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**NEW EPHEMERIS OF THE BINARY SYSTEM 44i BOOTIS**

Photometric observations of 44i Bootis were made at Timisoara Observatory during July and August 1993.

Our photometric instrument consists of an EMI 9862Q photomultiplier attached to a 30 cm Cassegrain telescope. Observations were carried out using V filter (OG/2mm). As comparison star BD+48°2262 was used.

For the six observed minima we give in Table I the Julian dates and their mean errors, computed using Kwee-Van Woerden method.

Table I

No.	HEL.JD. 2440000.+	$\sigma$	Obs.	Filter
1	9178.4204	0.0015	Gherega	V
2	9186.4534	0.0005	"	V
3	9200.3765	0.0027	"	V
4	9207.3427	0.0019	"	V
5	9214.3066	0.0008	"	V
6	9215.3780	0.0009	"	V

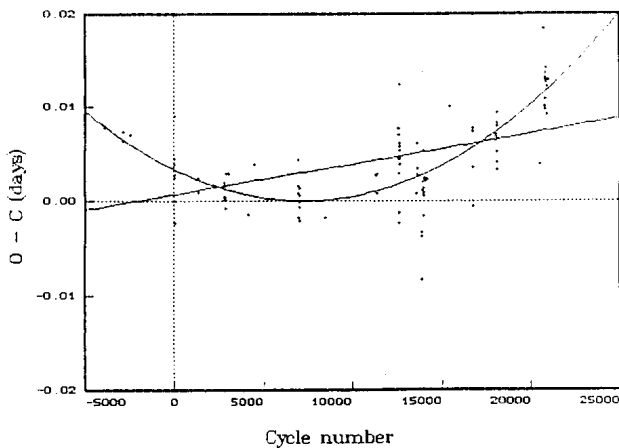


Figure 1

Table II

Hel.JD. 2440000+	O-C days	E cycle	Ref. no.	Hel.JD. 2440000+	O-C days	E cycle	Ref. no.
2531.4512	0.0080	-4007.0	[4]	6640.3005	0.0008	11335.0	[1]
2553.4119	0.0077	-3925.0	"	6638.2939	0.0028	11327.5	"
2837.5649	0.0063	-2864.0	"	6973.3286	-0.0022	12578.5	[11]
2841.5831	0.0072	-2849.0	"	6973.3296	-0.0012	12578.5	"
2953.5306	0.0070	-2431.0	"	6973.3352	0.0044	12578.5	"
3604.5880	0.0000	0.0	[5]	6977.3550	0.0069	12593.5	"
3607.5379	0.0039	11.0	"	6977.3510	0.0029	12593.5	"
3607.8107	0.0089	12.0	"	6977.3557	0.0076	12593.5	"
3614.3611	-0.0022	36.5	[14]	6984.3159	0.0046	12619.5	"
3614.5000	0.0028	37.0	"	6984.3174	0.0061	12619.5	"
3615.5710	0.0025	41.0	"	6984.3235	0.0122	12619.5	"
3616.3764	0.0044	44.0	"	6986.3253	0.0054	12627.0	"
3974.4464	0.0024	1381.0	[7]	6986.3238	0.0039	12627.0	"
3974.5788	0.0009	1381.5	"	6986.3257	0.0058	12627.0	"
4706.5219	-0.0013	4114.5	"	7242.4882	0.0008	13583.5	[15]
4709.4679	-0.0013	4125.5	"	7242.6248	0.0035	13584.0	"
4345.5067	0.0015	2766.5	[10]	7245.4395	0.0061	13594.5	"
4365.4569	-0.0007	2841.0	"	7245.5701	0.0028	13595.0	"
4366.5290	0.0002	2845.0	"	7338.3675	0.0014	13941.5	"
4349.3904	0.0019	2781.0	[2]	7338.5006	0.0006	13942.0	"
4351.5314	0.0004	2789.0	"	7340.3756	0.0009	13949.0	"
4354.4773	0.0002	2800.0	"	7341.3174	0.0053	13952.5	"
4355.5500	0.0017	2804.0	"	7341.4445	-0.0015	13953.0	"
4356.3523	0.0005	2807.0	"	7319.7446	-0.0082	13872.0	[19]
4366.7971	0.0004	2846.0	[17]	7319.7495	-0.0033	13872.0	"
4390.9032	0.0029	2936.0	"	7319.7491	-0.0037	13872.0	"
4409.7855	0.0041	3006.5	"	7322.7008	0.0020	13883.0	"
4811.7794	0.0039	4507.5	"	7322.6999	0.0011	13883.0	"
5473.8187	-0.0017	6979.5	"	7359.3920	0.0022	14020.0	[18]
5476.9019	0.0015	6991.0	"	7364.3469	0.0025	14038.5	"
5477.8383	0.0006	6994.5	"	7365.4180	0.0023	14042.5	"
5478.7745	-0.0006	6998.0	"	7371.4438	0.0022	14065.0	"
5488.8162	-0.0020	7035.5	"	7375.3270	0.0021	14079.5	"
5468.4684	0.0043	6959.5	[13]	7388.3163	0.0022	14128.0	"
5468.4649	0.0008	6959.5	"	7393.4050	0.0024	14147.0	"
5482.5245	-0.0000	7012.0	"	7739.2988	0.0099	15438.5	[12]
5482.5259	0.0014	7012.0	"	8086.3840	0.0035	16734.5	"
5870.4565	-0.0017	8460.5	"	8086.3881	0.0076	16734.5	"
6640.3026	0.0029	11335.0	[1]	8086.3877	0.0072	16734.5	"
6638.2938	0.0027	11327.5	"	8091.3346	-0.0005	16753.0	"

