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UBV OBSERVATIONS OF THE ECLIPSING BINARY LY AURIGAE*

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Photoelectric observations, made in conjunction with the international campaign, are presented for the eclipsing binary LY Aurigae.

Key words: *UBV* photometry — eclipsing binary — light curves

The star HD 35921 (BD +35° 1137 = GC 6767 = ADS 4072A = LY Aurigae) was discovered to be a double-lined spectroscopic and eclipsing binary by Mayer (1968). Photometry of and comments on the system have been published by Wood (1971*a,b,c*), Mayer and Horak (1971), and Hall and Heiser (1972). The system is an important one since both components are O stars, it is bright ($V \sim 7$), the amplitude of the light curve is large ($\Delta V \sim 0^m.7$), the amplitude of the radial velocity curve is large ($K \sim 450$ km sec^{-1}), and it may be a member of the association Aurigae OB1 (Ruprecht 1966).

The period, $P = 4^d.002521$ (Wood 1971*a*), of LY Aur is such that a complete cycle can be covered in a given year only via observations made at various longitudes. Hence, the star was recommended by Commission 42 of the International Astronomical Union at Brighton for observation in a coordinated campaign with Dr. Mayer as the coordinator (*Trans. I.A.U.*, **14B**, 226, 1971). This paper presents data gathered by the authors as participants in the coordinated campaign.

LY Aur was observed on eight nights in November 1971 and January 1972 at the Kitt Peak National Observatory No. 3 and No. 4 16-inch telescopes, respectively. Refrigerated 1P21 photomultipliers (KPNO Nos. 65 and 7C) were used together with standard *UBV* filters (*V*, filter No. 232; *B*, filter No. 233; and *U*, filter No. 315). Standard observation and reduction procedures were followed (Landolt 1968). All of the observations have been transformed onto the *UBV* system as defined by Johnson and Harris (1954). The average external probable errors of the photometry, as defined by the *UBV* standard stars, were less than $\pm 0^m.020$ in *V*, $\pm 0^m.010$ in $(B-V)$, and $\pm 0^m.018$ in $(U-B)$.

The comparison star was HD 35619. Its magnitude and color indices are $V = 8.572 \pm 0.004$, $(B-V) = +0.242 \pm 0.002$, and $(U-B) = -0.701 \pm 0.004$ based on 130 observations made at less than 1.5 air masses on the six best nights.

The 374 observations of LY Aur are tabulated in Table I. The heliocentric Julian days in the first column are accurate to $\pm 0^d.00005$. The phases listed in the second column are based on Wood's (1971*a*) light elements

$$\text{Pri. Min.} = \text{JD}_\odot\, 2440942.649 + 4^d.002521\, E \quad .$$

The magnitude and color differences in the third, fourth, and fifth columns are in the sense variable *minus* comparison. Since the period will be improved when all of the observational data are put together by the coordinator, the data in this paper have been phased only to illustrate the new data made available in this paper.

Inclement weather together with the position of the star in the sky prevented complete coverage of the minima. Observations were obtained around secondary minimum on three nights. These data seem to confirm Wood's (1971*a*) contention that a slight variation exists in the light curve from cycle to cycle. All attempts to locate the source of the scatter in secondary minimum have failed; hence, it is concluded that this scatter is real. In particular, the night which deviates the most, JD 2441336, was the best night insofar as observational conditions were concerned.

Contributions of the Louisiana State University Observatory, No. 63.

†Visiting Astronomer, Kitt Peak National Observatory, which is operated by the Association of Universities for Research in Astronomy, Inc., under contract with the National Science Foundation.

