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CCD LIGHT CURVES OF ROTSE1 VARIABLES, XII: GSC 3073:837 Her,  
ROTSE1 J171239.42+330800.2 Her, GSC 2604:1671 Her AND GSC 3094:120 Her

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**VAR 1:**

Name of the object:
GSC 3073:837 = ROTSE1 J171017.73+382639.0

Equatorial coordinates:
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R.A.= 17 <sup>h</sup> 10 <sup>m</sup> 17.7 <sup>s</sup>
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Equinox:
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2000.0
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Comparison star(s):	GSC 3072:1886
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Check star(s):	GSC 3072:1726
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**VAR 2:**

Name of the object:
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ROTSE1 J171239.42+330800.2
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Equatorial coordinates:
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R.A.= 17 <sup>h</sup> 12 <sup>m</sup> 39.4 <sup>s</sup>
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Equinox:
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2000.0
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Comparison star(s):	J171233.92+330640.5
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Check star(s):	J171228.03+330541.8
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**VAR 3:**

Name of the object:
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GSC 2604:1671 = ROTSE1 J171839.88+355423.8
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Equatorial coordinates:
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R.A.= 17 <sup>h</sup> 18 <sup>m</sup> 39.9 <sup>s</sup>
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Equinox:
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2000.0
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Comparison star(s):	GSC 2604:897
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Check star(s):	GSC 2604:857
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**VAR 4:**

<b>Name of the object:</b>
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GSC 3094:120 = ROTSE1 J172023.86+411515.3
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<b>Equatorial coordinates:</b>
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R.A.= $17^{\text{h}}20^{\text{m}}23.9^{\text{s}}$ DEC.= $+41^{\circ}15'15''$
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<b>Equinox:</b>
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2000.0
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<b>Comparison star(s):</b>	GSC 3077:591
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<b>Check star(s):</b>	GSC 3094:80
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<b>Observatory and telescope:</b>
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Private observatory Schüsselacher, Wald, 0.15-m Starfire refractor
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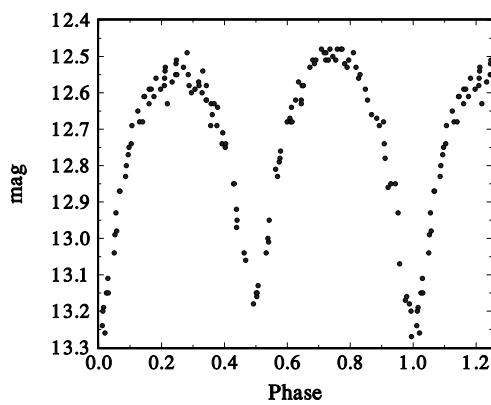
<b>Detector:</b>	SBIG ST-7 CCD camera
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<b>Filter(s):</b>	None
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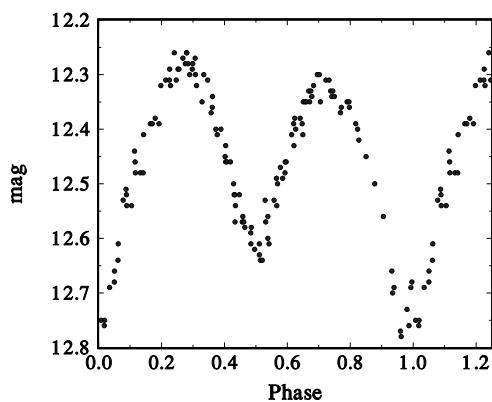
<b>Availability of the data:</b>
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Upon request from diethelm@astro.unibas.ch
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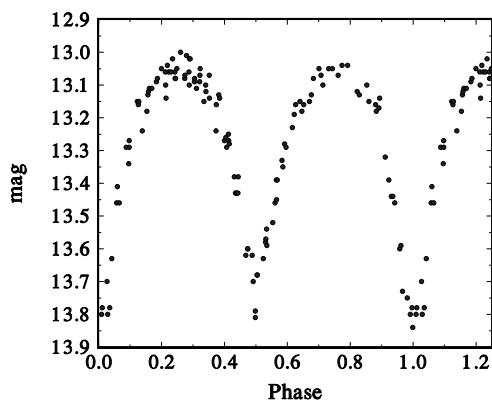
<b>Type of variability:</b>	EW
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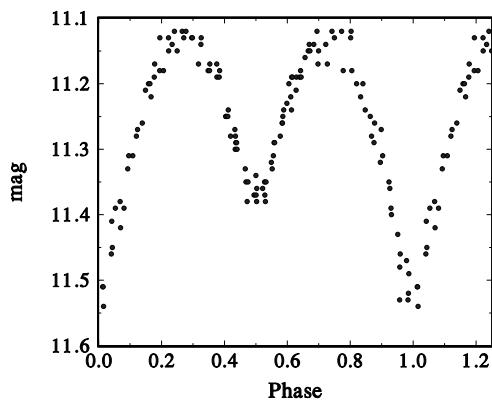
**Figure 1.** CCD light curve (without filter) of GSC 3073:837



**Figure 2.** CCD light curve (without filter) of ROTSE1 J171239.42+330800.2



**Figure 3.** CCD light curve (without filter) of GSC 2604:1671



**Figure 4.** CCD light curve (without filter) of GSC 3094:120

**Remarks:**

As a byproduct of the ROTSE1 CCD survey, a large number of new variables have been discovered (Akerlof et al., 2000). In a series of papers, we report unfiltered CCD observations for some of the close binary systems (type EW) in the list of Akerlof et al. (2000). This installment contains information on four variables in the constellation Herculis. The four stars were observed with our CCD equipment as mentioned above during 7 nights between JD 2452056 and JD 2452082. A total of 136 CCD frames were measured of GSC 3073:837 (VAR 1), 134 frames of ROTSE1 J171239.42+330800.2 (VAR 2), 130 frames of GSC 2604:1671 (VAR 3) and 131 frames for GSC 3094:120 (VAR 4). Figures 1 through 4 show our observations folded with the elements:

$$\begin{aligned} \text{GSC 3073:837:} & \quad \text{JD(min,hel)} = 2452065.5005 + 0.240641 \times E; \\ \text{ROTSE1 J171239.42+330800.2:} & \quad \text{JD(min,hel)} = 2452073.3641 + 0.320737 \times E; \\ \text{GSC 2604:1671:} & \quad \text{JD(min,hel)} = 2452056.3941 + 0.287848 \times E; \\ \text{GSC 3094:120:} & \quad \text{JD(min,hel)} = 2452056.3775 + 0.315408 \times E. \end{aligned}$$

These elements of variation are deduced from a linear fit to the normal minima from the ROTSE1 data (Diethelm, 2001) and the timings of minimum derived from our data given in Blättler (2001). The light curve of ROTSE1 J171239.42+330800.2 is somewhat unusual because of the marked difference in the depth of the two minima (0.12 mag) as well as the O'Connell effect. This variable is situated in a GSC "blind spot".

**Acknowledgements:**

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**References:**

- Akerlof, C.; Amrose, S.; Balsano, R.; Bloch, J.; Casperson, D.; Fletcher, S.; Gisler, G.; Hills, J.; Kehoe, R.; Lee, B.; Marshall, S.; McKay, T.; Pawl, A.; Schaefer, J.; Szymanski, J.; Wren, J.; 2000, *AJ*, **119**, 1901  
 Blättler, E.; 2001, *BBSAG Bulletin*, **126** in preparation  
 Diethelm, R.; 2001, *IBVS*, No. 5060