), HgMn stars (CP3), and He-weak stars (CP4).

The CP2 or Ap stars, which are the subject of the present investigation, are notorious for exhibiting strong, globally organized magnetic fields of up to several tens of kiloGauss (Kochukhov 2011). Their atmospheres are enriched in elements such as Si, Cr, Sr, or Eu and usually present surface abundance patches or spots (Michaud et al. 1981; Kochukhov & Wade 2010;

Krtićka et al. 2013), leading to photometric variability, which is considered to be caused by rotational modulation and explained in terms of the oblique rotator model (Stibbs 1950).

As a result, the observed photometric period is the rotational period of the star. Generally, CP1 stars are not expected to show rotational light variability; in relation to CP3 stars, this is still a matter of debate (Paunzen et al. 2013; Morel et al. 2014). Interestingly, in a recent study using ultra-precise Kepler photometry, Balona et al. (2015) have found that most of the investigated Am stars exhibit light curves indicative of rotational modulation due to star spots. With an amplitude of up to ~200 ppm, this kind of variability is reserved for high-precision (space) photometry, though. Photometrically variable CP2 stars are also designated as α^2 Canum Venaticorum (ACV) variables in the General Catalogue of Variable Stars (Samus et al. 2007–2014, GCVS). Some Ap stars also exhibit photometric variability in the period range of ~5–20 min (high-overtone, low-degree, and non-radial pulsation modes). These stars are known as rapidly

oscillating Ap (roAp) stars (Kurtz 1990) and are not the subject of the present paper.

Considerable effort has been devoted to the study of the photometric variability of the magnetic Ap stars by photometric investigations or by mining available sky survey data (Manfroid & Mathys 1986; Paunzen & Maitzen 1998; Paunzen et al. 2011; Wraight et al. 2012). The present paper investigates the photometric variability of Ap stars using the publicly available observations from the third phase of the All Sky Automated Survey (ASAS-3, Pojmański 2002) and aims at finding previously unidentified ACV variables. Observations, target selection, data analysis, and interpretation are described in Sect. 2. Results are presented and discussed in Sect. 3, and we conclude in Sect. 4.

2. Observations and analysis

The targets for the present investigation were primarily chosen among the Ap stars listed in the most recent version of the Catalogue of Ap, HgMn, and Am stars (Renson & Manfroid 2009, RM09 hereafter). At the beginning of the project, a number of Am stars from the aforementioned list were inspected, too. According to our expectations, most of them did not exhibit variability in ASAS-3 data, which led us to abandon this approach and concentrate only on the Ap stars. The three Am stars that exhibit obvious light variability might actually be Ap stars which have been spectroscopically misclassified as Am stars (Sect. 3).

The RM09 catalogue was cross-matched with the Tycho-2 catalogue (Høg et al. 2000), and all objects with $V_T < 11$ mag that have a reasonable number of observations in the ASAS-3 database were investigated. These are mostly southern objects with $\delta < 0^\circ$. Additionally, other variables of spectral type late B to early A (with or without known chemical peculiarities) that have been investigated or discovered as by-products of other projects (Otero 2007) and which exhibit photometric variability typical of ACVs were included in our investigation.

The GCVS, the AAVSO International Variable Star Index, VSX (Watson 2006), the VizieR (Ochsenbein et al. 2000), and SIMBAD (Wenger et al. 2000) databases were consulted to check for an entry in variability catalogues. Objects that have already been announced as ACV variables in the literature were dropped from our sample.

2.1. Characteristics of the ASAS-3 data

The All Sky Automated Survey (ASAS) is a project that aims at continuous photometric monitoring of the whole sky, with the ultimate goal of detecting and investigating any kind of photometric variability. The first two phases of the project, ASAS-1 and ASAS-2, resulted in the discovery of about 3800 variable stars (Pojmański 1998, 2000).

The third phase of the project, ASAS-3, which has produced a catalogue of about 50 000 variable stars (Pojmański et al. 2005), lasted from 2000 until 2009 (Pojmański 2002) and has been monitoring the entire southern sky and part of the northern sky ($\delta < +28^\circ$). The ASAS-3 system, which occupied the ten-inch astrograph dome of the Las Campanas Observatory (Chile), consisted of two wide-field telescopes equipped with $f/2.8$ 200 mm Minolta lenses and 2048×2048 AP 10 Apogee detectors, covering a field of $8.8^\circ \times 8.8^\circ$ of sky. Data were obtained through standard Johnson *I* and *V* filters during the ASAS-2 and ASAS-3 surveys, respectively. About 10^7 sources brighter than about $V = 14$ mag were catalogued. With a CCD resolution of

about $14.8''$ per pixel, the astrometric accuracy is around $3\text{--}5''$ for bright stars and up to $15''$ for fainter stars. Thus, photometry in crowded fields as in star clusters is rather uncertain.

The typical exposure time for ASAS-3 *V*-filter observations was three minutes, which resulted in reasonable photometry for stars in the magnitude range $7 \lesssim V \lesssim 14$. The all-sky character of the survey necessitated sparse sampling. In general, a field was observed each one, two, or three days (Pigulski 2014) resulting in strong daily aliases in the corresponding Fourier spectra.

The most accurate photometry was obtained for stars in the magnitude range $8 \lesssim V \lesssim 10$, exhibiting a typical scatter of about 0.01 mag (Pigulski 2014). However, because of the long time baseline of almost ten years, the detection limit of the ASAS-3 data for periodic signals is much lower than this value. David et al. (2014) have detected periodic variables with amplitudes of variability of 0.01–0.02 mag in the magnitude range of $7 \lesssim V \lesssim 10$. Pigulski (2014) estimated that periodic signals with amplitudes as low as 4–5 mmag can still be detected well. Thus, the ASAS-3 data are perfectly suited to an investigation of the low-amplitude photometric variability of CP stars (Manfroid & Mathys 1986).

2.2. Data analysis and interpretation

The light curves of all target stars were downloaded from the ASAS-3 website¹. No data from our targets exist in the ASAS-2 *I*-band catalogue. The light curves were inspected visually, and obvious outliers and data points with a quality flag of “D” (“worst data, probably useless”) were removed. Promising candidates, i.e. stars showing a larger scatter than usually observed for apparent constant stars in the corresponding magnitude range with comparable instruments (Hartman et al. 2004), were searched for periodic signals in the frequency domain of $1 < f \text{ (c/d)} < 30$ using Period04 (Lenz & Breger 2005).

Objects exhibiting periodic signals well above the noise level (corresponding to a semi-amplitude of at least ~ 0.007 mag, as determined with Period04) were investigated. The data was folded with the resulting best-fitting frequency, and the light curve was visually inspected. ASAS-3 data sometimes suffer from systematic trends. For example, strong blending effects may induce significant additional scatter due to the inclusion of part of the neighbouring star’s flux, thus effectively rendering small-amplitude variations undetectable (Sitek & Pojmański 2014). Furthermore, instrumental long-term mean brightness trends might result in the detection of spurious periods. Consequently, objects whose light curves are indicative of strong systematic trends were rejected. Stars exhibiting convincing phase plots were kept. Borderline cases – that is to say, stars exhibiting a weak signal (semi-amplitude of ≤ 0.007 mag) that could not be attributed to systematic trends but did not produce a convincing phase plot either – were rejected as well in order to keep the sample free of possibly spurious detections that might contaminate the sample of derived rotational periods. The object was finally classified according to spectral type, colour information, period, and shape of its light curve.

The observed variability pattern of most stars is in accordance with an ACV classification. Judging from light curve characteristics, some eclipsing or rotating ellipsoidal variables might be present, too. Because ACV variables are prone to exhibiting double-wave variations in their photometric light curves (Maitzen 1980), it is sometimes difficult to distinguish between the light curves of double-waved ACVs and the variability

¹ <http://www.astrouw.edu.pl/asas/>

induced by orbital motion (ellipsoidal variables/eclipsing variables), especially for objects exhibiting very small amplitudes and/or significant scatter in their light curves.

Generally, there seems to be a lack of binaries among most subgroups of Ap stars (for example, the Si, Si-Cr, and Si-Sr stars, [Gerbaldi et al. 1985](#); [Leone & Catanzaro 1999](#)); in particular, very few double-lined spectroscopic binaries comprising an Ap star are known ([Hubrig et al. 2014](#)), and a conspicuous lack of short-period systems has been described in the literature ([North & Debernardi 2004](#); [Hubrig et al. 2005](#)). Furthermore, the search for magnetic Ap stars in eclipsing binary systems has mostly been to no avail. Up to 2005, no such system has ever been found ([Hubrig et al. 2005](#)). RM09 list only five bona fide candidates for eclipsing Ap stars from which one, AO Velorum, has been confirmed ([González et al. 2006](#)). In their photometric study of Ap stars with the STEREO satellites, [Wright et al. \(2012\)](#) did not identify any eclipsing binaries or ellipsoidal variables among their sample of 337 stars. However, some of them show distinct double-waved light curves. Furthermore, for the spectroscopic binaries with known periods among their sample, they were not able to establish a relation between the orbital period and the period of the observed light variations.

To sum up, it seems to be well established that the incidence of ellipsoidal variables or eclipsing binaries among Ap stars is very low. Accordingly, if the observed variability pattern is in general accordance with the rotational modulation caused by spots, we are inclined to interpret double-waved light curves as due to this mechanism. However, in doubtful cases, orbital motion cannot be decisively rejected as the source of the observed variability.

In fact, we have identified some stars among our sample that we consider to be promising eclipsing binary or ellipsoidal variable candidates, which – considering the size of the sample – is expected. HD 70817 is very likely an eclipsing binary, but its status as a CP star seems to be doubtful ([Skiff 2014](#)). Multicolour photometry with higher precision and/or spectroscopic studies are needed for a final conclusive classification. This will be part of a follow-up investigation.

3. Results

Most of the investigated Ap stars have never been the subject of a light variability analysis before, or, as in the case of HD 263361, they have been investigated and found constant or probably constant, and are described here as variable stars for the first time. Some of our targets have been identified as variable stars with or without a given period in the literature, but their variability types have not been determined or they have been misclassified. To the best of our knowledge, these stars are presented here as ACV variables for the first time. Interestingly, 16 of these objects already have known or suspected periods as listed in the RM09 catalogue. While this implies they are members of the class of ACV variables, these stars are not listed as known or suspected ACV variables in related papers and variability catalogues. Thus, we deemed it worthwhile to draw attention to these objects by including them in our sample.

Also included in our sample are three Am stars from the RM09 list, which exhibit light variations and periods typical of ACV variables. Two of them are marked as not likely to be CP objects in RM09. Under the assumption that these stars might possibly have been spectroscopically misclassified, we have listed them as ACV candidates (type “ACV:” in Table 2) and suggest further spectroscopic observations. The objects are flagged as Am stars in Table 4.

Table 1. Statistical information on the composition of the present sample.

Type	Number of objects
Newly discovered ACV variables	239
Variables of undetermined type ¹	61
Misclassified variables ¹	16
EB/ELL star candidates	7
Whole sample	323

Notes. ⁽¹⁾ Identified as ACV variables for the first time.

Some stars in our sample are listed with a twice longer or a twice shorter period in the literature. A twice longer (or shorter) rotation period cannot, in some cases, be definitely rejected for objects showing sinusoidal light variations and very small amplitudes and/or significant scatter in their light curves. However, the observed discrepancy is mostly due to classification differences. For example, some ASAS variables, which we have identified as ACV variables, have been classified as eclipsing binaries in the ASAS Catalogue of Variable Stars (ACVS) and are consequently listed there with a period that is twice as long. For very few cases, the period value listed in the literature is very different from our solution and possibly represents an alias of the real period.

We have checked the period solution of all doubtful cases (Sect. 2.2) and are confident that we have determined the period that fits ASAS-3 data best. This is also supported by the generally very good agreement of our period solutions to those from the literature. Because of the strong daily aliasing inherent to ASAS-3 data (Sect. 2.1), alias periods cannot be totally excluded.

Some stars in our sample ($N = 31$) have been spectroscopically classified as late B/early A-type stars, but have not been identified as (possible) chemically peculiar objects in the literature. Nevertheless, they have been included as ACV candidates (denoted as type “ACV:” in Table 2) in the present list of stars because of their typical photometric variability. Spectroscopic confirmation of these stars is needed to draw a final conclusion about their nature.

A part of our sample comprises Hipparcos unsolved variables ([Koen & Eyer 2002](#)), which have been automatically classified using random forests ([Dubath et al. 2011](#)) and a multistage methodology based on Bayesian networks ([Rimoldini et al. 2012](#), R12 hereafter). Likewise, the probabilistic classification catalogue created by [Richards et al. \(2012\)](#), “Machine-learned ASAS Classification Catalog (MACC)”; RS12 hereafter) lists classifications and their probabilities for the (mis- or unclassified) ASAS variables included in our sample. Since the results of the employed automatic classification routines regarding our sample of ACV variables might potentially be of interest in estimating their performance, we have included the findings of the above-mentioned investigations in the presentation of our results. For stars having an entry in R12, we list variability types predicted by both methods, following the order of the VizieR online catalogue: predicted type random forests/predicted type Bayesian networks (probability predicted by random forests/probability predicted by Bayesian networks). It is interesting to note that some of our confirmed ACV variables are listed as doubtful cases in RM09. That these objects exhibit light variations typical of ACV variables is further evidence of their peculiar nature.

