

COMMISSIONS G1 AND G4 OF THE IAU
 INFORMATION BULLETIN ON VARIABLE STARS

Volume 62 Number 6200 DOI: 10.22444/IBVS.6200

Konkoly Observatory
 Budapest
 24 February 2017
 HU ISSN 0374 – 0676

REPORTS ON NEW DISCOVERIES

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|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-----------------------------|----------------------------------|
| Date: 04 July 2014 | | | |
| Observer(s) and affiliation(s): Martignoni, Massimiliano - Stazione Astronomica Betelgeuse, Magnago, Milano, Italy, massimiliano.martignoni@alice.it | | | |
| RA(J2000) 17 17 45.37 | Dec(J2000) 11 09 32.5 | type DSCT | Mag. 13.15 - 13.35 (V) |
| Period 0.217045 d | | Epoch 2456745.613 | |
| Cross-identification(s): UCAC4 506-065333 = CSS J171745.4+110932 | | | |

Remark: UCAC4 506-065333 is a DSCT type pulsating variable star in the field of view of V452 Oph. It was observed with a 0.25 m Schmidt-Cassegrain telescope (f/10) of the Stazione Astronomica Betelgeuse in Magnago, Italy equipped with a 512×512 pixels Kodak KAF261E CCD cooled to (typ.) -20°C ; 1.6 arcsec per pixel (1×1 binning); 14'×14' field of view, with V and R_C photometric filters. As comparison and check stars were used UCAC4 506-065387 and UCAC4 506-065389. A total of 119 measurements in V band and 94 in R_C band were collected; reduction to the standard photometric system was not performed.

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|------------------------------------------|----------------------------------|
| Date: 15 August 2014 | | | |
| Observer(s) and affiliation(s): Essam, Ahmed - Astronomy Department, National Research Institute of Astronomy and Geophysics (NRIAG), 11421 Helwan, Egypt, address:essam60@yahoo.com | | | |
| RA(J2000) 15 58 28.08 | Dec(J2000) -02 57 53.6 | type EW | Mag. 15.03 - 15.74 (V) |
| Period 0.361456 d | | Epoch 2456827.46801 ± 0.000334 | |
| Cross-identification(s): UCAC4 436-062932 = 2MASS J15582807-0257536 = CSS J155828.1-025753 = USNO-B1.0 0870-0361232 | | | |

Remark: All the observations have been carried out by using the EEV CCD 42-40 camera with a format of 2048×2048 pixels, cooled by liquid nitrogen attached on the Newtonian focus of the 1.88 m Kottamia reflector telescope in Egypt. Comparison star: UCAC4 436-062934. Check star: GSC 0502300278.

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| Date: 15 December 2014 |
| Observer(s) and affiliation(s): Liakos, A. - National Observatory of Athens, Institute for Astronomy, Astrophysics, Space Applications, and Remote Sensing, Palaia Penteli, Athens, Hellas (Greece), alliakos@noa.gr Dakanalis, I. - National and Kapodistrian University of Athens, Department of Astrophysics, Astronomy and Mechanics, Zografos, Athens, Hellas (Greece); National Observatory of Athens, Institute for Astronomy, Astrophysics, Space Applications, and Remote Sensing Niarchos, P. - National and Kapodistrian University of Athens, Department of Astrophysics, Astronomy and Mechanics, pniarcho@phys.uoa.gr |

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|-------------------------------------------------------------------------------------|-----------------------------------|--------------------------------|-------------------------|
| RA(J2000) 20 27 52.536 | Dec(J2000) +24 41 30.96 | type EW? | Mag. 14.9 (R) |
| Period 0.35806(7) d | | Epoch 2455391.447(1) | |
| Cross-identification(s): USNO-A2.0 1125-16060074 = 2MASS 20275251+2441305 | | | |

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|----------------------------------------------------------------------------------|-----------------------------------|--------------------------------|-------------------------|
| RA(J2000) 20 28 36.715 | Dec(J2000) +24 56 04.70 | type RR | Mag. 13.1 (R) |
| Period 0.3468(2) d | | Epoch 2455392.337(3) | |
| Cross-identification(s): USNO-A2.0 1125-16097188 = NOMAD1 1149-0516720 | | | |

Remark: Both stars detected in the FoV of AW Vul and the newly discovered variable (marked as NV1 in the finding chart) 2MASS J20275736+2453029 (Liakos & Niarchos 2010).

