Outburst of BF Eri

Tsutomu Watanabe
(117 Shirao dormitory, 1414 Oonakazato, Shizuoka, 418-0044 Japan)
E-mail: jcc00212@nifty.ne.jp Received 1999 May 30

BF Eri is listed as a semiregular-type pulsating star (196 days period, 13.5-15.5p magnitude range) in GCVS (Kholopov86). However, this star is identified with the X-ray source 1ES 0437-046 (Elvis et al.92) and pointed out to be a cataclysmic variable by spectroscopy (Schachter et al. 1996). Two outbursts were detected by VSOLJ member's monitoring. The light curve is shown in Figure 1. The observation data are listed in Table 1. The light curve demonstrates that BF Eri is a dwarf nova with a period of 40-50 days. The observed magnitude range is 13.2-<14.7, which is consistent with the GCVS value. Further observations are strongly encouraged to get more detail of outburst characteristic and physical parameters.

Table 1: Magnitude estimates of BF Eri

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>981024.720</td>
<td>&lt;14.7</td>
<td>Wnt</td>
<td>990120.604</td>
<td>&lt;13.8</td>
<td>Wnt</td>
<td>990213.432</td>
<td>&lt;14.1</td>
<td>Wnt</td>
</tr>
<tr>
<td>981107.624</td>
<td>&lt;13.6</td>
<td>Wnt</td>
<td>990122.555</td>
<td>&lt;14.6</td>
<td>Wnt</td>
<td>990214.578</td>
<td>&lt;14.1</td>
<td>Wnt</td>
</tr>
<tr>
<td>981117.703</td>
<td>14.7</td>
<td>Wnt</td>
<td>990128.474</td>
<td>&lt;13.6</td>
<td>Wnt</td>
<td>990215.585</td>
<td>&lt;13.6</td>
<td>Wnt</td>
</tr>
<tr>
<td>981219.647</td>
<td>&lt;13.8</td>
<td>Wnt</td>
<td>990128.560</td>
<td>&lt;14.0</td>
<td>Wnt</td>
<td>990217.529</td>
<td>&lt;13.9</td>
<td>Wnt</td>
</tr>
<tr>
<td>990108.546</td>
<td>13.3</td>
<td>Wnt</td>
<td>990129.620</td>
<td>&lt;12.4</td>
<td>Wnt</td>
<td>990220.605</td>
<td>&lt;13.2</td>
<td>Wnt</td>
</tr>
<tr>
<td>990109.576</td>
<td>13.2</td>
<td>Wnt</td>
<td>990130.474</td>
<td>&lt;13.6</td>
<td>Wnt</td>
<td>990221.149</td>
<td>13.6</td>
<td>Wnt</td>
</tr>
<tr>
<td>990110.572</td>
<td>13.3</td>
<td>Wnt</td>
<td>990131.426</td>
<td>&lt;13.4</td>
<td>Wnt</td>
<td>990222.431</td>
<td>13.92V</td>
<td>K is</td>
</tr>
<tr>
<td>990111.520</td>
<td>13.4</td>
<td>Wnt</td>
<td>990204.469</td>
<td>&lt;14.6</td>
<td>Wnt</td>
<td>990222.441</td>
<td>14.02V</td>
<td>K is</td>
</tr>
<tr>
<td>990112.551</td>
<td>13.5</td>
<td>Wnt</td>
<td>990206.549</td>
<td>&lt;14.6</td>
<td>Wnt</td>
<td>990222.523</td>
<td>&lt;13.6</td>
<td>Wnt</td>
</tr>
<tr>
<td>990115.570</td>
<td>13.9</td>
<td>Wnt</td>
<td>990207.481</td>
<td>&lt;14.6</td>
<td>Wnt</td>
<td>990228.389</td>
<td>14.40V</td>
<td>K is</td>
</tr>
<tr>
<td>990116.443</td>
<td>14.6</td>
<td>Wnt</td>
<td>990208.547</td>
<td>&lt;14.1</td>
<td>Wnt</td>
<td>990228.535</td>
<td>&lt;12.7</td>
<td>Wnt</td>
</tr>
<tr>
<td>990118.565</td>
<td>14.7</td>
<td>Wnt</td>
<td>990212.565</td>
<td>&lt;14.6</td>
<td>Wnt</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mag. (Magnitude)
The prex < indicates the upper limit (the variable was not seen)
V: Johnson V other: visual
Magnitude was estimated by GSC magnitude.
Obs. (Observer)
Kis: Seiichiro Kiyota (25cm Schmidt Cassegrain + Apogee AP-7 + Optec Max-Iter 2)
Wnt: Tsutomu Watanabe (32cm reflector + visual)