Table 1 presents statistical information on the composition of the present sample, and Tables 2 to 4 list the results of the

Table 2. Essential data for the 316 stars identified as photometrically variable chemically peculiar stars or star candidates in the present paper.

Star	ID (RM09)	α (J2000)	δ (J2000)	Type	Range (V) [mag]	Period [d]	Epoch (HJD) [d]	Spectral type	$(B - V)$ [mag]	$(J - K_s)$ [mag]
HD 10081	2510	01 36 15.100	-68 15 05.38	ACV	9.60–9.64	1.57032(3)	2 452 190.56(3)	A0 Sr Eu	+0.031	+0.041
HD 26726	6830	04 12 46.635	-24 47 48.55	ACV	9.81–9.90	5.3816(4)	2 451 902.6(1)	A2 Sr	+0.325	+0.006
HD 30898	7983	04 51 28.382	-00 32 47.85	ACV:	7.84–7.88	0.781776(8)	2 452 185.79(2)	A1–F0	+0.269	+0.124
HD 35177	8980	05 23 01.934	+01 41 48.94	ACV	8.12–8.15	0.528194(5)	2 452 670.60(1)	B9 Si	-0.068	-0.118
HD 36997	9810	05 35 13.819	-02 22 52.32	ACV	8.31–8.36	6.0072(4)	2 453 101.5(1)	B9 Si Sr	-0.043	-0.060
HD 37189	9940	05 36 09.774	-13 49 20.35	ACV	8.53–8.57	2.8286(1)	2 452 115.90(6)	A0 Si	-0.033	-0.001
HD 37713	10170	05 39 34.257	-25 08 53.44	ACV	8.11–8.14	1.50125(3)	2 451 914.64(3)	B9 Si	-0.054	-0.243
HD 38366	10320	05 45 32.682	+09 19 00.77	ACV	8.94–9.01	0.625264(5)	2 454 143.68(1)	B9 Si	+0.009	+0.051
HD 38698	10400	05 47 02.886	-14 28 26.75	ACV	9.09–9.12	3.1643(2)	2 452 690.64(6)	A0 Si	-0.003	+0.011
HD 39635		05 53 25.382	-10 40 42.39	ACV:	8.75–8.82	3.9660(2)	2 452 752.51(8)	A0(V)	+0.078	+0.382
HD 42382	11300	06 10 30.681	+03 28 58.72	ACV	9.11–9.15	5.9277(7)	2 452 921.9(2)	B9 Cr Eu Si	+0.056	-0.019
HD 42695	11420	06 11 12.958	-22 49 41.46	ACV	8.12–8.14	1.06877(2)	2 455 148.78(3)	B9 Si	-0.035	-0.015
HD 44038	11668	06 19 10.142	-09 22 06.21	ACV	9.73–9.77	0.689929(6)	2 453 029.75(1)	A0 Eu Cr Sr	+0.033	+0.014
HD 44290	11750	06 20 28.159	-14 11 48.34	ACV	8.52–8.55	1.71523(4)	2 452 032.48(3)	B9 Cr Eu	+0.026	-0.031
HD 44456	11800	06 21 55.420	+00 18 15.18	ACV	8.50–8.54	3.8934(2)	2 452 243.73(8)	A0 Si Sr	+0.000	-0.016
HD 291674	12200	06 29 14.344	+00 42 57.01	ACV	9.75–9.78	2.7305(2)	2 453 457.57(8)	B9 Si	-0.005	+0.067
HD 258583	12260	06 30 22.290	+08 39 36.98	ACV	8.76–8.83	10.312(1)	2 452 671.6(2)	A0 Si	-0.012	-0.048
HD 45931	12280	06 30 27.489	-00 22 21.41	ACV	8.95–9.00	1.92699(5)	2 452 199.82(4)	A0 Si	+0.058	-0.017
HD 46234	12370	06 30 32.021	-38 45 10.22	ACV	9.28–9.31	4.6936(4)	2 451 924.6(1)	A0 Si	-0.105	-0.052
HD 47026	12590	06 33 58.822	-48 09 02.09	ACV	9.51–9.56	1.28037(2)	2 452 143.88(2)	B9 Sr Cr Eu	+0.014	-0.006

Notes. Only part of the table is printed here for guidance regarding its form and content. The complete table is given in the Appendix.

Table 3. Essential data for the 7 stars identified as promising eclipsing binary or ellipsoidal variable star candidates in the present paper.

Star	ID (RM09)	α (J2000)	δ (J2000)	Type	Range (V) [mag]	Period [d]	Epoch (HJD) [d]	Spectral type	$(B - V)$ [mag]	$(J - K_s)$ [mag]
HD 57526	15710	07 20 52.724	-21 34 30.25	ACV/EB	8.33–8.37	3.3446(2)	2 452 702.65(7), min	B9 Si	-0.040	-0.035
HD 64881	17800	07 53 59.051	-45 38 35.78	ACV/ELL	8.79–8.83	1.1039(2)	2 453 057.62(2), max	A0 Si	-0.033	-0.024
HD 70817	19540	08 22 33.328	-39 28 23.44	EB	9.30–9.45	3.50859(1)	2 454 181.730(4), min	B9 Si	+0.201	+0.194
HD 97986	28260	11 14 49.418	-70 21 37.66	ACV/ELL	7.84–7.90	4.3538(3)	2 451 878.79(8), max	B8 Si	+0.046	-0.011
HD 133246	37830	15 05 30.511	-53 31 53.40	ACV/ELL	9.05–9.10	1.79858(4)	2 451 953.79(4), max	B9 Si	+0.041	-0.024
HD 161724	45640	17 50 29.078	-56 34 29.24	ACV/EB	9.60–9.67	5.6882(4)	2 452 067.6(1), min	B9 Si	-0.039	-0.028
HD 174595	48860	18 52 04.499	-20 36 17.10	ACV/EB	9.08–9.17	7.1142(7)	2 452 464.6(1), min	A0 Si	+0.095	-0.031

Table 4. Available information on single objects from the literature and miscellaneous remarks.

Star	Var. desig. literature	Var. type literature	Period (d) literature	Period (d) this work	Reference	Remarks/comments literature
HD 30898	NSV 16178	VAR	3.61890 (VSX), 0.782 (RM09)	0.781776(8)	van Leeuwen et al. (1997)	RM09: Am star
HD 35177	HIP 25163	VAR	0.52820 (VSX)	0.528194(5)	Koen & Eyer (2002)	
HD 36997	NSV 16417	VAR:	n/a	6.0072(4)	Olsen (1983)	
HD 38366	ASAS J054533+0919.0	RRAB	0.62528 (VSX)	0.625264(5)	Pojmański (2002)	RS12: ACV (prob: 0.7498)
HD 39635	NSV 16723	VAR	3.96574 (VSX)	3.9660(2)	van Leeuwen et al. (1997)	R12: BE+GCAS/BE+GCAS (prob: 0.27/0.60)
HD 44456	ASAS J062155+0018.3	ED, ESD	7.78607 (VSX)	3.8934(2)	Pojmański (2002)	RS12: ACV (prob 0.5627)
HD 47714	HIP 31851	n/a	4.6946 (R12)	4.6953(4)	R12	R12: ACV/ACV (prob: 0.26/0.79)
HD 263361				88.9(1)		Constant or probably constant according to Wraight et al. (2012); period is outside their considered frequency domain
HD 50391				1.18285(3)		*
HD 50461	NSV 17218	VAR	0.89410 (VSX)	0.89403(2)	van Leeuwen et al. (1997)	R12: SPB/SPB (prob: 0.63/0.62)
HD 50855	HIP 33125	n/a	2.24027 (R12)	2.23913(6)		R12: BE+GCAS/BE+GCAS (prob: 0.56/0.56)
HD 50895	HIP 33164	VAR	3.58989 (VSX)	3.5902(2)	Koen & Eyer (2002)	R12: BE+GCAS/ACV (prob: 0.44/0.56)
HD 51031	ASAS J065504-1629.7	DCEP-FO	2.364 (VSX)	2.36431(9)	Pojmański (2002)	RS12: ACV (prob: 0.8802)
HD 51303	ASAS J065645-0055.0	VAR	4.508258 (VSX)	4.5076(3)	Pojmański (2000)	
HD 52567	LR CMa	ACYG:	11.942 (VSX)	11.9467(9)	van Leeuwen et al. (1997)	Dubath et al. (2011): likely ACV; RS12: ACV (prob: 0.9641)
HD 53204	NSV 17317	n/a	4.2462 (R12)	2.28534(7)	van Leeuwen et al. (1997)	R12: BE+GCAS/ACV (prob: 0.42/0.62)
HD 53695	HIP 34175	VAR	0.09964 (VSX)	0.83891(2)	Koen & Eyer (2002)	*
HD 53851	HIP 34283	VAR	2.02446 (VSX), 4.049? (RM09)	2.02464(5)	Koen & Eyer (2002)	R12: SPB/SPB (prob: 0.50/0.80)

Notes. An asterisk in Col. 7 denotes stars whose status as chemically peculiar objects is doubtful according to RM09. Only part of the table is printed here for guidance regarding its form and content. The complete table is given in the Appendix.

present investigation and are presented in their entirety in the Appendix. Tables 2 and 3 present essential data for the 323 stars we have identified as photometrically variable magnetic Ap stars or star candidates. The tables are organized as follows:

- Column 1: star name, HD number, or other conventional identification.
- Column 2: identification number from RM09.
- Column 3: right ascension (Tycho-2).
- Column 4: declination (Tycho-2).
- Column 5: variability type, α^2 Canum Venaticorum (ACV), eclipsing binary (EB), and ellipsoidal (ELL).
- Column 6: V magnitude range.
- Column 7: period (d).
- Column 8: epoch (HJD). In Table 3, this column also specifies the type of epoch. (Time of minimum is given for likely eclipsing binary or ellipsoidal variable star candidates, time of maximum for likely ACV variables.)
- Column 9: spectral classification, as listed in RM09 and – for the objects not contained in this list – Buscombe (1998, HD 39635), Cannon & Pickering (1993, HD 52567, HD 88488, HD 89726, HD 166417, and HD 177548), Ochsenbein (1980, HD 61134, HD 77013, HD 82691, HD 169005, and HD 299070), Skiff (2014), and Sundman et al. (1974, TYC 8690-1870-1). It is noteworthy that, as in the original paper, the “p” denoting peculiarity has been omitted from the spectral classifications taken from RM09.
- Column 10: $(B - V)$ index, taken from Kharchenko (2001).
- Column 11: $(J - K_s)$ index, as derived from the 2MASS catalogue (Skrutskie et al. 2006).

Table 4 lists available information from the literature and miscellaneous remarks on individual objects. It is organized as follows:

- Column 1: star name, HD number or other conventional identification.
- Column 2: variable star designation from the literature.
- Column 3: variable star type from the literature.
- Column 4: period (d) from the literature.
- Column 5: period (d) from this paper.
- Column 6: reference in which – to the best of our knowledge – the object has been announced as a variable star for the first time.
- Column 7: remarks of a miscellaneous nature: an asterisk denotes stars, whose status as chemically peculiar objects is doubtful according to RM09.

The light curves of all objects, folded with the period listed in Tables 2 and 3, are presented in the Appendix.

3.1. Statistical analyses

Because the source of our investigation, the RM09 catalogue, is rather inhomogeneous, the present sample is not very suitable for a statistical analysis. However, to compare our results with those of other, similar investigations, we have included some informative plots. In the following, we do not include objects whose status as ACV variables remains doubtful (Table 3).

Figure 1 investigates the distribution of the logarithmic rotational periods (upper panel) and the V magnitude ranges (lower panel) of the photometrically variable Ap stars and Ap star candidates of our sample. Our results are in excellent agreement with the literature, illustrating the well-known peak around $\log P = 0.4$ days (compare, for example, Fig. 7 of RM09) and the magnitude range of the variations (Mathys & Manfroid 1985).

Fig. 1. Distribution of the logarithmic rotational periods (*upper panel*) and V magnitude amplitudes (*lower panel*) among the photometrically variable Ap stars and Ap star candidates of the present sample (Table 2).

It is worthwhile pointing out, though, that the observed sharp decrease in numbers below a V magnitude range <0.03 mag is at least partially due to observational bias, since the ASAS-3 measurement uncertainties approach this value for the fainter objects, thus preventing the detection of very low-amplitude variables among the fainter stars. We want to stress that we might have missed some very low amplitude variations due to the selection and analysis process (Sect. 2.2). The rotational periods of Ap stars are more or less restricted to a rather narrow range. In light of the oblique rotator model, this means that a stable magnetic field configuration, which is needed to generate surface spots, can only survive for a distinct range of equatorial rotational velocities. For a detailed analysis of this important topic, one needs masses, luminosities, ages, and the inclination angles of rotating stars. This information cannot be straightforwardly determined from photometric data alone.