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| Date: 15 December 2014 |
| Observer(s) and affiliation(s): Liakos, A. - National Observatory of Athens, Institute for Astronomy, Astrophysics, Space Applications, and Remote Sensing, Palaia Penteli, Athens, Hellas (Greece), alliakos@noa.gr Nanouris, N. - National Observatory of Athens, Institute for Astronomy, Astrophysics, Space Applications, and Remote Sensing, Palaia Penteli, Athens, Hellas (Greece), nanouris@noa.gr |

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|---------------------------------------------------------------------------------|-----------------------------------|-------------------|-------------------------|
| RA(J2000) 22 19 10.737 | Dec(J2000) +70 55 55.94 | type S | Mag. 19.7 (R) |
| Period Multiperiodic | | Epoch - | |
| Cross-identification(s): NOMAD1 1609-0153378 = USNO B1.0 1609-0151173 | | | |

| | | | |
|---------------------------------------------------------------------------------|-----------------------------------|-------------------|-------------------------|
| RA(J2000) 22 19 47.743 | Dec(J2000) +70 57 55.88 | type EA | Mag. 17.6 (R) |
| Period - | | Epoch - | |
| Cross-identification(s): NOMAD1 1609-0153459 = USNO B1.0 1609-0151253 | | | |

Remark: Both stars detected in the FoV of the planetary nebula PNG 111.0+11.6. The C-K light curve is given for comparison. NOMAD1 1609-0153378 shows variations on ~ 2 d and $\sim 2 - 3$ h timescales, therefore it has been classified as “S – Unstudied variable star with rapid light changes”.

NOMAD1 1609-0153459: a single primary and a potential secondary eclipse has been observed, ~ 2.1 days apart.

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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------|-------------|
| Date: 19 December 2014 | | | |
| Observer(s) and affiliation(s): Gazeas, K. - Department of Astrophysics, Astronomy and Mechanics, National and Kapodistrian University of Athens, GR 15784, Zografos, Athens, Greece, kgaze@phys.uoa.gr Iliopoulos, I., AKTIS Astronomical Observatory, Oreokastro GR 57013, Thessaloniki, Greece | | | |
| RA(J2000) | Dec(J2000) | type | Mag. |
| 19 17 27.07 | +06 29 51.7 | DSCT | 10.4 (R) |
| Period | | Epoch | |
| 0.13727(1) d | | 2455062.4224(5) | |
| Cross-identification(s): GSC 0476-1362 = TYC 0476-1362-1 | | | |

Remark: Detected on 29 September 2007 in the FoV of NGC 6781. Epoch refers to maximum light.

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|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------|-----------------------|
| Date: 7 February 2015 | | | |
| Observer(s) and affiliation(s): Gazeas, K. - Department of Astrophysics, Astronomy and Mechanics, National and Kapodistrian University of Athens, GR 15784, Zografos, Athens, Greece, kgaze@phys.uoa.gr Karampotsiou, E. - Department of Astrophysics, Astronomy and Mechanics, National and Kapodistrian University of Athens, GR 15784, Zografos, Athens, Greece, sevi.kar@gmail.com | | | |
| RA(J2000) | Dec(J2000) | type | Mag. |
| 05 21 08.24 | +03 02 51.9 | EA | 11.33 (V_T - TYC2) |
| Period | | Epoch | |
| - | | 2456680.4139(7) | |
| Cross-identification(s): GSC 0104-0634 = TYC 0104-0634-1 | | | |

Remark: Detected on 22 January 2014 in the FoV of 1SWASP J052036.84+030402.1.

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|--------------------------------------------------------------------|-------------------|---------------|----------------------|
| RA(J2000) | Dec(J2000) | type | Mag. |
| 07 33 35.77 | -20 44 37.2 | EA | 12.19 (V_T -TYC2) |
| Period | | Epoch | |
| - | | 2456730.22(5) | |
| Cross-identification(s): GSC 5991-1106 = TYC 5991-1106-1 | | | |

Remark: Detected on 13 March 2014 in the FoV of TY Pup.