Acknowledgments
This work is based on the VSOLJ database. I wish to thank Seiichiro Kiyota for his valuable observation and Dr. Taichi Kato (Kyoto University) for his helpful suggestions and reading the manuscript.
Outburst of TmzV34 (= RXJ 0915.8+0900)

Tsutomu Watanabe
(117 Shirao dormitory , 1414 Oonakazato , Shizuoka , 418-0044 Japan)
E-mail : jcc00212@nifty.ne.jp Received 1999 May. 31

This object was first discovered by ROSAT (= RX J 0915.8+0900). Bade et al. (1998) identified it as a cataclysmic variable. Takamizawa (1998) independently discovered this star as a new variable star, TmzV34 (initially reported as an irregular variable with a range of 13.1-15.0p), and detected one outburst at 13.1 mag. on 1994 Nov. 30.715 from his patrol films. On 1999 Apr. 8.596 UT, I detected a further outburst at 13.6 mag. visually. On 1999 Apr. 7.616 UT, the object seemed slightly fainter than 13.7 mag. On 1999 Apr. 13.564 UT, it was not seen. (upper limit 13.1 mag.) Further observations are strongly encouraged.

Acknowledgments
I wish to thank Dr. Taichi Kato (Kyoto University) for his helpful suggestions and reading the manuscript.

Remarks
This outburst detection was announced in vsnet-alart (Kato 1999)

References

Tsutomu Watanabe
(117 Shirao dormitory , 1414 Oonakazato , Shizuoka , 418-0044 Japan)
E-mail : jcc00212@nifty.ne.jp Received 1999 May. 31

Figure 1. Light curve of BF Eri

References


Outburst of TmzV34 (= RXJ 0915.8+0900)

Tsutomu Watanabe
(117 Shirao dormitory , 1414 Oonakazato , Shizuoka , 418-0044 Japan)
E-mail : jcc00212@nifty.ne.jp Received 1999 May. 31

This object was first discovered by ROSAT (= RX J 0915.8+0900). Bade et al. (1998) identified it as a cataclysmic variable. Takamizawa (1998) independently discovered this star as a new variable star, TmzV34 (initially reported as an irregular variable with a range of 13.1-15.0p), and detected one outburst at 13.1 mag. on 1994 Nov. 30.715 from his patrol films. On 1999 Apr. 8.596 UT, I detected a further outburst at 13.6 mag. visually. On 1999 Apr. 7.616 UT, the object seemed slightly fainter than 13.7 mag. On 1999 Apr. 13.564 UT, it was not seen. (upper limit 13.1 mag.) Further observations are strongly encouraged.

Acknowledgments
I wish to thank Dr. Taichi Kato (Kyoto University) for his helpful suggestions and reading the manuscript.

Remarks
This outburst detection was announced in vsnet-alart (Kato 1999)

References

Kato T., "Outburst of TmzV34 = RXJ 0915.8+0900", vsnet-alart 2854 (1999)
Outburst of Goranskij's variable near GM Sgr

Tsutomu Watanabe
(117 Shirao dormitory, 1414 Oonakazato, Shizuoka, 418-0044 Japan)
E-mail: jcc00212@nifty.ne.jp Received 1999 Aug. 23

Goranskij's variable (= GSC 6848.03786 = USNO0600.16547317, R.A. 18h 19m 21s.64
DEC.-25° 24' 25".7 (J2000) ) was discovered as a candidate of GM Sgr (Luyten's variable)
(Goranskij 1990). Original GM Sgr (Luyten's variable) was classified as a long period variable
(Luyten 1927) and observed late-type spectrum (Hoard 1995). Goranskij's variable was classified
as a possible novalike variable (Goranskij 1990). On 1999 Aug. 8.610 UT, I detected a further
obvious outburst of this object at 12.9 Mag. visually. This outburst was confirmed by other
observer (Stubbings 1999a,b). The chart which I used is stored at the publicly available
ftp-site, ftp://kusastro.kyoto-u.ac.jp/pub/vsnet/charts=GM_sgr.ps;
and this object is marked " = GM Sgr?". Further observations are strongly encouraged.