Figure 2 (upper panels) shows the colour indices $(J - K_s)$ and $(B - V)$ versus the logarithmic rotational periods. It is a matter of debate and even some controversy in the literature whether there should be a correlation or not. While RM09 found no correlation between the periods and the $(B - V)$ colours for their extended sample (see their Fig. 8), Mikulášek et al. (2009) reached the conclusion that cooler magnetic CP stars (such as SrCrEu stars) rotate more slowly (see their Fig. 2). Of course, relying solely on colour information simplifies the problem dramatically. This approach does not take the luminosity into account, as well as the mass and thus evolutionary effects. We investigated such a possible simple colour correlation by employing a linear regression. We chose to restrict the colour index range to the most densely populated region of the diagram, which corresponds to

Fig. 2. Rotational periods as a function of $(B - V)$ and $(J - K_s)$ of the photometrically variable Ap stars and Ap star candidates of the complete sample (*upper panels*) and the 99 stars of our sample for which we were able to determine the reddening (*middle and lower panels*; Table 5).

$(B - V) \leq 0.25$ mag. This also allowed us a direct comparison with Fig. 2 of Mikulášek et al. (2009). In agreement with the findings of these investigators, we found a possible weak correlation between the rotational period and $(B - V)$ index (t parameter of 3.87), in the sense that cooler magnetic CP stars rotate more slowly. The slope was estimated as 0.57(19).

However, the reddening for our sample cannot be neglected. Most of our stars are located in the Galactic disk with a Galactic latitude $|b| < 10^\circ$ and $7 \lesssim V \lesssim 10$ mag. For an A0 star with $M_V \sim 0$ mag, this corresponds to distances between 250 and 1000 pc. In the Galactic disk, an absorption of $A_V (=3.1E(B - V) = 5.636E(J - K_s))$ of about 2 mag kpc^{-1} was observed for some regions (Chen et al. 1998; Dutra et al. 2002).

The reddening for the targets was estimated using photometric calibrations in the Strömgren $uvby\beta$ (Crawford 1978, 1979) and the Q -parameter within the Johnson UBV system (Johnson 1958). These methods are only based on photometric indices and do not take any distance estimates via parallax measurements into account. Photometric data were taken from the General Catalogue of Photometric Data (GCPD²). Where possible, averaged and weighted mean values were used throughout. For stars with Hipparcos parallax measurements (van Leeuwen 2007) with a precision better than 30%, the distance and Galactic coordinates were used to determine the reddening from the extinction model by Amôres & Lépine (2005). If several estimates were available, they were compared and yielded excellent agreement. Table 5 lists the reddening values of the 99 stars for which

we are able to determine the reddening. For the remaining stars neither photometry nor accurate parallaxes are available. The values for A_V reach up to 1.5 mag.

As described above, we then employed a linear regression to the dereddened sample (Fig. 2, lower panels). No significant slope was found for this data sample. This could be interpreted as introducing a severe bias in the correlation when neglecting the reddening. To exclude the possibility of a selection effect, we also investigated the reddened colours of the sample from Table 5.

Although the slopes are slightly shallower, they are still significant (Fig. 2, middle panels). To verify our results, we investigated the behaviour of the correlation using Tycho-2 data instead of Kharchenko (2001) data, which led to the same conclusions. Furthermore, we employed the Spearman rank-order correlation coefficient (Spearman 1904), a non-parametric measure of correlation, to investigate our results. For this, we divided our sample (Table 2) into four groups using $\log P$ and $(B - V)$:

- All stars, reddened: $\rho = +0.20$, $p = 0.0004$, $N = 316$,
- All stars with $(B - V) \leq 0.25$ mag, reddened: $\rho = +0.21$, $p = 0.0002$, $N = 295$,
- All stars, unreddened: $\rho = -0.05$, $p = 0.59$, $N = 99$,
- All stars, with $(B - V)_0 \leq 0.25$ mag, unreddened: $\rho = -0.03$, $p = 0.76$, $N = 98$.

The two reddened samples show, with almost 100% probability, that there is a weak correlation that is not due to random sampling. In contrast, the other two samples are, with high probability, uncorrelated. Therefore, from a statistical point of view, the

² <http://obswww.unige.ch/gcpd/>

Table 5. Reddening values derived for 99 stars of our sample from *UBV* and *uvby β* photometry as well as the extinction model by Amôres & Lépine (2005); $A_V(=3.1E(B - V) = 5.636E(J - K_s))$.

Star	$E(B - V)$ [mag]	Star	$E(B - V)$ [mag]	Star	$E(B - V)$ [mag]	Star	$E(B - V)$ [mag]
CD-44 3656	0.022	HD 53021	0.022	HD 88488	0.081	HD 138773	0.170
CPD-60 944A	0.000	HD 53204	0.017	HD 88757	0.142	HD 144815	0.166
HD 10081	0.015	HD 53695	0.069	HD 89519	0.000	HD 146555	0.138
HD 30898	0.033	HD 53851	0.000	HD 92190	0.062	HD 148848	0.000
HD 35177	0.040	HD 54544	0.025	HD 92379	0.000	HD 149831	0.178
HD 36997	0.057	HD 56273	0.034	HD 92849	0.029	HD 154645	0.098
HD 37189	0.046	HD 56748	0.055	HD 93821	0.007	HD 155313	0.252
HD 37713	0.051	HD 56773	0.071	HD 94873	0.000	HD 157063	0.225
HD 38698	0.046	HD 57372	0.029	HD 96910	0.000	HD 157644	0.121
HD 39635	0.014	HD 57946	0.084	HD 98486	0.225	HD 157678	0.024
HD 44290	0.002	HD 59437	0.029	HD 99204	0.096	HD 158596	0.049
HD 44456	0.043	HD 59752	0.099	HD 103844	0.289	HD 161349	0.070
HD 47714	0.056	HD 61622	0.054	HD 105457	0.207	HD 166198	0.041
HD 48729	0.021	HD 62535	0.035	HD 106688	0.144	HD 169005	0.169
HD 50221	0.028	HD 62632	0.032	HD 111055	0.011	HD 174646	0.000
HD 50391	0.000	HD 64901	0.013	HD 112528	0.118	HD 180029	0.303
HD 50461	0.000	HD 83002	0.041	HD 115789	0.000	HD 181550	0.038
HD 50540	0.000	HD 84001	0.022	HD 119716	0.027	HD 187128	0.040
HD 50895	0.000	HD 84448	0.058	HD 123627	0.107	HD 258583	0.043
HD 51088	0.000	HD 84656	0.075	HD 123927	0.211	HD 289186	0.010
HD 51172	0.011	HD 85453	0.068	HD 125903	0.047	HD 299070	0.287
HD 51307	0.051	HD 85469	0.029	HD 128840	0.205	HD 305451	0.225
HD 51426	0.053	HD 85629	0.035	HD 132988	0.021	HD 315873	0.508
HD 51790	0.040	HD 88343	0.094	HD 138151	0.166	HD 342867	0.027
HD 52589	0.000	HD 88385	0.053	HD 138519	0.229		

derived coefficients substantiate our prior conclusions. Clearly, a larger sample of CP stars with available rotational periods, along with precise stellar astrophysical parameters, is needed to investigate this topic further.

4. Conclusions

We have searched for photometric variability in confirmed or suspected Ap stars from the most recent version of the Catalogue of Ap, HgMn, and Am stars (RM09) using publicly available observations from the ASAS-3 database. We presented a sample of 323 photometrically variable magnetic Ap stars or star candidates, 246 of which are – to the best of our knowledge – described here as variable stars for the first time. A part of our sample (31 stars) is made up of late B to early A-type variables that are not included in the RM09 catalogue and that lack confirmation of their chemical peculiarity. They were included as ACV candidates because of their typical photometric variability but need spectroscopic confirmation.

We have compared our sample with the findings of similar investigations and find very good agreement. The well-known peak around $P = 2$ days in the distribution of rotational periods was confirmed. We found a possible weak correlation between rotational period and $(B - V)$ index, in that cooler magnetic CP stars rotate more slowly. However, this correlation seems to disappear when correcting for the interstellar reddening.

In agreement with the findings of David et al. (2014) and Pigulski (2014), we conclude that ASAS-3 data are well suited to investigating variable stars with rather low photometric amplitudes.

Acknowledgements. This project is financed by the SoMoPro II programme (3SGA5916). The research leading to these results received a financial grant from the People Programme (Marie Curie action) of the Seventh Framework Programme of the EU according to REA Grant Agreement No. 291782. The

research is further co-financed by the South-Moravian Region. It was also supported by grant 7AMB14AT015 and the financial contributions of the Austrian Agency for International Cooperation in Education and Research (BG-03/2013 and CZ-09/2014). We thank the referee, Luca Fossati, for helpful comments and suggestions that helped to improve the paper. This work reflects only the author's views so the European Union is not liable for any use that may be made of the information contained therein.

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Appendix A: Complete Table 2

Table A.1. Essential data for the 316 stars identified as photometrically variable chemically peculiar stars or star candidates in the present paper.

