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FIRST LIGHT CURVE AD ELEMENTS OF AB Cnc

HÁJEK, P.¹; KOSS, K.²; KUDRNÁČOVÁ, J.³; MOTL, D.⁴

¹ Brno Observatory, Kraví hora 2, Brno 616 00, Czech Republic; e-mail: phajek@sci.muni.cz

² Luční 7, Hodonín 695 01, Czech Republic, e-mail: karel.koss@tiscali.cz

³ Kamínky 7, Brno 634 00, Czech Republic, e-mail: jkudrnacova@centrum.cz

⁴ Čtvrť 12, Brno 634 00, Czech Republic, e-mail: dmotl@volny.cz

Name of the object:	
AB Cnc, GSC 809 338	
Equatorial coordinates:	Equinox:
R.A. = 08 ^h 37 ^m 37 ^s . DEC. = +14°35'55"	2000.0
Comparison star(s):	GSC 809 322
Check star(s):	GSC 809 470 and GSC 809 162
Observatory and telescope:	
Vyskov observatory, Czech Republic, RL 300/1200 mm telescope	
Detector:	CCD camera SBIG ST-7, 382 × 255 pixels, 19' × 13' FOV
Filter(s):	unfiltered CCD band
Transformed to a standard system:	No
Date(s) of the observation(s):	
from February 2001 to May 2002	
Method of data reduction:	
Images were processed by MUNIDOS photometry software package. (Hroch, Novak, 1997)	
Method of minimum determination:	
The times of minima (see table 1) were derived by means of Tintagel programme (Gaspani, 1995).	
Type of variability:	EA
Availability of the data:	
Upon request	

Ephemeris:			
Star name	E 2400000+	P [day]	Source
AB Cnc	52404.3602 ± 0.0007	0.872823 ± 0.000005	this paper

Times of minima:						
Star name	Time of min. HJD 2400000+	Error	Type	Filter	$O - C$ [day]	Rem.
AB Cnc	52030.3549	0.0009	sec.	—	- 0.0006	K, H
	52322.3158	0.0011	prim.	—	0.0010	M
	52369.4469	0.0018	prim.	—	- 0.0004	K
	52404.3602	0.0007	prim.	—	0.0000	H

Explanation of the remarks in the table:
Observer: H=Hajek, K=Koss, M=Motl

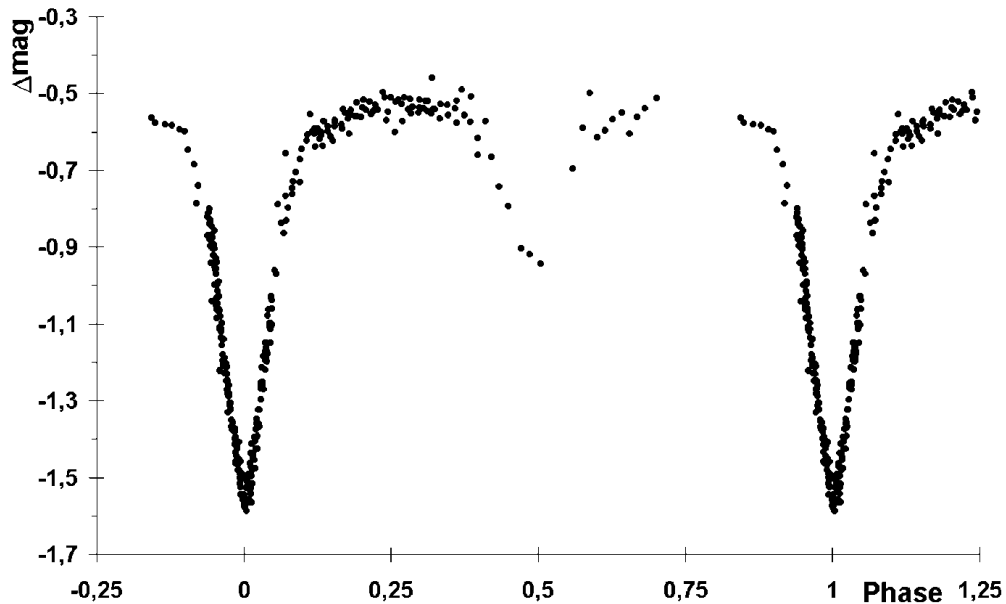


Figure 1. Folded light curve of AB Cnc.

Remarks:
The variability of this star was discovered by O. Morgenroth (1935) who gave the first designation as AN 203.1935 Cnc. The star is also mentioned by Zakirov and Shaidulin (1985) as a member of Praesepe cluster (NGC 2632). We present the first photoelectric light-curve and elements of the system. The light curve elements were determined with the help of our Varplot application (Motl, 2001). Figure 1 displays the folded light curve, magnitudes are instrumental and they are relative to the comparison star used. The depth of the primary and the secondary minima is about 1^m1 and 0^m4 , respectively.

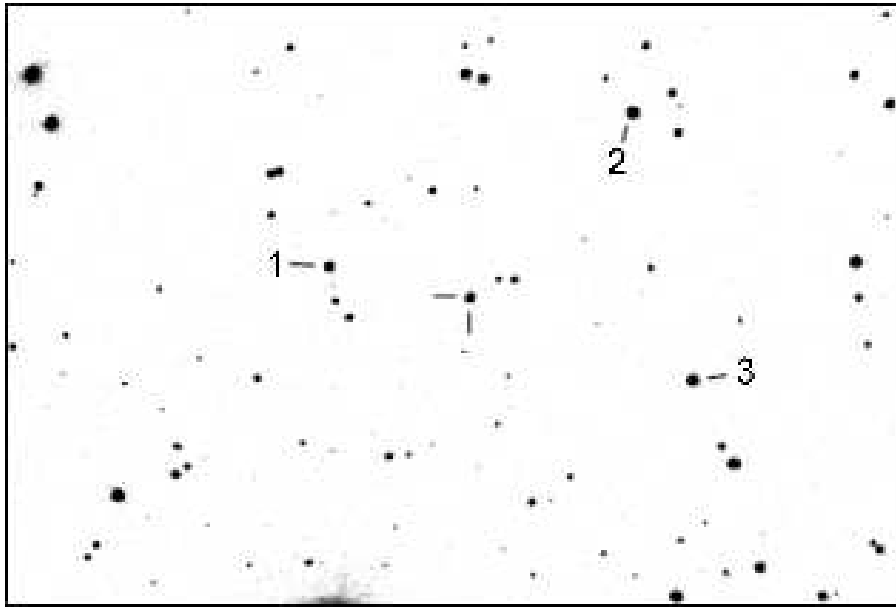


Figure 2. Identification map of AB Cnc (bars), comparison star (No. 1) and two check stars (No. 2 and 3). The size of the field is 19×13 arcminutes, unfiltered CCD band, 20-second exposure.

References:

- Gaspani, A., 1995, *3rd GEOS workshop on variable star data acquisition and processing techniques*, May 13–14, 1995, S. Pellegrino Terme, Italy
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Zakirov, M. M., Shaidullin, R. T., 1985, *Byull. Abastumanskaya Astrofiz. Obs.*, **58**, 313