TABLE I

UBV PHOTOELECTRIC OBSERVATIONS OF LY AURIGAE

$JD_\odot$ 2441000.+	Phase	ΔV	$\Delta(B-V)$	$\Delta(U-B)$
265.7890	0.7341	-1.879	-0.055	-0.074
.7910	.7346	-1.866	-0.065	-0.076
.7963	.7359	-1.876	-0.052	-0.080
.7983	.7364	-1.866	-0.062	-0.073
.8032	.7377	-1.874	-0.057	-0.076
265.8054	0.7382	-1.873	-0.052	-0.076
.8112	.7397	-1.884	-0.048	-0.076
.8132	.7402	-1.874	-0.054	-0.073
.8150	.7406	-1.878	-0.052	-0.075
.8171	.7411	-1.880	-0.050	-0.073
265.8222	0.7424	-1.876	-0.054	-0.073
.8241	.7429	-1.872	-0.062	-0.067
.8264	.7435	-1.874	-0.054	-0.070
.8284	.7440	-1.874	-0.056	-0.069
.8329	.7451	-1.872	-0.056	-0.076
265.8352	0.7457	-1.878	-0.054	-0.072
.8375	.7462	-1.876	-0.056	-0.074
.8398	.7468	-1.880	-0.054	-0.072
268.8109	.4891	-1.324	-0.054	-0.061
.8130	.4896	-1.324	-0.050	-0.059
268.8172	0.4907	-1.322	-0.053	-0.067
.8192	.4912	-1.322	-0.057	-0.058
.8227	.4921	-1.320	-0.060	-0.061
.8246	.4925	-1.320	-0.054	-0.058
.8364	.4955	-1.318	-0.062	-0.054
268.8384	0.4960	-1.316	-0.058	-0.056
.8409	.4966	-1.314	-0.062	-0.058
.8429	.4971	-1.318	-0.060	-0.054
.8474	.4982	-1.314	-0.064	-0.056
.8493	.4987	-1.314	-0.064	-0.048
268.8520	0.4994	-1.314	-0.062	-0.052
.8540	.4999	-1.316	-0.058	-0.058
.8579	.5009	-1.309	-0.061	-0.064
.8598	.5013	-1.312	-0.060	-0.058
.8617	.5018	-1.312	-0.060	-0.060
268.8637	0.5023	-1.314	-0.059	-0.058
.8679	.5034	-1.319	-0.058	-0.058
.8701	.5039	-1.315	-0.063	-0.062
.8715	.5043	-1.317	-0.064	-0.060
.8734	.5047	-1.317	-0.060	-0.058
268.8783	0.5060	-1.312	-0.064	-0.063
.8802	.5064	-1.312	-0.068	-0.052
.8817	.5068	-1.315	-0.058	-0.062
.8836	.5073	-1.315	-0.056	-0.062
.8878	.5083	-1.312	-0.063	-0.053
268.8897	0.5088	-1.319	-0.054	-0.064
.8911	.5092	-1.314	-0.065	-0.052
.8931	.5097	-1.319	-0.061	-0.057
.8976	.5108	-1.321	-0.063	-0.056
.8996	.5113	-1.321	-0.059	-0.058
268.9016	0.5118	-1.325	-0.061	-0.052
.9035	.5123	-1.326	-0.058	-0.064
.9078	.5133	-1.333	-0.054	-0.061
.9098	.5138	-1.333	-0.056	-0.057
.9115	.5143	-1.333	-0.056	-0.058

TABLE I (*Continued*)