Star	ID (RM09)	α (J2000)	δ (J2000)	Type	Range (V) [mag]	Period [d]	Epoch (HJD) [d]	Spectral type	(B – V) [mag]	(J – K _s) [mag]
HD 10081	2510	01 36 15.100	–68 15 05.38	ACV	9.60–9.64	1.57032(3)	2452190.56(3)	A0 Sr Eu	+0.031	+0.041
HD 26726	6830	04 12 46.635	–24 47 48.55	ACV	9.81–9.90	5.3816(4)	2451902.6(1)	A2 Sr	+0.325	+0.006
HD 30898	7983	04 51 28.382	–00 32 47.85	ACV:	7.84–7.88	0.781776(8)	2452185.79(2)	A1–F0	+0.269	+0.124
HD 35177	8980	05 23 01.934	+01 41 48.94	ACV	8.12–8.15	0.528194(5)	2452670.60(1)	B9 Si	–0.068	–0.118
HD 36997	9810	05 35 13.819	–02 22 52.32	ACV	8.31–8.36	6.0072(4)	2453101.5(1)	B9 Si Sr	–0.043	–0.060
HD 37189	9940	05 36 09.774	–13 49 20.35	ACV	8.53–8.57	2.8286(1)	2452115.90(6)	A0 Si	–0.033	–0.001
HD 37713	10170	05 39 34.257	–25 08 53.44	ACV	8.11–8.14	1.50125(3)	2451914.64(3)	B9 Si	–0.054	–0.243
HD 38366	10320	05 45 32.682	+09 19 00.77	ACV	8.94–9.01	0.625264(5)	2454143.68(1)	B9 Si	+0.009	+0.051
HD 38698	10400	05 47 02.886	–14 28 26.75	ACV	9.09–9.12	3.1643(2)	2452690.64(6)	A0 Si	–0.003	+0.011
HD 39635		05 53 25.382	–10 40 42.39	ACV:	8.75–8.82	3.9660(2)	2452752.51(8)	A0(V)	+0.078	+0.382
HD 42382	11300	06 10 30.681	+03 28 58.72	ACV	9.11–9.15	5.9277(7)	2452921.9(2)	B9 Cr Eu Si	+0.056	–0.019
HD 42695	11420	06 11 12.958	–22 49 41.46	ACV	8.12–8.14	1.06877(2)	2455148.78(3)	B9 Si	–0.035	–0.015
HD 44038	11668	06 19 10.142	–09 22 06.21	ACV	9.73–9.77	0.689929(6)	2453029.75(1)	A0 Eu Cr Sr	+0.033	+0.014
HD 44290	11750	06 20 28.159	–14 11 48.34	ACV	8.52–8.55	1.71523(4)	2452032.48(3)	B9 Cr Eu	+0.026	–0.031
HD 44456	11800	06 21 55.420	+00 18 15.18	ACV	8.50–8.54	3.8934(2)	2452243.73(8)	A0 Si Sr	+0.000	–0.016
HD 291674	12200	06 29 14.344	+00 42 57.01	ACV	9.75–9.78	2.7305(2)	2453457.57(8)	B9 Si	–0.005	+0.067
HD 258583	12260	06 30 22.290	+08 39 36.98	ACV	8.76–8.83	10.312(1)	2452671.6(2)	A0 Si	–0.012	–0.048
HD 45931	12280	06 30 27.489	–00 22 21.41	ACV	8.95–9.00	1.92699(5)	2452199.82(4)	A0 Si	+0.058	–0.017
HD 46234	12370	06 30 32.021	–38 45 10.22	ACV	9.28–9.31	4.6936(4)	2451924.6(1)	A0 Si	–0.105	–0.052
HD 47026	12590	06 33 58.822	–48 09 02.09	ACV	9.51–9.56	1.28037(2)	2452143.88(2)	B9 Sr Cr Eu	+0.014	–0.006
HD 46739	12530	06 34 17.350	–20 08 33.82	ACV	9.30–9.35	1.11115(3)	2453366.80(3)	A0 Si	+0.003	–0.059
HD 47714	12810	06 39 32.657	–11 41 51.64	ACV	7.91–7.96	4.6953(4)	2452249.7(2)	B8 Si	–0.032	–0.025
HD 48729	13000	06 42 38.478	–43 30 29.45	ACV	9.41–9.46	1.89150(5)	2452963.74(4)	A0 Si	–0.023	–0.050
HD 263361	13070	06 45 58.980	+19 09 43.21	ACV	9.14–9.22	88.9(1)	2452715.5(9)	B9 Si	+0.019	–0.009
HD 263582	13110	06 46 21.920	+09 06 10.22	ACV	9.64–9.72	2.09183(6)	2452740.48(4)	B9 Si	+0.205	–0.002
HD 49686	13460	06 47 58.134	–36 12 59.79	ACV	9.80–9.84	3.9648(2)	2451929.63(8)	A0 Cr Eu Si	+0.133	+0.040
HD 49479	13380	06 48 27.943	–02 11 49.30	ACV	9.34–9.40	7.3878(7)	2452255.7(1)	B9 Si	–0.021	–0.024
HD 289186	13400	06 48 43.944	+01 36 31.96	ACV	9.59–9.62	1.65625(5)	2452654.67(5)	B8 Si	–0.087	–0.056
HD 50221	13750	06 50 17.773	–40 55 19.66	ACV	8.85–8.88	1.97442(5)	2451938.64(4)	B9 Si	–0.073	–0.022
HD 50540	13860	06 52 36.429	–26 23 44.44	ACV	9.74–9.81	1.55352(3)	2451877.76(3)	B9 Si Sr	–0.125	–0.047
HD 50391	13787	06 52 38.633	–10 10 36.79	ACV	9.22–9.25	1.18285(3)	2453405.66(3)	B9 Si	–0.042	–0.009
HD 50461	13810	06 53 07.993	–07 45 55.98	ACV	7.75–7.81	0.89403(2)	2453411.76(3)	B9 Si Cr	–0.058	–0.094
HD 50829	13970	06 53 25.999	–31 12 20.44	ACV	9.18–9.27	3.4144(1)	2451935.54(7)	A0 Si	+0.089	–0.071
HD 50855	13986	06 53 54.676	–25 56 33.82	ACV	10.10–10.16	2.23913(6)	2452754.52(5)	B9 Si	+0.005	–0.074
HD 50895	14010	06 54 12.893	–23 06 21.93	ACV	9.64–9.70	3.5902(2)	2452911.85(7)	B9 Si	–0.030	–0.070
HD 51088	14070	06 54 54.049	–24 43 05.19	ACV	8.25–8.29	1.65260(4)	2453445.55(3)	B8 Si	–0.130	–0.073
HD 51031	14060	06 55 04.104	–16 29 45.29	ACV	9.49–9.57	2.36431(9)	2452987.76(5)	B8 Si	+0.128	+0.145
HD 51203	14110	06 55 09.834	–30 03 43.99	ACV	10.39–10.43	6.6752(8)	2453389.7(2)	A2 Sr Eu Cr	+0.484	+0.069
HD 51307	14130	06 56 19.949	–12 51 14.88	ACV	9.10–9.14	4.017(2)	2453759.63(8)	B8 Si	–0.037	–0.058
HD 51172	14100	06 56 22.803	+03 11 49.10	ACV	8.61–8.66	2.47926(8)	2453759.74(5)	B9 Si	–0.045	–0.055
HD 51303	14128	06 56 45.298	–00 55 03.48	ACV	9.33–9.36	4.5076(3)	2452925.86(9)	A0 Si	–0.089	–0.018
HD 51426		06 56 55.264	–10 59 22.49	ACV:	8.56–8.59	3.1064(1)	2453466.54(6)	B6III	–0.120	–0.119
HD 51790	14250	06 57 51.162	–21 56 13.99	ACV	9.31–9.35	0.96385(2)	2454509.61(3)	B8 Si	–0.118	–0.029
HD 52297	14360	06 58 50.067	–39 59 18.60	ACV	9.19–9.22	1.62773(4)	2454847.80(3)	A0 Si Cr	+0.061	+0.030
HD 51912	14270	06 59 01.706	–04 23 06.29	ACV	8.71–8.75	1.56420(5)	2453051.63(5)	A0 Si	–0.064	–0.060
HD 52567		07 00 51.144	–23 35 47.82	ACV:	9.31–9.40	11.9467(9)	2455083.9(1)	B8	–0.091	–0.080
HD 52669	14440	07 01 34.558	–15 03 06.70	ACV	9.10–9.14	29.47(1)	2455084.9(6)	A0 Si	–0.061	–0.048
HD 52589	14400	07 01 35.127	–06 18 42.93	ACV	8.06–8.09	1.68418(6)	2451905.69(5)	B8 Si	–0.099	–0.013
HD 52693	14450	07 01 54.005	–09 26 06.60	ACV	8.59–8.62	2.44598(8)	2455162.77(5)	A0 Si	–0.032	–0.008
HD 53021	14570	07 02 21.643	–26 31 54.14	ACV	9.93–9.98	3.7544(2)	2453159.46(7)	B9 Si	+0.000	–0.030
HD 53067	14590	07 02 30.703	–27 34 30.91	ACV	10.17–10.20	3.2758(2)	2452566.8(1)	B9 Si	–0.069	–0.041
HD 53081	14600	07 04 03.828	+08 41 07.38	ACV	9.69–9.72	5.8727(7)	2453087.6(2)	B9 Si	–0.083	–0.094
HD 53204	14630	07 04 16.227	+01 30 26.82	ACV	7.64–7.67	2.28534(7)	2454181.61(5)	B9 Si	–0.037	–0.001
HD 53695	14747	07 05 15.875	–19 51 15.20	ACV	9.19–9.23	0.83891(2)	2452202.78(2)	B8 Si	–0.113	–0.063
HD 53851	14780	07 06 27.659	–03 06 56.67	ACV	7.58–7.62	2.02464(5)	2452925.86(4)	B9 Si	–0.112	–0.100
HD 54445	14930	07 07 42.540	–28 02 53.87	ACV	8.69–8.73	0.657375(6)	2455118.83(1)	A0 Si	–0.033	–0.050
HD 54544	14936	07 08 52.215	–11 10 59.63	ACV	9.11–9.14	2.22896(9)	2453812.58(7)	B9 Si	–0.007	+0.001
HD 54766	14956	07 09 24.646	–18 07 24.01	ACV	9.85–9.90	1.99280(5)	2454531.60(4)	B9 Si	+0.043	–0.001
HD 54962	15010	07 09 58.456	–24 24 35.19	ACV	9.32–9.35	2.5423(2)	2454837.77(7)	A0 Si	–0.101	–0.036
HD 56273	15300	07 15 57.316	–12 32 35.31	ACV	7.91–7.95	1.78661(4)	2453653.86(4)	B8 Si	–0.061	–0.056
HD 56748	15470	07 17 26.752	–20 27 48.93	ACV	8.87–8.92	5.9332(5)	2452784.5(1)	A0 Si	–0.062	–0.102
HD 56773	15475	07 17 50.121	–14 20 06.95	ACV	9.32–9.38	0.768298(8)	2453759.74(1)	B8 Si	+0.026	+0.017
HD 57040	15570	07 16 42.240	–53 26 13.10	ACV	9.19–9.21	26.952(9)	2453634.8(5)	A2 Eu Sr	+0.550	+0.059
HD 57372	15680	07 20 02.705	–24 24 57.50	ACV	7.90–7.93	7.8880(8)	2454973.5(1)	B8 Si	–0.132	–0.210
HD 57946	15780	07 21 53.243	–36 37 40.48	ACV	8.35–8.42	2.15820(6)	2451874.81(4)	B8 Si	–0.085	–0.008
HD 58378	15940	07 23 41.301	–37 37 09.82	ACV	9.81–9.83	1.81823(6)	2452171.86(5)	B8 Si	+0.002	–0.040
HD 58151	15850	07 23 45.378	–16 36 05.87	ACV	9.94–9.98	2.53609(8)	2452694.67(5)	A0 Si	+0.042	+0.004
SAO 173716	16050	07 25 55.546	–26 22 10.56	ACV	10.10–10.14	2.48286(8)	2453503.48(5)	B9 Si	–0.057	–0.023
HD 58794	16054	07 26 31.736	–16 58 56.47	ACV	10.56–10.61	2.7999(1)	2451869.78(5)	B9 Si	+0.062	+0.008
HD 59164	16170	07 27 41.771	–26 14 11.54	ACV	8.37–8.41	4.3299(2)	2451888.73(8)	A2 Sr Eu	+0.057	–0.008
HD 59574	16260	07 29 04.126	–35 22 37.74	ACV	10.32–10.37	1.60661(4)	2453447.58(3)	A0 Si	–0.030	–0.055
HD 59437	16250	07 29 19.477	–14 18 30.20	ACV	9.25–9.29	10.801(2)	2454769.8(2)	A0 Cr Eu	+0.104	+0.015
HD 59379	16220	07 29 34.938	–05 36 18.02	ACV	8.74–8.78	1.02487(2)	2454526.64(2)	B9 Si	–0.022	–0.032
HD 59758	16330	07 29 49.244	–38 04 38.47	ACV	10.62–10.65	2.17004(9)	2454889.76(6)	A0 Si	–0.014	+0.076
HD 59716	16310	07 30 14.872	–26 21 03.55	ACV	9.64–9.67	4.3333(4)	2454133.75(9)	B9 Si	–0.102	–0.068
HD 59752	16327	07 30 49.075	–15 25 37.98	ACV	9.29–9.37	2.66700(9)	2451963.57(5)	B9 Si	–0.036	–0.074
HD 59982	16388	07 32 07.443	–07 15 25.42	ACV	8.37–8.42	5.1292(4)	2451933.6(1)	B8 Si	–0.042	–0.071
HD 59981	16387	07 32 16.221	–05 29 01.24	ACV	9.82–9.85	1.44561(3)	2454509.74(3)	A0 Si	+0.023	–0.042
HD 60908	16610	07 34 08.258	–51 43 51.46	ACV	9.74–9.81	1.54617(3)	2452635.67(3)	B8 Si	–0.009	+0.061

Table A.1. continued.

