

COMMISSIONS 27 AND 42 OF THE IAU
 INFORMATION BULLETIN ON VARIABLE STARS
 Number 5212

Konkoly Observatory
 Budapest
 13 December 2001
HU ISSN 0374 – 0676

NEW TYPE AND ELEMENTS FOR THE ECLIPSING BINARY OT Cep
 (BAV MITTEILUNGEN NO. 142)

AGERER, F.^{1,2}

(1) D-84184 Zweikirchen, Germany, e-mail: agerer.zweik@t-online.de

(2) Bundesdeutsche Arbeitsgemeinschaft für Veränderliche Sterne e.V. (BAV), Munsterdamm 90,
 D-12169 Berlin, Germany

| | |
|---|-----------------|
| Name of the object: | |
| OT Cep | |
| Equatorial coordinates: | Equinox: |
| R.A. = 0 ^h 29 ^m 18 ^s DEC. = 82°10'9" | 2000 |
| Observatory and telescope: | |
| Private observatory, 20-cm SCT | |
| Detector: | SBIG ST6 camera |
| Filter(s): | none |
| Comparison star(s): | GSC 4504.583 |
| Check star(s): | GSC 4504.663 |
| Transformed to a standard system: | No |
| Availability of the data: | |
| upon request | |
| Type of variability: | EW |
| Acknowledgements: | |
| This research made use of the SIMBAD data base, operated by the CDS at Strasbourg, France | |
| Remarks: | |
| <p>Several observers tried to improve the elements of OT Cep (Blättler 1999, Nelson 2001). In order to get a complete lightcurve, OT Cep was put on our program. Soon it was clear, that the period has to be halved and it is an eclipsing binary of W UMa-type. The depths of the primary and secondary minima are very different. The light amplitudes are 0^m.69 and 0^m.22 respectively. The minimum times are calculated according to the Kwee–van Woerden method (Kwee, van Woerden 1956). A least squares fit to the data given in Table 1 led to the new ephemeris:</p> $\text{Min I} = \text{HJD } 2449169.4362 \pm 3 + 0^{\text{d}}.4812313 \pm 1 \cdot E \quad (1)$ | |

| Times of minima: | | | | | | |
|-------------------------|------------------------------|--------|------|--------|------------------|------------|
| Star name | Time of min. HJD 2400000+ | Error | Type | Filter | $O - C$ [day] | Rem. |
| OT Cep | 49169.4354 | .0005 | I | | -0.0008 | [1] |
| | 49641.5254 | .0003 | I | | +0.0013 | [2] |
| | 50850.3762 | .0010 | I | | -0.0009 | [3] |
| | 51363.3704 | .0008 | I | | +0.0007 | [4] |
| | 51659.80612 | .00005 | I | | -0.00206 | [5] |
| | 51913.4160 | .0003 | I | | -0.0011 | this paper |
| | 51913.6596 | .0009 | II | | +0.0019 | this paper |
| | 51922.3199 | .0020 | II | | +0.0000 | this paper |
| | 51922.5586 | .0003 | I | | -0.0019 | this paper |
| | 51955.5257 | .0004 | II | | +0.0009 | this paper |

[1]: Hübscher, J. et al. 1994, [2]: Agerer, F., Hübscher, J. 1995,
 [3]: Agerer, F., Hübscher, J. 1999, [4]: Blättler, E. 1999, [5]: Nelson, R.H. 2001

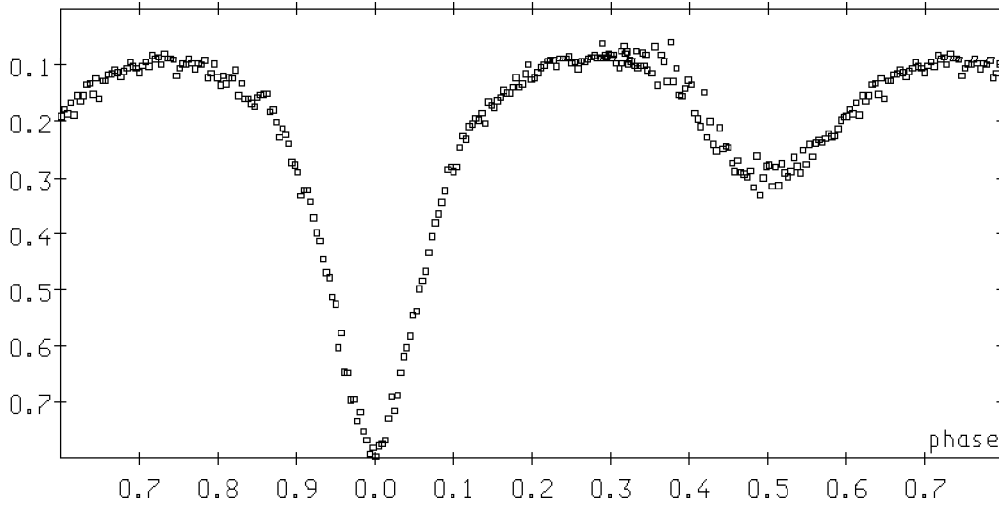


Figure 1. Differential light curve of OT Cep

References:

- Agerer, F., Hübscher, J., 1995, IBVS 4222
 Agerer, F., Hübscher, J., 1999, IBVS 4711
 Blättler, E., 1999, BBSAG Bulletin 120
 Hübscher, J. et al., 1994, BAVM 68
 Kwee, K. K., van Woerden, H., 1956, *Bull. Astr. Inst. Netherlands*, **12**, No. 464, 327
 Nelson, R.H., 2001, IBVS 5040