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|--------------------------------------------------------------------|-------------------|-----------------|-----------------------|
| RA(J2000) | Dec(J2000) | type | Mag. |
| 07 32 38.99 | -20 46 52.1 | DSCT | 11.14 (V_T - TYC2) |
| Period | | Epoch | |
| 0.18236(2) | | 2456714.2422(5) | |
| Cross-identification(s): GSC 5991-1727 = TYC 5991-1727-1 | | | |

Remark: Detected on 19 February 2014 in the FoV of TY Pup. Epoch refers to maximum light.

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|--------------------------------------------------------------------|-------------------|-----------------|----------------------|
| RA(J2000) | Dec(J2000) | type | Mag. |
| 07 32 44.65 | -20 43 11.6 | DSCT | 11.48 (V_T -TYC2) |
| Period | | Epoch | |
| 0.04954(5) | | 2456719.3069(2) | |
| Cross-identification(s): GSC 5991-1865 = TYC 5991-1865-1 | | | |

Remark: Detected on 2 March 2014 in the FoV of TY Pup. Epoch refers to maximum light.

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| Date: 10 June 2015 | | | |
| Observer(s) and affiliation(s): Karampotsiou, E. - Department of Astrophysics, Astronomy and Mechanics, National and Kapodistrian University of Athens, GR 15784, Zografos, Athens, Greece, sevi.kar@gmail.com Gazeas, K. - Department of Astrophysics, Astronomy and Mechanics, National and Kapodistrian University of Athens, GR 15784, Zografos, Athens, Greece, kgaze@phys.uoa.gr | | | |
| RA(J2000) 19 08 03.875 | Dec(J2000) +37 53 59315 | type EW | Mag. 15.0 (Rmag - USNO-A2.0) |
| Period 0.2812(3) | | Epoch 2457155.419(1) | |
| Cross-identification(s): USNO- A2.0 1275-10813091 = GSC2.2 N030320212363 = 2MASS 19080387+3753591 = SDSS J190803.87+375359.1 = KIC 2557987 | | | |

Remark: Detected on 12th May 2015 in the FoV of KIC 2835289. Differential magnitudes are given with respect to a sum of several comparison stars in the field.

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|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------------------------------|-------------------------------------------|
| RA(J2000) 19 08 00.309 | Dec(J2000) +38 01 57.20 | type EW | Mag. 15.4 (Rmag - USNO-A2.0) |
| Period 0.3974(3) | | Epoch 2457155.484(1) | |
| Cross-identification(s): USNO- A2.0 1275-10811543 = GSC2.2 N030320219127 = 2MASS 19080032+3801570 = SDSS J190800.33+380157.1 = KIC 2835711 | | | |

Remark: Detected on 12th May 2015 in the FoV of KIC 2835289. Differential magnitudes are given with respect to a sum of several comparison stars in the field.

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|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------------------------------|-------------------------------------------|
| RA(J2000) 19 07 19.580 | Dec(J2000) +37 55 15.74 | type EW | Mag. 16.0 (Rmag - USNO-A2.0) |
| Period 0.2850(3) | | Epoch 2457155.506(1) | |
| Cross-identification(s): USNO- A2.0 1275-10794124 = GSC2.2 N030320213311 = 2MASS 19071959+3755155 = SDSS J190719.58+375515.6 = KIC 2696006 | | | |

Remark: Detected on 12th May 2015 in the FoV of KIC 2835289. Differential magnitudes are given with respect to a sum of several comparison stars in the field.

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|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------------------------------|-------------------------------------------|
| RA(J2000) 19 07 05.799 | Dec(J2000) +37 54 34.77 | type EW | Mag. 16.4 (Rmag - USNO-A2.0) |
| Period 0.2921(6) | | Epoch 2457155.539(2) | |
| Cross-identification(s): USNO- A2.0 1275-10788218 = GSC2.2 N030320212746 = 2MASS 19070579+3754343 = SDSS J190705.80+375434.3 = KIC 2695854 | | | |

Remark: Detected on 12th May 2015 in the FoV of KIC 2835289. Differential magnitudes are given with respect to a sum of several comparison stars in the field.

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|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------------------------------|-------------------------------------------|
| RA(J2000) 19 08 09.638 | Dec(J2000) +37 56 16.85 | type EW | Mag. 16.1 (Rmag - USNO-A2.0) |
| Period 0.2691(8) | | Epoch 2457155.556(1) | |
| Cross-identification(s): USNO- A2.0 1275-10815489 = GSC2.2 N030320214179 = 2MASS 19080965+3756163 = SDSS J190809.64+375616.3 = KIC 2696645 | | | |

Remark: Detected on 12th May 2015 in the FoV of KIC 2835289. Differential magnitudes are given with respect to a sum of several comparison stars in the field.