Star	ID (RM09)	α (J2000)	δ (J2000)	Type	Range (V) [mag]	Period [d]	Epoch (HJD) [d]	Spectral type	(B - V) [mag]	(J - K _s) [mag]
HD 61334	16790	07 36 38.851	-45 16 29.10	ACV	9.17-9.20	19.150(5)	2452559.6(4)	A2 Si Cr	+0.026	+0.003
HD 61134		07 36 56.131	-21 03 09.52	ACV:	8.48-8.52	4.6170(3)	2451968.65(9)	B9	-0.119	-0.104
HD 61369	16820	07 38 08.275	-21 53 55.32	ACV	9.67-9.69	1.94372(5)	2454216.55(4)	B9 Si	-0.035	-0.063
HD 61368	16810	07 38 19.477	-14 15 53.46	ACV	10.21-10.28	1.82373(4)	2452240.81(4)	A0 Si	+0.061	-0.046
HD 61622	16900	07 38 27.294	-39 41 34.36	ACV	8.52-8.56	0.851946(9)	2452188.84(2)	B9 Si	-0.038	-0.090
HD 61490	16870	07 38 46.869	-21 40 18.92	ACV	9.98-10.03	1.31542(2)	2454741.89(3)	A0 Si	-0.074	-0.069
HD 61731	16940	07 39 53.487	-20 44 10.92	ACV	9.86-9.91	8.652(2)	2453411.6(2)	A0 Cr Eu	+0.215	+0.020
CD-44 3656	17100	07 41 26.031	-44 52 58.54	ACV	8.66-8.69	1.06120(2)	2454521.70(2)	A0 Si	+0.061	+0.021
HD 62244	17060	07 42 06.706	-24 06 54.19	ACV	8.16-8.19	16.300(5)	2453769.7(4)	A2 Sr Eu	+0.097	+0.004
HD 62446		07 42 33.297	-36 15 56.74	ACV:	9.22-9.28	31.60(2)	2452251.0(6)	A0	+0.077	-0.014
HD 62535	17160	07 43 35.715	-21 16 53.74	ACV	8.02-8.07	2.45123(8)	2454622.49(5)	A0 Si	-0.003	-0.057
HD 63204	17420	07 43 36.953	-63 23 57.06	ACV	8.23-8.35	1.83817(2)	2451965.58(2)	B9 Si	-0.038	-0.069
HD 62632	17210	07 44 33.787	-12 18 49.38	ACV	8.54-8.57	3.2801(2)	2453048.66(9)	A2 Cr Eu	-0.007	-0.041
HD 63728	17550	07 46 38.419	-61 43 54.29	ACV	9.31-9.36	1.83993(4)	2454870.64(4)	A0 Eu Cr Si	+0.071	+0.020
HD 63304	17460	07 47 13.226	-26 34 27.50	ACV	8.88-8.95	1.31281(2)	2451919.72(2)	B8 Si	-0.110	-0.087
HD 64369	17670	07 50 03.933	-60 40 01.56	ACV	8.79-8.82	0.89113(1)	2454105.68(2)	B9 Si	-0.034	-0.020
HD 64288	17660	07 50 57.256	-48 13 18.49	ACV	10.16-10.21	1.28436(2)	2453509.58(3)	B9 Eu Cr Sr	+0.043	-0.010
HD 64901	17810	07 54 22.055	-40 51 26.56	ACV	8.52-8.55	4.0606(2)	2452252.76(8)	A0 Si	-0.113	-0.080
CPD-60 944A	18010	07 56 45.110	-60 48 54.29	ACV	7.63-7.65	3.7367(3)	2452654.7(1)	B9 Si	-0.009	+0.006
HD 65570	17950	07 58 06.687	-31 15 05.69	ACV	8.85-8.87	1.770028(6)	2452191.82(5)	B8 Si	-0.012	-0.066
HD 65743	18000	07 59 00.121	-30 20 25.06	ACV	9.11-9.16	1.84372(4)	2452944.81(4)	B9 Si	-0.003	-0.046
HD 66821	18470	08 02 27.503	-55 10 32.64	ACV	9.92-9.98	154.9(3)	2452928(2)	A0 Si	+0.049	+0.084
HD 66766	18450	08 02 43.107	-50 37 14.48	ACV	8.64-8.66	1.60710(5)	2453858.52(5)	B9 Si	-0.059	-0.100
HD 66991	18490	08 05 12.966	-19 23 54.56	ACV	8.55-8.57	1.03660(2)	2454574.59(3)	B9 Si	-0.021	-0.064
HD 67217	18540	08 05 38.593	-33 53 21.76	ACV	9.18-9.24	2.43755(8)	2453516.53(5)	A2 Si	-0.062	-0.075
HD 67868	18710	08 07 13.081	-54 55 46.23	ACV	9.20-9.23	2.7584(1)	2452667.74(5)	A0 Si	+0.135	+0.089
HD 67951	18750	08 08 23.598	-45 47 43.00	ACV	8.79-8.83	1.15741(2)	2454827.73(2)	B8 Si Cr	-0.031	-0.035
HD 67982	18770	08 08 30.938	-45 08 04.25	ACV	9.82-9.86	1.11836(2)	2454540.75(2)	B9 Si	-0.038	-0.028
HD 68480	18970	08 09 33.729	-57 59 09.37	ACV	8.85-8.90	7.3327(7)	2451950.6(1)	B9 Eu Cr Si	+0.121	-0.013
HD 68476	18960	08 10 32.723	-46 00 12.91	ACV	8.58-8.62	0.839719(9)	2453055.57(2)	B9 Si	-0.042	-0.040
CPD-37 2043	19110	08 12 59.773	-37 54 56.68	ACV	10.25-10.37	6.2945(5)	2453076.6(1)	B7	+0.069	+0.014
HD 69193	19170	08 13 45.177	-47 46 23.36	ACV	10.20-10.22	2.6937(2)	2453406.80(8)	A0 Si	-0.089	+0.010
HD 69544	19220	08 15 11.813	-50 26 20.44	ACV	9.30-9.36	236.5(7)	2452810(3)	B8 Si	+0.132	+0.041
HD 69825	19280	08 16 19.037	-51 56 29.80	ACV	9.35-9.38	3.3180(2)	2451964.60(6)	B8 Si	+0.216	+0.110
HD 69913	19300	08 16 36.700	-53 12 50.17	ACV	8.14-8.22	19.975(3)	2451977.6(2)	B9 Si	+0.092	+0.037
HD 69932	19310	08 17 24.304	-45 41 22.34	ACV	9.99-10.02	2.30525(7)	2453711.84(4)	B9 Si	+0.014	-0.068
HD 70045	19340	08 17 53.304	-47 04 14.41	ACV	9.99-10.05	5.3057(4)	2451925.7(1)	A0 Si	+0.210	+0.148
HD 70749	19520	08 21 22.074	-51 23 20.84	ACV	8.19-8.22	2.3581(1)	2454091.73(7)	B8 Si	-0.026	-0.056
HD 71860	19840	08 27 31.181	-49 31 35.29	ACV	9.48-9.52	8.634(1)	2452900.8(2)	A0 Si Cr	+0.035	+0.046
HD 72140	19930	08 29 20.802	-46 53 36.91	ACV	9.62-9.65	0.539735(4)	2454530.72(1)	B8 Si	-0.007	+0.098
HD 72055	19900	08 30 34.877	-07 09 27.26	ACV	8.10-8.13	2.7088(1)	2453057.63(5)	B8 Si	-0.121	-0.071
CD-33 5120	20020	08 31 09.775	-34 10 28.19	ACV	9.56-9.63	5.6830(4)	2451889.8(1)	Si	+0.000	-0.019
HD 72801	20180	08 32 41.049	-50 12 35.43	ACV	9.59-9.61	3.0045(2)	2454570.71(9)	B9 Cr Eu Sr	+0.186	+0.127
HD 73063	20290	08 34 10.118	-49 33 35.18	ACV	10.21-10.25	2.3219(7)	2452698.72(5)	B9 Eu Cr	-0.005	-0.055
HD 73009	20260	08 34 12.377	-44 48 10.37	ACV	9.42-9.48	0.85539(1)	2453495.55(2)	B9 Si	-0.038	-0.049
CD-51 3094	20330	08 34 27.069	-52 25 13.78	ACV	10.02-10.09	5.3059(4)	2451994.6(1)	Si	+0.220	+0.096
HD 73607	20430	08 37 18.775	-47 59 25.52	ACV	9.44-9.48	2.7421(1)	2452033.50(5)	A0 Si Cr	+0.104	+0.043
HD 73850	20580	08 38 21.659	-51 08 17.77	ACV	9.05-9.07	1.24912(2)	2452083.45(2)	A0 Sr Cr Eu	+0.178	+0.205
HD 73737	20560	08 38 52.061	-30 23 15.24	ACV	8.31-8.36	39.67(2)	2451948.7(8)	B9 Si	+0.045	-0.009
HD 74423		08 40 17.984	-64 50 16.84	ACV:	8.58-8.66	0.79037(1)	2452606.86(1)	A1 V	+0.210	+0.121
SAO 220259		08 40 20.656	-46 07 25.64	ACV:	9.13-9.20	14.304(3)	2453036.6(3)	A	+0.048	+0.008
HD 74636	20870	08 42 52.841	-51 40 04.82	ACV	9.22-9.25	0.654778(8)	2453666.84(2)	B9 Si	+0.052	+0.023
HD 74672	20900	08 44 22.994	-28 31 39.20	ACV	9.84-9.87	4.5284(4)	2452709.7(1)	A2 Sr Cr Eu	+0.290	+0.077
HD 74821	20920	08 45 11.336	-31 35 58.35	ACV	8.56-8.59	2.9633(2)	2452071.47(9)	B9 Si	-0.088	-0.074
HD 75293	21080	08 47 17.672	-47 51 05.91	ACV	9.27-9.32	1.52246(3)	2451950.65(3)	B9 Si	-0.023	+0.042
HD 75323	21090	08 48 07.301	-35 18 24.13	ACV	8.95-8.97	12.625(3)	2454626.5(4)	B9 Si	+0.043	+0.013
HD 76504		08 50 15.995	-75 39 31.06	ACV:	8.53-8.60	0.90289(1)	2454385.84(2)	B8 V	+0.026	-0.048
HD 76283		08 53 01.981	-51 29 08.64	ACV:	8.74-8.76	1.94729(7)	2453773.64(6)	B9 III	-0.064	-0.042
HD 76439	21510	08 54 24.638	-45 27 15.50	ACV	7.96-8.01	1.47243(3)	2454253.58(3)	B9 Si	-0.133	-0.102
HD 76590	21590	08 54 57.701	-52 16 40.60	ACV	9.76-9.78	2.6275(1)	2453462.66(5)	B9 Si	+0.037	-0.037
HD 76650	21610	08 55 46.970	-46 52 04.23	ACV	8.43-8.48	1.98314(5)	2453016.77(4)	B9 Si	-0.097	-0.072
BD-21 2641	21570	08 55 50.572	-22 06 56.33	ACV	10.60-10.70	2.28946(7)	2452763.59(4)	Si	+0.015	-0.007
HD 77013		08 59 34.002	-05 52 09.54	ACV:	9.24-9.28	0.411738(2)	2453787.700(8)	A3	+0.323	+0.157
HD 77885	22050	09 01 51.720	-64 48 03.28	ACV	9.25-9.28	0.94555(1)	2453086.64(2)	B9 Si	+0.038	+0.020
HD 77689	21980	09 01 52.386	-52 54 11.44	ACV	8.44-8.49	8.5955(9)	2453850.3(2)	B9 Si	-0.108	-0.137
HD 78201	22150	09 05 52.462	-34 32 04.58	ACV	8.08-8.10	1.55917(3)	2451907.73(3)	A0 Sr Eu	-0.040	-0.065
HD 78568	22260	09 06 22.415	-59 12 23.21	ACV	7.81-7.87	3.2038(1)	2451887.71(6)	B9 Si	-0.067	-0.052
HD 78651	22290	09 07 35.301	-50 04 31.75	ACV	10.44-10.49	23.916(7)	2454881.6(4)	A0 Eu Cr Sr	+0.430	+0.039
HD 78942	22390	09 09 40.753	-41 36 03.53	ACV	10.37-10.42	24.184(7)	2454485.7(5)	A0 Si	+0.158	-0.046
HD 79606	22620	09 11 50.501	-65 11 32.56	ACV	8.13-8.17	2.09269(6)	2452185.75(4)	B9 Si	+0.002	-0.017
HD 79794	22690	09 13 46.305	-56 24 40.45	ACV	9.25-9.28	1.49881(4)	2453529.60(4)	A Si	+0.005	-0.073
HD 79976	22750	09 16 41.845	-16 50 13.14	ACV	8.54-8.56	1.42619(4)	2453768.78(4)	B9 Sr Cr Eu	+0.066	-0.041
HD 80485	22880	09 17 50.509	-57 09 11.52	ACV	9.69-9.79	2.50216(8)	2451959.63(5)	A0 Si	+0.005	+0.000
HD 81349	23120	09 23 22.371	-49 35 34.17	ACV	9.81-9.86	0.588859(4)	2454641.50(1)	A0 Si	+0.016	+0.013
HD 81289	23080	09 23 25.544	-43 36 04.86	ACV	8.38-8.45	1.85811(4)	2451977.62(4)	A2 Eu Sr Cr	+0.008	-0.074
HD 81877	23270	09 27 10.676	-40 22 05.24	ACV	8.82-8.89	3.2151(2)	2453175.49(6)	B9 Eu Cr Sr	+0.103	-0.041
HD 82154	23360	09 28 00.347	-58 30 34.27	ACV	8.63-8.68	4.6199(3)	2454089.79(9)	B9 Si	+0.057	-0.078
HD 82691		09 32 59.080	-23 48 09.98	ACV:	8.36-8.42	19.807(5)	2452201.0(4)	A0	+0.141	+0.044

Table A.1. continued.