Table II (continued)

Hel.JD. 2440000+	O-C days	E cycles	Ref. no.	Hel.JD. 240000+	O-C days	E cycles	Ref. no.
8091.3346	-0.0005	16753.0	[12]	9162.3508	0.0134	20752.0	[16]
8429.8634	0.0070	18017.0	[3]	9162.3503	0.0129	20752.0	"
8429.8629	0.0065	18017.0	"	9168.3732	0.0099	20774.5	"
8429.8632	0.0068	18017.0	"	9168.3729	0.0096	20774.5	"
8437.7649	0.0078	18046.5	"	9168.3740	0.0107	20774.5	"
8437.7663	0.0092	18046.5	"	9177.3478	0.0126	20808.0	"
8437.7623	0.0052	18046.5	"	9177.3482	0.0130	20808.0	"
8439.7698	0.0041	18054.0	"	9177.3479	0.0127	20808.0	"
8439.7739	0.0082	18054.0	"	9178.4204	0.0140	20812.0	This
8439.7690	0.0033	18054.0	"	9186.4534	0.0124	20842.0	paper
9099.4042	0.0039	20517.0	[16]	9200.3765	0.0090	20894.0	"
9149.3581	0.0099	20703.5	"	9207.3427	0.0120	20920.0	"
9149.3664	0.0182	20703.5	"	9214.3066	0.0126	20946.0	"
9159.4094	0.0180	20741.0	"	9215.3780	0.0127	20950.0	"

The O–C residuals were computed using the ephemeris:

$$\text{Min I} = \text{J.D. } 2443604.5880 + 0^{\text{d}}26781753 \times E \quad (1)$$

given by Oprescu et al. (1989). In Table II we give the O–C residuals, computed for the Julian dates of minima, given in references, completed with O–C values from our observations. In Figure 1 we plotted the O–C residuals versus the number of periods denoted by E.

Considering a linear ephemeris, the least squares method yields:

$$\text{Min I} = 2443604^{\text{d}}5887 + 0^{\text{d}}26781785 \times E \quad (2)$$

$$\pm 0^{\text{d}}0006 \pm 0^{\text{d}}00000004$$

Or, considering quadratic ephemeris, the same method leads to:

$$\text{Min I} = 2443604^{\text{d}}5914 + 0^{\text{d}}26781662 \times E + 0^{\text{d}}62 \times 10^{-10} \times E^2 \quad (3)$$

$$\pm 0^{\text{d}}0004 \pm 0^{\text{d}}00000009 \quad \pm 0^{\text{d}}05 \times 10^{-10}$$

The comparison of the two fits (ephemerides (2) and (3)) is seen in Figure 1. We found that quadratic ephemeris fits better the observations.

Octavian GHEREGA  
Ladislau FARKAS  
Alexandru HORVATH  
Astronomical Institute of Romanian  
Academy,  
Timisoara Observatory,  
Piata Axente Sever No. 1  
Timisoara, 1900  
Romania

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