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------------------------|----------------------------------------|
| Date: 10 November 2015 | | | |
| Observer(s) and affiliation(s): Gazeas, K. - Department of Astrophysics, Astronomy and Mechanics, National and Kapodistrian University of Athens, GR 15784, Zografos, Athens, Greece, kgaze phys.uoa.gr | | | |
| RA(J2000) 20 32 24.06 | Dec(J2000) +05 16 28.1 | type EW | Mag. 7.9(Vmag-USNO- A2.0) |
| Period 0.3682(1) | | Epoch 2456495.6525(9) | |
| Cross-identification(s): HD 195634 = GSC 0518-1033 = SAO 125914 = 2MASS J20322406+0516281 = USNO-A2.0 0900-18660708 | | | |

Remark: Detected 21 July 2013 in the FoV of MR Del.

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|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------------------------|------------------------------------------|
| RA(J2000) 06 03 37.68 | Dec(J2000) +27 35 11.4 | type EW | Mag. 12.9(Rmag - USNO A2.0) |
| Period 0.50316(2) | | Epoch 2456401.2640(9) | |
| Cross-identification(s): 2MASS J06033762+2735111 = USNO-A2.0 1125-03275240 = GSC N22213109574 = USNO-B1.0 1175-0139046 | | | |

Remark: Detected 12 November 2012 in the FoV of BG Gem.

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| Date: 9 May 2016 | | | |
| Observer(s) and affiliation(s): Liska, J. - Department of Theoretical Physics and Astrophysics, Masaryk Univer- sity, Kotlarska 2, 611 37 Brno, Czech Republic, jiriliska@post.cz Janik, J. - Department of Theoretical Physics and Astrophysics, Masaryk Univer- sity, Kotlarska 2, 611 37 Brno, Czech Republic, honza@physics.muni.cz Zejda, M. - Department of Theoretical Physics and Astrophysics, Masaryk Univer- sity, Kotlarska 2, 611 37 Brno, Czech Republic, zejda@physics.muni.cz | | | |
| RA(J2000) 14 09 07.15 | Dec(J2000) -45 18 18.0 | type probably RR Lyrae star of RRab type | Mag. 17.35(2) mag (R) = mean V-C value + USNO R mag- nitude of Compar- ison star |

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|------------------------------------------------|----------------------------------------------|
| Period - | Epoch 2457478.771(2) HJD (maximum) |
| Cross-identification(s): CzeV843 Cen | |

Remark: Variability detected 31 March 2016 in the FOV of V834 Cen. The CzeV843 Cen is in the vicinity (about 3.5 arcsec) of a star USNO-A2 0375-20155518 with similar brightness (CzeV843 Cen is about 0.3 mag fainter in R-band). Therefore, it is a blend for many of sky surveys. Observations were performed with the Danish 1.54-m telescope at La Silla, Chile in two nights. Another information is present in the CzeV catalogue <http://var2.astro.cz/czev.php>. Possible pulsation period can be 0.43 or 0.64 d.

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| Date: 12 September 2016 | | | |
| Observer(s) and affiliation(s): Essam, A. - Astronomy Department, National Research Institute of Astronomy and Geophysics (NRIAG), 11421 Helwan, Egypt, essam60@yahoo.com El-Sadek, M. A. - Astronomy Department, NRIAG, 11421 Helwan, Egypt Shokry, A. - Astronomy Department, NRIAG, 11421 Helwan, Egypt Darwish, M. S. - Astronomy Department, NRIAG, 11421 Helwan, Egypt | | | |
| RA(J2000) 20 00 59.917 | Dec(J2000) +05 44 11.93 | type EW | Mag. 14.807-15.348 |
| Period 0.20569 d | | Epoch 2457602.5177±0.0010 | |
| Cross-identification(s): UCAC4 479-113658 = 2MASS J20005992+0544120 = GSC2.3 N1Y0035356 | | | |

Remark: All the observations have been carried out by using the EEV CCD 42-40 camera with a format of 2048×2048 pixels, cooled by liquid nitrogen attached on the Newtonian focus of the 1.88-m Kottamia reflector telescope in Egypt.

the location of Kottamia Astronomical Observatory (KAO) as follows:

Latitude: 29°56′02″43 N

Longitude: 31°49′40″10 E

Height: 467 m

International code = 088

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| Date: 12 September 2016 | | | |
| Observer(s) and affiliation(s): El-Sadek, M. A. - Astronomy Department, National Research Institute of Astronomy and Geophysics (NRIAG), 11421 Helwan, Egypt, Essam, A. - Astronomy Department, NRIAG, 11421 Helwan, Egypt, essam60@yahoo.com Shokry, A. - Astronomy Department, NRIAG, 11421 Helwan, Egypt Saad, S. - Astronomy Department, NRIAG, 11421 Helwan, Egypt Darwish, M. S. - Astronomy Department, NRIAG, 11421 Helwan, Egypt | | | |
| RA(J2000) 20 01 07.694 | Dec(J2000) +05 42 21.68 | type EW | Mag. 16.07-16.52 |
| Period 0.35292 d | | Epoch 2457604.4082±0.0006 | |
| Cross-identification(s): UCAC4 479-113711 = 2MASS J20010770+0542216 = USNO-B1.0 0957-0508120 | | | |

Remark: All the observations have been carried out by using the EEV CCD 42-40 camera with a format of 2048×2048 pixels, cooled by liquid nitrogen attached on the Newtonian focus of the 1.88-m Kottamia reflector telescope in Egypt.

the location of Kottamia Astronomical Observatory (KAO) as follows:

Latitude: 29°56′02″43 N

Longitude: 31°49′40″10 E

Height: 467 m

International code = 088

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------------------|------------------------------|
| Date: 6 October 2016 | | | |
| Observer(s) and affiliation(s): Csizmadia, Sz. - Deutsches Zentrum für Luft- und Raumfahrt, Institut für Planetenforschung, D-12489 Berlin, Rutherfordstrasse 2., Germany, szilard.csizmadia@dlr.de Sedaghati, E. - Deutsches Zentrum für Luft- und Raumfahrt, Institut für Planetenforschung, D-12489 Berlin, Rutherfordstrasse 2., Germany; European Southern Observatory, Karl-Schwarzschild-Strasse 2, D-85748 Garching bei München, Germany; Zentrum für Astronomie und Astrophysik, TU Berlin, Hardenbergstr. 36, 10623 Berlin, Germany, esedagha@eso.org Boffin, H. M. J. - European Southern Observatory, Karl-Schwarzschild-Strasse 2, D-85748 Garching bei München, Germany, hboffin@eso.org | | | |
| RA(J2000) 09 53 42.692 | Dec(J2000) -45 43 15.95 | type δ Scuti | Mag. V = 13.67 mag |
| Period ~0.1 d | | Epoch 2457418.705 | |
| Cross-identification(s): 2MASS 09534278-4543166 | | | |

Remark: The target was a comparison-star candidate for the spectrophotometric observations of two transits of WASP-19b. Although the differential light curve of the comparison – check star shows some airmass-effect, the variability of 2MASS 09534278-4543166 is clearly visible on both nights when we observed it. The peak-to-peak amplitude is 0.04 magnitude and a main period of ~ 0.1 days can be suspected. The $J - K$ colour index is 0.217 (based on the 2MASS Point Source Catalogue). Neglecting interstellar reddening, this corresponds approximately $\sim F3$ spectral type. The period, the colour index and overall light curve shape suggest a δ Scuti type variable. The object is not listed as a known variable star in GCVS, Catalina Survey or VSX as of the submission date of this note. Figure 1 shows the observed light curve. Notice that the star has a close companion (Fig. 44) and because we did spectroscopic observations with FORS2 (and then we obtained spectrophotometric light curves convolving the spectra with different filter functions) and since the the companion was in the same aperture as the target star, we cannot decide whether the brighter or the fainter star is the variable, but we suspect that brighter one produces the observed light-variation.

Fig. 45. - The light curve of the variable star with solid line on the nights 30 January 2016 (JD 2 457 418) and 29 February 2016 (JD 2 457 448). The dashed curves show the differential light curves of the comparison and the check star. The plotted differential magnitude-curves were shifted by some constant values for sake of clarity.

Acknowledgements: Sz. Cs. acknowledges the Hungarian OTKA Grant K113117.

Reference:

Liakos, A., Niarchos, P., 2010, IBVS, 5998, 3