Star	ID (RM09)	α (J2000)	δ (J2000)	Type	Range (V) [mag]	Period [d]	Epoch (HJD) [d]	Spectral type	(B - V) [mag]	(J - K _s) [mag]
HD 82917	23620	09 33 25.835	-48 04 13.34	ACV	9.73-9.76	2.2460(1)	2453861.60(4)	A2 Si	-0.051	-0.045
HD 83002	23670	09 33 36.434	-53 20 39.35	ACV	9.05-9.09	1.55104(3)	2454259.56(3)	B8 Si	-0.073	-0.091
HD 82944	23630	09 34 44.056	-12 36 25.50	ACV	8.64-8.67	2.47906(8)	2454959.59(5)	A0 Sr Eu	+0.258	-0.008
HD 83467	23800	09 36 27.087	-57 42 19.04	ACV	9.68-9.73	7.1905(6)	2451941.6(1)	B9 Si	-0.005	+0.004
HD 84001		09 39 27.473	-63 15 18.12	ACV:	7.76-7.79	0.540937(5)	2454231.57(1)	B8/B9V	-0.015	-0.033
HD 84448		09 43 56.612	-48 06 28.79	ACV:	8.35-8.40	1.01297(1)	2453061.59(2)	A2V	+0.174	+0.067
HD 84690	24170	09 44 54.637	-57 58 33.69	ACV	9.50-9.56	8.1212(8)	2454152.7(2)	B8 Si	+0.188	+0.594
HD 84656	24160	09 44 56.937	-56 01 02.69	ACV	8.17-8.20	2.46916(8)	2451979.60(5)	B8 Si	-0.104	-0.106
HD 84642		09 45 16.742	-48 22 03.24	ACV:	9.38-9.44	6.4051(5)	2453759.7(1)	B9IV/V	+0.007	-0.020
HD 84865	24200	09 45 38.448	-63 03 49.65	ACV	9.99-10.02	2.09091(8)	2453528.54(6)	A0 Si	+0.031	-0.032
HD 85469		09 49 53.693	-58 48 34.37	ACV:	7.54-7.58	2.4305(1)	2453064.60(7)	B8/B9III	-0.100	-0.068
HD 85629		09 50 12.810	-66 44 28.57	ACV:	8.59-8.65	1.72016(4)	2452752.57(3)	B9III/IV	-0.012	-0.035
HD 85453	24400	09 50 22.064	-50 20 08.29	ACV	8.19-8.22	1.71392(6)	2451934.54(5)	B9 Si	-0.075	-0.046
HD 85767	24470	09 52 14.034	-56 59 38.69	ACV	9.50-9.60	7.2793(7)	2451945.7(1)	B8 Si	+0.134	+0.044
HD 85873	24500	09 52 25.051	-62 45 59.56	ACV	9.37-9.39	3.7521(2)	2452212.82(7)	A2 Si	+0.038	+0.014
HD 304810	24600	09 54 34.712	-61 24 31.86	ACV	9.91-9.95	2.43247(8)	2454150.81(5)	A0 Si	+0.017	+0.031
HD 86253	24680	09 55 11.800	-60 12 46.97	ACV	10.06-10.13	0.613366(5)	2451907.78(1)	A0 Si	+0.097	-0.042
HD 87528		10 03 18.248	-63 31 07.42	ACV:	9.71-9.78	50.35(3)	2452212.8(9)	B8/9III	+0.002	+0.035
HD 87881	25170	10 06 03.478	-59 44 10.35	ACV	9.83-9.88	1.454632(3)	2453802.62(3)	A0 Si	-0.068	+0.011
HD 88042	25200	10 07 26.637	-55 31 09.90	ACV	10.09-10.16	6.9977(6)	2452691.7(1)	Ap Eu Sr: Cr:	+0.099	+0.079
HD 88343		10 09 13.920	-61 05 11.96	ACV:	9.49-9.56	22.085(6)	2454181.8(4)	B8/B9III/IV	-0.052	+0.001
HD 88385	25310	10 09 49.446	-56 44 53.25	ACV	8.07-8.11	6.5098(6)	2451919.7(1)	A0 Cr Eu Si	+0.054	-0.017
HD 88485	25330	10 10 05.874	-63 46 17.35	ACV	9.29-9.36	8.0093(8)	2454205.7(1)	A2 Si	+0.052	+0.041
HD 88488		10 12 14.804	-01 15 38.37	ACV:	8.61-8.67	0.86158(1)	2453146.55(2)	A3	+0.280	+0.161
HD 88757	25410	10 12 43.653	-55 47 01.78	ACV	8.97-9.01	6.1274(5)	2454254.6(1)	B8 Si	-0.045	-0.018
HD 89519	25720	10 17 17.795	-68 08 35.29	ACV	8.31-8.35	2.6099(2)	2452811.57(7)	B9 Eu Cr Sr	+0.019	-0.020
HD 299070		10 19 31.394	-54 30 00.80	ACV:	9.43-9.48	6.3385(5)	2452707.7(1)	B8	+0.073	+0.055
HD 89726		10 19 38.601	-58 11 43.58	ACV:	9.66-9.71	5.5420(4)	2452703.7(1)	B9	-0.045	-0.026
HD 90730	26040	10 27 09.534	-57 11 09.94	ACV	8.85-8.87	1.89746(7)	2454111.82(5)	A0 Si	-0.089	-0.084
HD 307699	26090	10 27 36.226	-62 09 57.73	ACV	10.02-10.07	5.1869(5)	2454772.8(1)	A2 Si	+0.107	+0.037
HD 91087	26190	10 30 34.789	-22 31 15.87	ACV	9.48-9.50	7.709(1)	2454926.7(2)	A0 Sr Eu Cr	+0.238	+0.005
HD 91735	26370	10 32 32.435	-74 04 29.69	ACV	9.49-9.52	9.775(1)	2454629.5(2)	A0 Eu Sr	+0.384	+0.151
HD 300860	26420	10 35 33.368	-56 42 40.36	ACV	10.08-10.16	2.59009(8)	2453411.81(5)	A2 Si	+0.077	-0.123
HD 92190		10 37 21.800	-59 10 48.52	ACV	8.51-8.59	1.24067(2)	2454230.64(2)	B8Vp He Mn Si	-0.049	-0.069
HD 92286	26520	10 38 15.130	-54 39 52.23	ACV	9.70-9.81	13.916(3)	2452697.7(3)	A0 Eu Cr	+0.177	+0.025
HD 92379	26610	10 38 52.294	-53 36 10.18	ACV	7.94-7.97	1.63373(4)	2454441.79(3)	B8 Si	-0.075	-0.058
HD 92849	26820	10 42 10.065	-53 30 32.73	ACV	8.85-8.90	2.7103(1)	2452944.84(5)	B8 Si	-0.066	-0.076
HD 305451	26844	10 42 36.368	-60 02 34.77	ACV	10.06-10.10	8.156(1)	2453870.7(2)	B9 Si	+0.047	-0.033
HD 93821	27150	10 48 50.147	-55 21 33.93	ACV	7.93-7.96	5.8350(4)	2451964.3(1)	B9 Si	-0.084	-0.085
HD 94111	27210	10 50 46.053	-55 55 43.81	ACV	9.70-9.73	1.22088(3)	2453129.73(4)	A2 Cr Sr Eu	+0.208	+0.044
HD 94873	27350	10 56 14.584	-52 35 51.19	ACV	8.30-8.34	1.81730(4)	2452820.60(4)	B8 Si	-0.089	-0.050
HD 95974	27630	11 01 58.008	-76 03 09.36	ACV	8.66-8.73	5.5160(4)	2455010.5(1)	A0 Si	+0.202	+0.102
HD 95987	27640	11 03 30.282	-54 25 06.86	ACV	9.36-9.40	1.52651(5)	2454974.53(5)	B9 Si	-0.028	-0.010
HD 96910	27960	11 08 58.104	-48 24 10.30	ACV	8.07-8.13	13.383(3)	2451965.7(3)	B9 Si Cr Eu	+0.071	+0.001
HD 97655		11 13 26.117	-58 30 05.10	ACV	9.17-9.26	5.3714(4)	2452030.6(1)	A0IV/Vp:	+0.052	-0.026
HD 98486	28370	11 18 15.537	-74 10 25.44	ACV	8.61-8.63	1.61400(4)	2454968.55(3)	B9 Si	+0.111	-0.014
HD 99204	28570	11 24 21.336	-59 17 09.69	ACV	8.86-8.93	1.71767(4)	2453701.84(3)	B9 Si	-0.048	-0.029
SAO 222874	28920	11 34 16.010	-41 09 16.89	ACV	7.35-7.39	4.1202(2)	2453849.63(8)	A0 Eu Sr Cr	+0.023	+0.055
HD 100956	29050	11 36 32.618	-62 37 21.15	ACV	9.55-9.58	2.3799(1)	2454566.67(7)	B9 Si	+0.148	+0.167
HD 102659	29620	11 48 47.613	-64 43 43.90	ACV	9.66-9.69	2.16336(9)	2453054.80(6)	A2 Si	+0.102	+0.061
HD 103303	29790	11 53 38.001	-55 18 23.72	ACV	9.78-9.83	1.56519(3)	2453902.49(3)	A0 Si	-0.035	+0.009
CD-50 6498	29950	11 56 28.330	-51 08 16.07	ACV	10.43-10.48	2.14648(6)	2453886.67(4)	B9 Si	+0.080	-0.024
HD 103844	29990	11 57 11.933	-76 34 45.53	ACV	10.30-10.40	52.95(4)	2452234.8(9)	A0 Si	+0.207	+0.047
HD 104044	30060	11 58 53.088	-43 22 55.92	ACV	9.58-9.60	3.0492(2)	2452635.81(9)	A0 Sr Eu	+0.002	+0.078
HD 104314	30180	12 00 42.852	-62 01 20.44	ACV	9.86-9.93	4.6150(3)	2451938.73(9)	A0 Si	-0.009	-0.022
HD 104376	30200	12 01 04.643	-63 42 45.73	ACV	9.73-9.79	4.9399(3)	2453073.8(1)	B8 Si	-0.017	+0.025
HD 105457	30490	12 08 33.730	-62 22 08.15	ACV	8.97-9.04	1.73772(4)	2452234.84(4)	A0 Si	+0.071	+0.010
HD 106688	30900	12 16 19.917	-58 46 31.57	ACV	9.31-9.40	2.64328(9)	2451980.70(5)	B6 Si	+0.010	-0.075
HD 109789	31840	12 37 59.169	-58 01 24.49	ACV	9.69-9.75	2.7934(1)	2452145.47(6)	B9 Si	+0.017	+0.008
CPD-73 1028	32160	12 44 37.541	-74 30 15.57	ACV	9.41-9.46	0.740810(7)	2452794.53(2)	A8 Sr	+0.491	+0.237
HD 111055	32280	12 47 18.537	-63 32 58.50	ACV:	9.92-9.96	1.01506(2)	2452674.83(3)	A4-	+0.553	+0.225
HD 112528	32730	12 57 35.316	-19 45 01.68	ACV	8.24-8.28	5.7829(6)	2451963.8(1)	A3 Sr Eu Cr	+0.338	+0.131
HD 114696	33160	13 12 51.150	-48 09 43.62	ACV	9.65-9.71	3.5620(2)	2452071.54(7)	A0 Si	-0.064	-0.092
HD 115789	33480	13 20 37.177	-58 38 55.85	ACV	9.18-9.22	2.12060(6)	2452083.62(4)	B9 Si	+0.143	+0.022
HD 116864		13 28 00.218	-63 13 29.25	ACV:	9.03-9.07	2.6726(1)	2451979.72(5)	B9II/III	+0.019	-0.004
HD 117537	33900	13 32 10.583	-56 02 26.78	ACV	9.48-9.55	6.1706(5)	2452443.5(1)	B9 Si	+0.081	+0.024
HD 117855		13 34 38.095	-63 11 07.32	ACV:	9.52-9.60	26.63(1)	2453158.7(5)	B9	-0.028	-0.048
HD 118502	34230	13 38 51.231	-58 47 07.35	ACV	9.80-9.86	1.82389(4)	2455002.56(4)	B9 Si	-0.096	-0.027
HD 119343		13 44 42.230	-63 56 33.52	ACV:	9.21-9.29	3.2699(2)	2453597.53(6)	B8/B9II/III	-0.007	+0.020
HD 119716	34530	13 45 57.119	-49 39 37.53	ACV	9.22-9.24	4.5132(4)	2453054.8(1)	B9 Si	-0.030	-0.021
HD 121081	34830	13 54 00.943	-28 08 33.21	ACV	8.41-8.45	3.4542(2)	2452025.61(7)	A0 Si	+0.052	-0.066
HD 123627	35410	14 12 01.283	-70 10 30.80	ACV	8.18-8.20	4.3916(3)	2452173.49(8)	A3 Sr Eu Cr	+0.248	+0.092
HD 123927		14 12 50.261	-63 30 54.57	ACV:	8.83-8.86	5.7795(4)	2453981.3(1)	B9III	+0.136	-0.017
TYC 8690-1870-1		14 18 04.625	-58 59 17.55	ACV:	11.45-11.56	4.9176(3)	2453836.7(1)	B8	+0.199	+0.063
HD 125903	35930	14 27 24.399	-75 53 48.38	ACV	9.41-9.46	1.56465(3)	2452070.54(3)	A0 Si	-0.045	-0.016
HD 128521	36540	14 39 36.394	-58 10 28.98	ACV	9.37-9.41	4.0258(3)	2451996.7(1)	B9 Si	+0.045	-0.004
HD 128840	36690	14 41 26.472	-57 41 22.77	ACV	9.10-9.16	1.92510(5)	2452129.47(2)	B9 Si	+0.049	+0.093
HD 129751	37010	14 47 59.665	-68 42 17.32	ACV	9.36-9.44	1.38971(3)	2451966.85(3)	B8 Si	-0.013	+0.007
HD 130336	37120	14 50 52.981	-66 31 22.27	ACV	8.86-8.92	1.29476(2)	2452725.73(3)	B8 Si	-0.017	-0.046
HD 130423	37140	14 51 01.547	-63 29 41.77	ACV	9.60-9.68	1.21067(2)	2453168.76(2)	B9 Si	+0.123	+0.046

Table A.1. continued.

