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ON THE BLAZHKO EFFECT IN AR Ser

As has already been reported (V.P.Tsessevich, AC, No.885, 1975) AR Ser shows anomalous Blazhko effect. The height of maximum light of this star as well as its time shift (O-C) relative to linear elements vary periodically.

I made observations of this star in the interval JD 2442126- JD 2442994.

For the Blazhko effect the following formula has been obtained by us:

$$1) T_{\max} = 2442195.5 + 108.4 \times n$$

The shift of the moments of maximum light (O-C) has been determined from the elements:

$$2) \text{Max.hel. JD} = 2442126.441 + 0.575092 \cdot E.$$

On the basis of our observations we may conclude that the amplitude of Blazhko effect in AR Ser changes, possibly in cyclic way (see Figures 1,2,3).

The moments of maximum light, the heights of maximum light, E_2 , $(O-C)_2$ and phases of Blazhko effect, derived from formula (1) are given in Table below:

Max.hel.JD		m_v	E_2	$(O-C)_2$	ψ_1
2442	126.441	12.09	0	0.000	0.363
	134.504	11.99	14	.012	.437
	137.383	11.96	19	.015	.464
	187.406	11.63	106	.005	.925
	198.338	11.55	125	.010	.026
	199.489	11.63	127	.011	.037
	206.390	11.68	139	.011	.100
	214.432	11.78	153	.002	.175

Max.hel.JD.		Table (cont.)			
		m_V	E_2	$(O-C)_2$	ϕ_1
242	218.464	11.85	160	0.008	0.212
	221.333	11.89	165	.002	.238
	225.380	11.91	172	.023	.276
	244.342	12.22	205	.007	.451
	486.497	12.07	626	.048	.684
	490.492	12.02	633	.018	.721
	512.390	11.84	671	.062	.923
	542.426	12.09	723	.194	.200
	546.934:	12.13:	730	.144	.237
	576.331	12.16	782	.168	.512
	580.360	12.14	789	.172	.550
	868.463	12.16	1290	.153	.208
	872.474	12.18	1297	.139	.245
	918.394	12.18	1377	.051	.669
	922.373	12.12	1384	.005	.705
	926.401	12.14	1391	.007	.743
	934.448	12.05	1405	.003	.817
	937.340	12.04	1410	.019	.844
	945.372	12.02	1424	.000	.918
	949.420	11.87	1431	.022	.955
	953.454	12.04	1438	.031	.992
	960.355	11.97	1450	.031	.056
	979.340	12.15	1483	.038	.231
	990.324	12.18	1502	.095	.332
	994.349:	12.25:	1509	.094	.369

B.N. FIRMANYUK
 Odessa Astronomical Observatory





