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# CCD LIGHT CURVES OF ROTSE1 VARIABLES, X: GSC 2016:830 Boo, GSC 2022:79 Boo, GSC 2020:736 Boo AND GSC 2020:873 Boo

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## VAR 1

| **Name of the object:** |
|---|
| GSC 2016:830 = ROTSE1 J144726.56+224515.0 |

| **Equatorial coordinates:** | **Equinox:** |
|---|---|
| **R.A.**= $14^h47^m26.6^s$ **DEC.**= $+22°45'15''$ | 2000.0 |

| **Comparison star(s):** | GSC 2016:300 |
|---|---|

| **Check star(s):** | GSC 2016:1146 |
|---|---|

## VAR 2

| **Name of the object:** |
|---|
| GSC 2022:79 = ROTSE1 J145007.78+293858.9 |

| **Equatorial coordinates:** | **Equinox:** |
|---|---|
| **R.A.**= $14^h50^m07.8^s$ **DEC.**= $+29°38'59''$ | 2000.0 |

| **Comparison star(s):** | GSC 2022:287 |
|---|---|

| **Check star(s):** | GSC 2022:219 |
|---|---|

## VAR 3

| **Name of the object:** |
|---|
| GSC 2020:736 = ROTSE1 J145936.69+250244.9 |

| **Equatorial coordinates:** | **Equinox:** |
|---|---|
| **R.A.**= $14^h59^m36.7^s$ **DEC.**= $+25°02'45''$ | 2000.0 |

| **Comparison star(s):** | GSC 2020:947 |
|---|---|

| **Check star(s):** | GSC 2020:902 |
|---|---|

## VAR 4

| Name of the object: |
|---|
| GSC 2020:873 = ROTSE1 J145954.54+255434.1 |

| Equatorial coordinates: | Equinox: |
|---|---|
| **R.A.**= $14^{h}59^{m}54.5^{s}$ **DEC.**= $+25°54'34''$ | 2000.0 |

| Comparison star(s): | GSC 2020:1232 |
|---|---|

| Check star(s): | GSC 2020:659 |
|---|---|

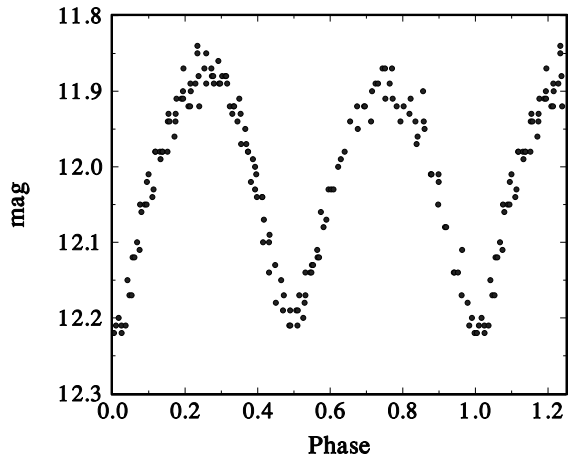


**Figure 1.** CCD light curve (without filter) of GSC 2016:830

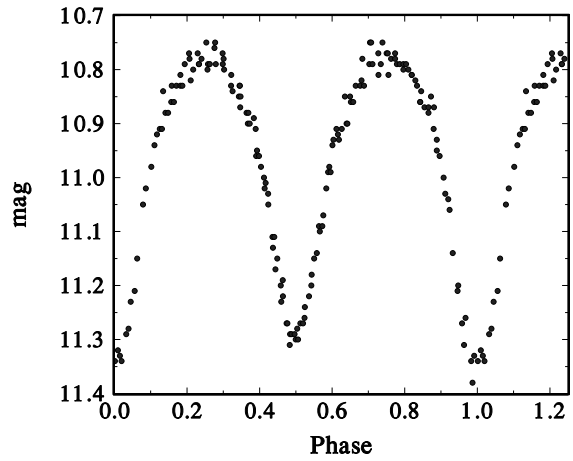


**Figure 2.** CCD light curve (without filter) of GSC 2022:79

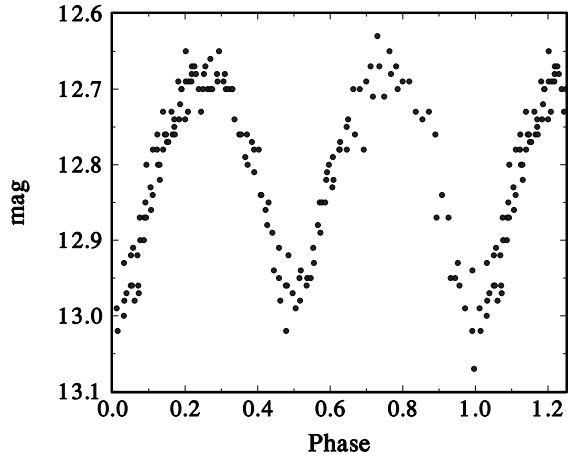


**Figure 3.** CCD light curve (without filter) of GSC 2020:736

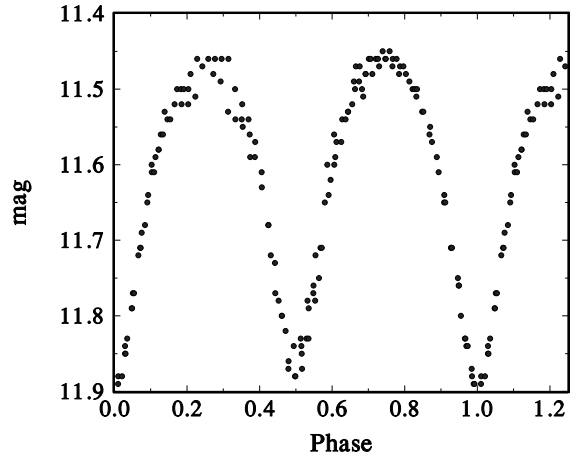


**Figure 4.** CCD light curve (without filter) of GSC 2020:873

| Observatory and telescope: |
|---|
| Private observatory Schüsselacher, Wald, 0.15-m refractor |

| Detector: | SBIG ST-7 CCD camera |
|---|---|

| **Filter(s):** | None |
|---|---|

| **Availability of the data:** |
|---|
| Upon request from diethelm@astro.unibas.ch |

| **Type of variability:** | EW |
|---|---|

**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 Bootes. The four stars were observed with our CCD equipment as mentioned above during 5 nights between JD 2451996 and JD 2452041. A total of 162 CCD frames were measured of GSC 2016:830 (VAR 1), 170 frames of GSC 2022:79 (VAR 2), 156 frames of GSC 2020:736 (VAR 3) and 158 frames for GSC 2020:873 (VAR 4). Figures 1 through 4 show our observations folded with the elements

$$\begin{aligned}
&\text{GSC 2016:830:} && \text{JD(min,hel)} = 2452001.4032 + 0.361112 \times E;\\
&\text{GSC 2022:79:} && \text{JD(min,hel)} = 2451996.4139 + 0.301601 \times E;\\
&\text{GSC 2020:736:} && \text{JD(min,hel)} = 2452022.5272 + 0.384641 \times E;\\
&\text{GSC 2020:873:} && \text{JD(min,hel)} = 2451996.5840 + 0.376670 \times E.
\end{aligned}$$

These elements of variation are deduced from a linear fit to the newly determined normal minima from the ROTSE1 data (publication in preparation) and the timings of minima derived from our data given in Blättler (2001).

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References:

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