Star	ID (RM09)	α (J2000)	δ (J2000)	Type	Range (V) [mag]	Period [d]	Epoch (HJD) [d]	Spectral type	(B - V) [mag]	(J - K _s) [mag]
HD 132988	37760	15 05 24.700	-65 05 27.92	ACV	10.17–10.24	2.56368(8)	2452548.50(5)	A0 Si	+0.114	+0.047
HD 133722	37930	15 07 49.229	-51 08 39.37	ACV	9.67–9.73	2.08809(6)	2452081.56(4)	B8 Si	+0.024	+0.015
HD 133702	37910	15 11 07.558	-73 08 18.19	ACV	9.48–9.54	2.10997(6)	2452102.49(4)	B8 Si	-0.069	-0.066
HD 134348	38140	15 13 14.868	-67 22 43.63	ACV	9.14–9.19	1.22525(2)	2452791.52(2)	B9 Si	-0.050	-0.008
HD 135800	38610	15 19 09.289	-52 04 01.46	ACV	10.08–10.12	6.2881(5)	2453624.5(1)	B9 Si	-0.007	-0.014
HD 136150	38730	15 20 50.357	-47 31 42.29	ACV	9.89–9.93	2.5568(2)	2454269.73(7)	B9 Si	+0.085	+0.014
HD 138151	39330	15 32 40.717	-54 55 39.65	ACV	9.28–9.35	5.0419(3)	2451939.8(1)	B8 Si	+0.092	-0.010
HD 138519	39440	15 35 26.763	-57 25 02.30	ACV	7.90–7.97	12.340(2)	2451936.9(2)	B8 Si	+0.042	+0.030
HD 138773	39520	15 37 34.445	-62 40 53.12	ACV	7.66–7.70	3.7911(2)	2452651.86(7)	A0 Si	+0.104	+0.023
HD 139472	39690	15 41 59.713	-64 17 59.54	ACV	8.61–8.68	1.79206(4)	2452489.51(4)	B9 Si	-0.052	+0.019
CPD-63 3687	40030	15 49 59.485	-64 07 20.64	ACV	10.39–10.43	0.96591(2)	2454901.89(3)	Si	+0.038	-0.012
HD 143383	40600	16 02 20.452	-49 58 08.81	ACV	10.19–10.23	5.1227(5)	2451984.8(1)	B9 Si	+0.242	+0.059
HD 143868	40750	16 05 29.244	-55 02 28.44	ACV	9.69–9.75	2.08514(6)	2451954.82(4)	B9 Si	+0.154	+0.059
HD 144059	40810	16 08 31.999	-67 19 20.05	ACV	9.03–9.09	22.213(2)	2452094.6(4)	A0 Si	-0.054	-0.053
CD-54 6496	40942	16 08 34.028	-54 28 35.76	ACV:	10.22–10.29	1.05816(2)	2451955.83(2)	A3-	+0.697	+0.280
HD 144815		16 10 23.831	-53 26 10.07	ACV:	9.18–9.24	3.4101(2)	2453112.72(7)	B8	-0.055	-0.064
HD 146269	41370	16 18 17.460	-55 30 18.76	ACV	9.98–10.04	1.63076(4)	2452667.86(3)	B9 Si	+0.035	-0.013
HD 146555	41410	16 19 59.349	-57 54 28.27	ACV	10.27–10.33	1.72941(4)	2452658.84(3)	B9 Si	-0.028	-0.012
HD 147346	41620	16 24 09.435	-54 16 13.34	ACV	9.73–9.78	2.64214(9)	2451965.78(5)	B9 Si	+0.055	-0.036
HD 147876	41700	16 26 52.927	-50 35 44.38	ACV	9.96–10.01	1.02872(2)	2452031.72(3)	A0 Si	+0.045	+0.033
HD 148848	42060	16 32 42.100	-41 02 04.59	ACV	7.43–7.50	8.343(1)	2453068.8(1)	A0 Si Cr Sr	+0.211	+0.066
HD 148955	42090	16 34 11.894	-51 31 01.91	ACV	8.66–8.74	4.8651(3)	2451954.8(1)	B9 Si	-0.009	-0.050
HD 149636	42320	16 37 29.314	-34 32 04.72	ACV	10.10–10.17	3.0215(1)	2453178.59(6)	A0 Si	+0.183	+0.008
HD 149831	42400	16 39 16.442	-44 53 23.01	ACV	8.44–8.46	3.3778(2)	2452473.51(7)	B9 Si	+0.007	-0.012
HD 149766	42370	16 39 26.590	-51 54 49.58	ACV	9.49–9.59	87.3(1)	2452461(1)	B8 Si	+0.042	-0.024
HD 150529	42600	16 43 10.286	-35 39 50.64	ACV	8.45–8.51	28.33(1)	2452057.6(6)	A0 Si	+0.366	+0.228
HD 150499	42570	16 43 23.224	-43 28 05.45	ACV	9.58–9.63	2.63063(9)	2452115.52(5)	B9 Si	+0.047	+0.076
HD 151610	42910	16 50 30.844	-45 13 45.11	ACV	9.62–9.73	2.43714(8)	2452543.47(5)	A0 Si	+0.007	+0.070
HD 151569	42890	16 51 41.532	-59 44 27.25	ACV	9.46–9.51	4.5320(3)	2451964.81(9)	A0 Si Cr	+0.038	-0.003
HD 152771	43250	16 58 16.551	-53 55 14.51	ACV	8.16–8.21	2.19229(6)	2451983.90(4)	A0 Si	-0.040	-0.044
HD 153153	43320	16 58 57.206	-30 53 14.59	ACV	9.50–9.61	2.19198(6)	2452703.85(4)	B9 Si	+0.036	+0.023
HD 153192	43340	16 59 05.517	-27 04 55.19	ACV	9.96–10.04	11.357(2)	2452102.6(2)	A2 Eu Cr	+0.066	+0.016
HD 153218	43360	16 59 34.581	-34 49 23.72	ACV	9.91–10.02	1.90185(5)	2452086.60(4)	B9 Si	+0.041	+0.059
HD 153735	43410	17 03 24.696	-47 31 59.87	ACV	9.22–9.25	5.7250(6)	2452739.8(2)	B8 Si	+0.111	+0.058
HD 154645	43690	17 08 40.214	-42 41 41.02	ACV	9.01–9.05	2.62214(9)	2452115.54(5)	B9 Eu Sr Cr	+0.066	+0.063
HD 155313	43860	17 12 15.524	-33 57 04.42	ACV	10.24–10.31	2.26531(7)	2451994.77(4)	A0 Si	+0.002	+0.050
HD 157063	44170	17 23 12.723	-44 47 29.37	ACV	8.53–8.56	4.7281(4)	2452158.7(1)	B8 Si	+0.082	+0.065
HD 157644	44260	17 26 06.297	-37 36 35.20	ACV	8.35–8.39	4.4097(3)	2452032.73(9)	B9 Si	+0.068	+0.029
HD 157650	44270	17 26 44.583	-47 04 59.73	ACV	10.10–10.20	1.34808(2)	2452104.58(3)	B9 Si	+0.026	+0.104
HD 157678	44280	17 28 59.478	-63 25 26.16	ACV	8.12–8.16	0.90781(1)	2452008.74(2)	B9 Si	-0.087	-0.078
HD 158336	44560	17 29 26.705	-18 39 51.20	ACV	9.36–9.42	1.76009(4)	2452131.51(3)	B9 Si	+0.154	+0.075
HD 158160	44470	17 30 07.824	-48 36 49.38	ACV	9.43–9.50	2.28312(7)	2452008.73(5)	A0 Si Cr	+0.014	+0.004
HD 158596	44630	17 31 03.462	-21 29 07.10	ACV	8.95–8.99	2.02206(5)	2451953.88(4)	B9 Si	+0.278	+0.138
HD 158919	44713	17 31 48.111	+01 50 34.56	ACV	9.21–9.28	75.72(7)	2452705(1)	A0 Si	+0.102	+0.003
HD 315873	44680	17 32 25.174	-27 56 19.69	ACV	10.47–10.52	5.2766(5)	2452129.5(1)	B8 Si	+0.349	+0.237
HD 159898	45010	17 38 54.896	-38 43 21.23	ACV	10.52–10.56	4.7967(3)	2452085.6(1)	A0 Si	+0.108	-0.012
HD 160731	45280	17 42 56.367	-31 43 21.41	ACV	9.45–9.51	1.46489(3)	2452787.85(3)	A0 Si	+0.063	+0.056
HD 160711	45250	17 43 04.180	-36 15 54.27	ACV	10.03–10.10	1.06735(2)	2452465.62(2)	A0 Si	+0.187	-0.009
HD 160857	45310	17 44 29.894	-44 38 48.65	ACV	10.01–10.12	6.7125(6)	2453472.8(1)	B9 Si	-0.039	+0.017
HD 161168	45390	17 45 07.375	-27 27 37.21	ACV	9.37–9.42	1.53995(4)	2452702.88(6)	A0 Si	+0.135	+0.060
HD 161349	45470	17 47 40.205	-49 24 32.38	ACV	8.45–8.52	4.0194(2)	2452115.57(8)	B9 Si	-0.043	+0.005
HD 162108	45740	17 51 55.058	-49 21 34.87	ACV	8.80–8.83	0.78797(1)	2452494.56(2)	B9 Si	+0.031	-0.002
HD 162727	46000	17 54 17.890	-39 37 44.29	ACV	8.91–8.95	1.42068(3)	2453113.81(3)	A0 Si	-0.052	-0.035
HD 164053	46380	18 02 04.586	-50 10 46.35	ACV	9.11–9.16	2.9513(1)	2452117.57(6)	B9 Si	-0.036	+0.005
HD 164560	46505	18 02 26.031	-16 58 36.60	ACV	9.50–9.56	10.154(1)	2452143.5(2)	A0 Si	+0.340	+0.162
HD 166417		18 11 10.695	-15 53 41.67	ACV:	8.09–8.13	2.2874(1)	2452492.76(5)	B8	+0.021	+0.038
HD 166198		18 11 20.519	-40 18 25.41	ACV:	8.18–8.24	5.7636(4)	2452191.5(1)	B8IIIp	-0.111	-0.083
HD 168507	47230	18 21 25.564	-31 13 47.34	ACV	9.62–9.66	2.8466(2)	2452145.54(8)	A0 Si	+0.036	+0.010
HD 169005		18 22 02.309	+14 39 27.82	ACV:	8.28–8.34	1.10061(2)	2454290.70(2)	A2	-0.026	-0.065
HD 172330	48290	18 40 38.892	-24 06 05.83	ACV	9.60–9.66	1.27535(2)	2452117.59(2)	B9 Si	+0.088	-0.002
HD 172703	48390	18 43 06.940	-33 29 36.72	ACV	8.76–8.86	19.478(5)	2452810.9(4)	B9 Eu Sr Cr	+0.059	-0.090
HD 342867	48560	18 43 51.201	+24 04 52.34	ACV	9.35–9.38	5.3182(6)	2454292.6(1)	A1 Si Cr	-0.001	-0.022
HD 174646	48910	18 51 37.930	-01 02 39.95	ACV	8.23–8.27	1.18070(3)	2453253.6(2)	B9 Si	+0.090	+0.003
HD 175909	49110	18 58 30.924	-22 39 45.51	ACV	9.09–9.13	1.29948(2)	2452085.68(3)	B9 Si	+0.092	+0.040
HD 177338	49460	19 04 48.178	-13 50 44.25	ACV	9.54–9.58	3.0349(1)	2452026.77(6)	B9 Si	+0.261	+0.029
HD 177548		19 04 53.094	+08 28 34.60	ACV:	8.53–8.54	0.93511(2)	2453665.54(3)	A0	+0.335	+0.089
HD 178929	49744	19 11 19.253	-20 20 50.09	ACV	7.70–7.77	3.3453(2)	2452552.50(7)	B8 Si Sr	-0.030	-0.004
HD 180029	49955	19 14 45.838	+04 37 12.17	ACV	8.01–8.03	3.2858(2)	2452877.6(1)	A2 Si	+0.126	+0.038
HD 180153	50030	19 16 54.545	-36 02 17.60	ACV	8.90–8.96	2.01606(6)	2452964.51(4)	B9 Si	-0.043	-0.057
HD 180626	50115	19 17 42.628	-13 02 18.75	ACV	9.45–9.51	2.28860(7)	2451998.84(4)	B8 Si	+0.031	-0.011
HD 181550	50290	19 23 01.767	-46 13 20.27	ACV	8.66–8.69	2.45177(8)	2452540.64(5)	B9 Si Cr	-0.019	-0.049
HD 182340	50410	19 24 23.151	-05 25 47.04	ACV	9.63–9.67	2.8138(1)	2452105.65(6)	A0 Si	+0.169	+0.062
HD 187128	51570	19 47 39.759	+15 54 27.47	ACV	7.63–7.66	6.1858(7)	2452904.6(2)	B9 Si Sr	+0.039	-0.039
HD 189184		19 58 23.553	+13 04 24.91	ACV:	9.36–9.44	1.17911(2)	2454722.66(2)	B9	+0.014	-0.014
HD 189963	52700	20 02 59.382	-06 25 51.28	ACV	10.02–10.05	10.231(2)	2452053.8(3)	A0 Sr Cr Eu	+0.330	+0.124
HD 190075	52750	20 03 13.233	+00 42 02.02	ACV	8.76–8.78	1.66102(6)	2453273.54(5)	A0 Si	+0.068	-0.059
HD 196691	54900	20 39 10.636	-06 09 27.35	ACV	8.58–8.62	4.0428(2)	2452490.65(8)	A0 Si	-0.040	-0.026
HD 206028	57370	21 38 45.773	+24 23 53.39	ACV	8.13–8.18	0.785856(8)	2452813.03(1)	A0 Si	-0.092	-0.109
HD 216116	59720	22 52 11.871	-71 53 10.14	ACV	9.21–9.25	4.1275(3)	2452116.7(1)	B9 Si	-0.082	-0.065

Appendix B: Complete Table 4

Table B.1. Available information on single objects from the literature and miscellaneous remarks.

