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THE FARTHEST KNOWN ECLIPSING BINARIES IN OUR GALAXY

This paper contains a list of 12 farthest eclipsing binaries known in our Galaxy. These stars are selected from catalogues (Brancewicz and Dworak, 1980; Kholopov et al., 1985, 1987) under the following conditions: distance modulus $m - M > 13.0$ so a parallax $\pi \leq 0.00025$ (i.e. $d \geq 4000$ pc). Additionally the value $d \cdot \sin |b|$ was calculated where b is a galactic latitude for a given star.

The consecutive columns of the Table I contain: name of star, coordinates α and δ for the epoch 1950.0, period in days, magnitude (photographic p , photoelectric V or B), distance d in parsecs, distance from the galactic plane $d \cdot \sin |b|$ in parsecs.

As we can notice, seven stars are placed in the galactic plane ($d \cdot \sin |b| < 1000$ pc) and only five stars can belong to the galactic halo. Further observations (astrometric and spectrometric) are necessary to confirm this hypothesis which can be very useful in the investigations of kinematics of our Galaxy.

Table I

The list of the farthest eclipsing binaries in our Galaxy

Name	α (1950)	δ	Period	Mag.	d [pc]	$d \sin b $ [pc]
BO And	22 ^h 56 ^m 23 ^s	+45°15'7"	5. ^d 79733	13. ^m 4 p	6700	2300
UX CVn	12 12 16	+36 56	0.573703	13.07V	6700	6500
FP Car	11 02 33	-62 18.3	176.027	10.1 B	5000	200
UU Cas	23 48 11	+60 38.0	8.51929	10.4 p	5000	100
AQ Cas	01 15 50	+62 07.0	11.72115	10.06V	5000	30
V366 Cas	01 05 15	+58 26	0.729274	12.0 p	4000	300
V814 Cen	13 24 44	-47 10.6	1.168129	14.1 V	6900	1800
W Cru	12 09 20	-58 30.3	198.53	9.04B	5000	300
V698 Cyg	19 58 02	+36 08.4	97.7732	12.2 p	5000	300
HP Lyr	19 19 58	+39 50.4	140.75	10.5 p	10000	2000
V471 Per	01 55 33	+52 39.3	0.16668	13.03V	38000	5700
RY Sct	18 22 43	-12 43.2	11.12471	9.12	5000	10

It is possible that the star V381 Sco is also very distant one (its $d \approx 10000$ pc) but it is in the region of galactic centre. Moreover, the data for V381 Sco are uncertain (Brancewicz and Dworak, 1980).

All the data for computations are taken from following sources: Brancewicz and Dworak (1980), Dworak (1975, 1976, 1983), Kholopov et al. (1985, 1987).

M. BANACZKOWSKI
T. Z. DWORAK
Faculty of Geodesy
University of Mining and
Metallurgy, Cracow, Poland
and
Observatoire Astronomique
de Bordeaux, France

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