Remarks This outburst detection was announced in vsnet-alart (Kato 1999).

Acknowledgments I wish to thank Dr. Taichi Kato (Kyoto University) for his helpful advice.

References

Goranskij, V. P. 1978, Astr. Tsirk., 1024, 3
Kato, T. 1999, vsnet-alart3345
(http://www.kusastro.kyoto-u.ac.jp/vsnet/Mail/vsnet-alert/msg03345.html)
Luyten, W. J. 1927, Harvard Bull., No.852, 1
Stubbings, R. 1999a, vsnet-obs 22248
(http://www.kusastro.kyoto-u.ac.jp/vsnet/Mail/obs22000/msg00248.html)
Stubbings, R. 1999b, vsnet-obs 22282
(http://www.kusastro.kyoto-u.ac.jp/vsnet/Mail/obs22000/msg00282.html)

Detection of the second historical decline of VY-Scl type variable LQ Peg

Tsutomu Watanabe
(117 Shirao dormitory, 1414 Oonakazato, Shizuoka, 418-0044 Japan)
E-mail: jcc00212@nifty.ne.jp Received 1999 Sep. 07

LQ Peg (= PG 2133+115, R.A. 21h 36m 19s.13, DEC.+11° 40' 54".68 (J2000)) was discovered
as an ultraviolet-excess object and spectroscopically confirmed to be a cataclysmic variable
(Green et al. 1982, 1986; Ferguson et al. 1984). A decline was found between 1969 and 1970 by
photographic observation in 1960-1995 (Sokolov et al. 1996), then this star was listed in 73th
Name list (Kazarovets & Sumus 1997). The star has been considered as a likely VY Scl-type
variable.

I detected the first-ever decline since the discovery of the VY Scl-type nature. LQ Peg had been
seen at 14 and a half Mag., though on 1999 Jul. 9.716 UT, this star could not been seen at a
limiting magnitude of 14.6, moreover on 1999 Aug. 17.717 UT, this star was fainter than 15.3
Mag.(see Table 1). This decline was confirmed by CCD observation (Kato 1999a). Further
observation is encouraged to get a more detailed characteristics and physical parameters.
Table 1: Recent observation of LQ Peg

<table>
<thead>
<tr>
<th>Date (UT)</th>
<th>Date (JD)</th>
<th>Magnitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998 September 16.642</td>
<td>2451073.142</td>
<td>14.6</td>
</tr>
<tr>
<td>1998 November 7.558</td>
<td>2451125.058</td>
<td>fainter than 13.7</td>
</tr>
<tr>
<td>1998 November 15.474</td>
<td>2451132.974</td>
<td>14.6</td>
</tr>
<tr>
<td>1999 July 9.716</td>
<td>2451369.216</td>
<td>fainter than 14.6</td>
</tr>
<tr>
<td>1999 August 11.701</td>
<td>2451402.201</td>
<td>fainter than 14.9</td>
</tr>
<tr>
<td>1999 August 14.726</td>
<td>2451405.226</td>
<td>fainter than 15.2</td>
</tr>
<tr>
<td>1999 August 17.613</td>
<td>2451408.113</td>
<td>fainter than 15.2</td>
</tr>
<tr>
<td>1999 August 17.717</td>
<td>2451408.217</td>
<td>fainter than 15.3</td>
</tr>
</tbody>
</table>

Instrument: 32 cm reflector + visual
Magnitude was estimated against neighboring GSC stars

Acknowledgments This decline detection was announced in vsnet-alart (Kato 1999b).

Remarks I wish to thank Dr. Taichi Kato (Kyoto University) for his helpful suggestions and reading the manuscript.

References

Kato, T., 1999a, vsnet-obs 22278
   http://www.kusastro.kyoto-u.ac.jp/vsnets/Mail/obs22000/msg00278.html
Kato, T., 1999b, vsnet-alart 3350
   http://www.kusastro.kyoto-u.ac.jp/vsnets/Mail/vsnets-alart/msg03350.html
Kazarovets, E.V., Samus, N.N., 1997, IBVS, 4771, 1

VSOLJ
Editor Keiichi Saijo
Sta® Makoto Watanabe
Masahiko Momose
Seiichiro Kiyota

VSOLJ
 c/o Keiichi Saijo National Science Museum, Ueno-Park, Tokyo Japan
 e-mail: skiyota@abr.a.rc.go.jp (Seiichiro Kiyota)