Star	Var. design. literature	Var. type literature	Period (d) literature	Period (d) this work	Reference	Remarks/comments literature
HD 30898	NSV 16178	VAR	3.61890 (VSX), 0.782 (RM09)	0.781776(8)	van Leeuwen et al. (1997)	RM09: Am star
HD 35177	HIP 25163	VAR	0.52820 (VSX)	0.528194(5)	Koen & Eyer (2002)	
HD 36997	NSV 16417	VAR:	n/a	6.0072(4)	Olsen (1983)	RS12: ACV (prob: 0.7498)
HD 38366	ASAS J054533+0919.0	RRAB	0.62528 (VSX)	0.625264(5)	Pojmański (2002)	R12: BE+GCAS/BE+GCAS (prob: 0.27/0.60)
HD 39635	NSV 16723	VAR	3.96574 (VSX)	3.9660(2)	van Leeuwen et al. (1997)	RS12: ACV (prob: 0.5627)
HD 44456	ASAS J062155+0018.3	ED, ESD	7.78607 (VSX)	3.8934(2)	Pojmański (2002)	R12: ACV/ACV (prob: 0.26/0.79)
HD 47714	HIP 31851	n/a	4.6946 (R12)	4.6953(4)	R12	Constant or probably constant according to Wraight et al. (2012); period is outside their considered frequency domain
HD 263361				88.9(1)		*
HD 50391				1.18285(3)		
HD 50461	NSV 17218	VAR	0.89410 (VSX)	0.89403(2)	van Leeuwen et al. (1997)	R12: SPB/SPB (prob: 0.63/0.62)
HD 50855	HIP 33125	n/a	2.24027 (R12)	2.3913(6)		R12: BE+GCAS/BE+GCAS (prob: 0.56/0.56)
HD 50895	HIP 33164	VAR	3.58989 (VSX)	3.5902(2)	Koen & Eyer (2002)	R12: BE+GCAS/ACV (prob: 0.44/0.56)
HD 51031	ASAS J065504-1629.7	DCEP-FO	2.364 (VSX)	2.3643(9)	Pojmański (2002)	RS12: ACV (prob: 0.8802)
HD 51303	ASAS J065645-0055.0	VAR	4.508258 (VSX)	4.5076(3)	Pojmański (2000)	
HD 52567	LR CMa	ACYG:	11.942 (VSX)	11.9467(9)	van Leeuwen et al. (1997)	Dubath et al. (2011): likely ACV;
HD 53204	NSV 17317	n/a	4.2462 (R12)	2.28534(7)	van Leeuwen et al. (1997)	RS12: ACV (prob: 0.9641)
HD 53695	HIP 34175	VAR	0.09964 (VSX)	0.83891(2)	Koen & Eyer (2002)	R12: BE+GCAS/ACV (prob: 0.42/0.62)
HD 53851	HIP 34283	VAR	2.02446 (VSX), 4.049? (RM09)	2.02464(5)	Koen & Eyer (2002)	*
HD 54962				2.5423(2)		R12: SPB/SPB (prob: 0.50/0.80)
HD 56273	NSV 17402	VAR	1.7867 (VSX)	1.78661(4)	Koen & Eyer (2002)	Renson catalog: binary star B:12 at 0.8"
HD 57040			13.474 (Elkin et al. 2012)	26.952(9)		R12: SPB/SPB (prob: 0.37/0.62)
HD 56748	HIP 35289	VAR	5.93401 (VSX), 5.935? (RM09)	5.9332(5)	Koen & Eyer (2002)	* Ap star with strong magnetic field and candidate roAp star (Elkin et al. 2012); LC suggests possible EA-type with $P = 26.952$ d
HD 57372	NSV 17435	n/a	7.8868 (R12)	7.8880(8)	van Leeuwen et al. (1997)	R12: SPB/ACV (prob: 0.28/0.64)
HD 57526	HIP 35608	VAR	1.67216 (VSX)	3.3441(2)	Koen & Eyer (2002)	R12: BE+GCAS/ACV (prob: 0.35/0.57)
HD 57946	NSV 17447	n/a	2.2d (RM09)	2.15820(6)	Vogt & Faundez (1979)	R12: BE+GCAS/SPB (prob: 0.35/0.35)
HD 59752	ASAS J073049-1525.7	ESD, DCEP-FU DCEP-FO, EC, ED	5.3339 (VSX)	2.66700(9)	Pojmański (2002)	RS12: ACV (prob: 0.9783)
HD 60908	ASAS J073408-5143.9	DCEP-FU	1.54624 (VSX)	1.54617(3)	Pojmański (2002)	
HD 62535	NSV 17573	VAR	2.45122 (VSX), 2.451 (or 4.902)? (RM09)	2.45123(8)	Vogt & Faundez (1979)	RS12: ACV (prob: 0.9189)
HD 63204	ASAS J074337-6324.0	DCEP-FU, DCEP-FO	1.83815 (VSX)	1.83817(2)	Pojmański (2002)	R12: SPB/ACV (prob: 0.27/0.56)
HD 63728	NSV 17610	VAR	n/a	1.83993(4)	Eggen (1983)	RS12: ACV (prob: 0.7356)
HD 64901	HIP 38610	VAR	4.05712 (VSX)	4.0606(2)	Koen & Eyer (2002)	
CPD-60 944A	NSV 17681	VAR:	n/a	3.7367(3)	Maitzen & Hensberge (1981)	According to Maitzen & Hensberge (1981), the western (=A) component of CPD-60 944 is variable. Both stars are blended in ASAS photometry.
HD 65570				1.770028(6)		*
HD 68480	ASAS J080934-5759.2	ESD, DCEP-FU EC, ED	14.661 (VSX)	7.3327(7)	Pojmański (2002)	RS12: ACV (prob: 0.9931)
CPD-37 2043				6.2945(5)		*
HD 69544				236.5(7)		*
HD 72055	NSV 17906	n/a	n/a	2.7088(1)	van Leeuwen et al. (1997)	R12: ACV/ACV (prob: 0.27/0.41)
HD 73063	NSV 17925	VAR:	n/a	2.3219(7)	Loden & Sundman (1989)	*
HD 73737	HIP 42410	n/a	39.68 (R12)	39.67(2)	R12	R12: BE+GCAS/ACV (prob: 0.29/0.44)
HD 74636				0.654778(8)		*
HD 76504	HIP 43386	n/a	1.108154 (R12)	0.90289(1)	R12	R12: BE+GCAS/SPB (prob: 0.23/0.80)
HD 76283	HIP 43619	VAR	1.94712 (VSX)	1.94729(7)	Koen & Eyer (2002)	
BD-21 2641	ASAS J085551-2206.9	DCEP-FU	2.2895 (VSX)	2.28946(7)	Pojmański (2002)	RS12: ACV (prob: 0.6492)
HD 78201	HIP 44649	VAR	1.55916 (VSX)	1.55917(3)	Koen & Eyer (2002)	
HD 78568	NSV 18137	VAR	3.20523 (VSX), 3.2 (RM09)	3.2038(1)	van Leeuwen et al. (1997)	R12: SPB/SPB (prob: 0.39/0.46)
HD 78651				23.916(7)		*
HD 80485	ASAS J091751-5709.2	DCEP-FO	2.5021 (VSX)	2.50216(8)	Pojmański (2002)	RS12: ACV (prob: 0.9461)
HD 81289	NSV 18189	n/a	1.86 (RM09)	1.85811(4)	Vogt & Faundez (1979)	

Notes. An asterisk in Col. 7 ("Remarks/comments from literature") denotes stars, which status as chemically peculiar objects is doubtful according to RM09.

Table B.1. continued.

Star	Var. design. literature	Var. type literature	Period (d) literature	Period (d) this work	Reference	Remarks/comments literature
HD 81877	ASAS J092711-4022.1	DCEP-HO	3.2152 (VSX)	3.2151(2)	Pojmański (2002)	RS12: ACV (prob: 0.8197)
HD 84001	NSV 18243	n/a	0.49671 (R12)	0.540937(5)	van Leeuwen et al. (1997)	R12: BE+GCAS/SPB (prob: 0.30/0.47)
HD 84448	NSV 18260	VAR	1.013014 (VSX)	1.01297(1)	van Leeuwen et al. (1997)	* Dubath et al. (2011): likely SPB
HD 84690				8.1212		
HD 85469	HIP 48222	n/a	1.3116 (R12)	2.4305(1)	R12	R12: BE+GCAS/SPB (prob: 0.32/0.65)
HD 85629	HIP 48253	n/a	0.86000 (R12)	1.72016(4)	R12	R12: SPB/SPB (prob: 0.33/0.79)
HD 85453	HIP 48265	VAR	1.71380 (VSX), 1.714 (RM09)	1.71392(6)	Koen & Eyer (2002)	
HD 88385	NSV 18345	VAR	6.51169 (VSX), 14.? (RM09)	6.5098(6)	Vogt & Faundez (1979)	
HD 88488	NSV 18348	VAR	n/a	0.86158(1)	Olsen (1983)	
HD 307699				5.1869(5)		Identification uncertain according to RM09. Judging from the ($J - K_s$) and ($B - V$) indices, the identification with HD 307699 seems valid.
HD 305451				8.156(1)		*
HD 94873	HIP 53466	VAR	1.81726 (VSX)	1.81730(4)	Koen & Eyer (2002)	
HD 95974	AGASC 1233406224	VAR	n/a	5.5160(4)	Nichols et al. (2010)	There is another significant signal at $P = 0.830525$ d, which might be due to ellipsoidal variation ($P_{ell} = 1.661050$ d)
HD 96910	NSV 18677	VAR	13.38330 (VSX), 13.4 (RM09)	13.383(3)	Vogt & Faundez (1979)	R12: BE+GCAS/ACV (prob: 0.30/0.42)
HD 97986	NSV 18706	n/a	1.5642 (R12)	4.3538(3)	Vogt & Faundez (1979)	
HD 99204	ASAS J112421-5917.1	VAR	3.436566 (VSX)	1.71767(4)	Pojmański (2000)	*
HD 104376				4.9399(3)		
HD 105457	NSV 19236	n/a	n/a	1.73772(4)	Vogt & Faundez (1979)	
HD 111055				1.01506(2)		*
HD 121081				3.4542(2)		* RM09: Am star
HD 123927	NSV 20058	n/a	5.5859 (R12)	5.7795(4)	van Leeuwen et al. (1997)	
HD 125903	HIP 70679	VAR	1.76947 (VSX)	1.56465(3)	Koen & Eyer (2002)	R12: BE+GCAS/BE+GCAS (prob: 0.87/0.92)
HD 129751	UNSW-V 803	DCEP	1.38983 (VSX)	1.38971(3)	Christiansen et al. (2008)	R12: BE+GCAS/BE+GCAS (prob: 0.25/0.29)
HD 13702	HIP 74293	VAR	2.10993 (VSX)	2.10997(6)	Koen & Eyer (2002)	R12: BE+GCAS/SPB (prob: 0.56/0.40); *
HD 138519	NSV 20334	VAR:	12.1 (RM09), 12.345 (R12)	12.340(2)	Lloyd Evans et al. (1983)	R12: BE+GCAS/BE+GCAS (prob: 0.55/0.34)
HD 138773	NSV 20345	n/a	3.79d or half this value? (RM09) 1.8958 (R12)	3.7911(2)	Vogt & Faundez (1979)	R12: BE+GCAS/ACV (prob: 0.37/0.39)
HD 144059	HIP 79076	VAR	22.23705 (VSX), 22 (RM09)	22.213(2)	Koen & Eyer (2002)	R12: BE+GCAS/ACV (prob: 0.48/0.69)
CD-54 6496				1.05816(2)		* RM09: Am star
HD 148848	NSV 20677	n/a	n/a	8.343(1)	Vogt & Faundez (1979)	
HD 149766	ASAS J163926-5154.8	MISC, SR	87.205681 (VSX)	87.3(1)	Pojmański (2002)	RS12: ACV (prob: 0.9587)
HD 150529				28.33(1)		MacConnell (1981): H α emission star; 1 st cpm pair. Unusual ($J - K_s$) colour and IPHAS H α magnitude. Perhaps ACV in a binary system with a close red companion? Improperly considered Ap or Am according to RM09.
HD 151610				2.43714(8)		
HD 152771	HIP 83054	n/a	2.19229(6)	2.19229(6)	R12	
HD 153153	ASAS J165857-3053.3	ESD, EC	4.384588 (VSX)	2.19198(6)	Pojmański (2002)	RS12: ACV (prob: 0.8064)
HD 153218	ASAS J165935-3449.4	ESD, EC	3.803452 (VSX)	1.90185(5)	Pojmański (2002)	RS12: ACV (prob: 0.9181)
HD 154645	HIP 83882	n/a	4.5972 (R12)	2.62214(9)	R12	R12: BE+GCAS/BE+GCAS (prob: 0.65/0.85)
HD 157063	NSV 8568	n/a	n/a	4.7281(4)	Cousins et al. (1962)	
HD 157644	HIP 85319	VAR	4.40917 (VSX)	4.4097(3)	Koen & Eyer (2002)	
HD 157650				1.34808(2)		*
HD 157678	HIP 85547	VAR	0.90784 (VSX)	0.90781(1)	Koen & Eyer (2002)	
HD 158919	ASAS J173148+0150.6	ESD, EC	151.4 (VSX)	75.72(7)	Koen & Eyer (2002)	RS12: ACV (prob: 0.4315)
HD 166417	HIP 89107	n/a	1.370566 (R12)	2.2874(1)	R12	R12: BE+GCAS/SPB (prob: 0.30/0.67)
HD 166198	NSV 24310	VAR:	5.76766 (R12)	5.7636(4)	Menzies et al. (1990)	R12: SPB/ACV (prob: 0.25/0.44)
HD 169005	NSV 24417	VAR:	1.10104 (VSX), 1.1009155 (GCVS)	1.10061(2)	van Leeuwen et al. (1997)	Dubath et al. (2011): likely SPB
HD 174646	NSV 24618	VAR:	n/a	1.18070(3)	Olsen (1983)	
HD 178929	NSV 24704	n/a	3.3458 (R12)	3.3453(2)	van Leeuwen et al. (1997)	R12: ACV/ACV (prob: 0.23/0.62)
HD 180029	HIP 94567	VAR	3.28558 (VSX), 3.2856 (RM09)	3.2858(2)	Koen & Eyer (2002)	
HD 206028	HIP 106873	VAR	3.70865 (VSX), 3.71? (RM09)	0.785856(8)	Koen & Eyer (2002)	R12: SPB/ACV (prob: 0.24/0.74)

Appendix C: Light curves

Fig. C.1. The light curves of all objects, folded with the period listed in Tables 2 and 3, respectively.

Fig. C.1. continued.

Fig. C.1. continued.

Fig. C.1. continued.

Fig. C.1. continued.

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