$JD_\odot$ 2441000.+	Phase	ΔV	$\Delta(B-V)$	$\Delta(U-B)$
268.9134	0.5147	-1.336	-0.052	-0.062
.9207	.5165	-1.339	-0.062	-0.064
.9228	.5171	-1.346	-0.056	-0.062
.9275	.5182	-1.348	-0.062	-0.054
.9294	.5187	-1.346	-0.062	-0.072
268.9472	0.5232	-1.374	-0.060	-0.055
.9492	.5237	-1.378	-0.054	-0.058
.9518	.5243	-1.374	-0.064	-0.056
.9538	.5248	-1.384	-0.056	-0.058
.9586	.5260	-1.386	-0.059	-0.060
268.9605	0.5265	-1.390	-0.057	-0.056
.9627	.5270	-1.388	-0.064	-0.048
.9647	.5275	-1.390	-0.061	-0.060
.9710	.5291	-1.402	-0.056	-0.056
.9730	.5296	-1.404	-0.056	-0.059
268.9753	0.5302	-1.414	-0.056	-0.058
.9775	.5307	-1.408	-0.058	-0.062
.9822	.5319	-1.412	-0.057	-0.049
.9842	.5324	-1.426	-0.048	-0.063
.9859	.5328	-1.430	-0.049	-0.062
268.9881	0.5334	-1.428	-0.057	-0.057
.9925	.5345	-1.430	-0.050	-0.065
.9945	.5350	-1.434	-0.048	-0.071
.9959	.5353	-1.438	-0.048	-0.073
.9980	.5359	-1.438	-0.054	-0.063
269.0021	0.5369	-1.446	-0.053	-0.068
.0042	.5374	-1.456	-0.045	-0.068
.0059	.5378	-1.456	-0.055	-0.052
.0079	.5383	-1.456	-0.050	-0.060
.0117	.5393	-1.468	-0.044	-0.062
269.0147	0.5400	-1.473	-0.040	-0.064
.0168	.5406	-1.476	-0.041	-0.058
.0189	.5411	-1.477	-0.040	-0.068
.0231	.5421	-1.488	-0.042	-0.054
.0252	.5427	-1.488	-0.046	-0.051
269.0270	0.5431	-1.484	-0.048	-0.062
.0290	.5436	-1.492	-0.048	-0.058
.7038	.7122	-1.884	-0.031	-0.080
.7056	.7127	-1.882	-0.034	-0.072
.7087	.7134	-1.888	-0.032	-0.078
269.7108	0.7140	-1.870	-0.071	-0.050
.7158	.7152	-1.887	-0.039	-0.077
.7185	.7159	-1.885	-0.057	-0.047
.7210	.7165	-1.897	-0.037	-0.074
.7229	.7170	-1.889	-0.044	-0.063
269.7283	0.7183	-1.890	-0.052	-0.060
.7303	.7188	-1.892	-0.034	-0.072
.7318	.7192	-1.890	-0.034	-0.076
.7337	.7197	-1.892	-0.040	-0.076
.7551	.7250	-1.882	-0.050	-0.072
269.7570	0.7255	-1.880	-0.048	-0.070
.7584	.7258	-1.882	-0.052	-0.068
.7603	.7263	-1.884	-0.046	-0.074
.7645	.7274	-1.886	-0.046	-0.071
.7666	.7279	-1.889	-0.042	-0.080

TABLE I (*Continued*)

JD⊙ 2441000.+	Phase	ΔV	$\Delta(B-V)$	$\Delta(U-B)$
269.7682	0.7283	-1.889	-0.048	-0.066
.7702	.7288	-1.889	-0.050	-0.067
.7745	.7299	-1.885	-0.046	-0.078
.7766	.7304	-1.887	-0.056	-0.072
.7780	.7307	-1.893	-0.048	-0.062
269.7801	0.7313	-1.886	-0.056	-0.070
.7998	.7362	-1.892	-0.046	-0.073
.8019	.7367	-1.898	-0.040	-0.080
.8032	.7370	-1.890	-0.054	-0.072
.8054	.7376	-1.888	-0.050	-0.074
269.8224	0.7418	-1.893	-0.042	-0.074
.8243	.7423	-1.886	-0.049	-0.075
.8260	.7427	-1.889	-0.044	-0.073
.8279	.7432	-1.887	-0.044	-0.073
.8332	.7445	-1.886	-0.054	-0.068
269.8351	0.7450	-1.886	-0.054	-0.070
.8365	.7454	-1.886	-0.054	-0.064
.8384	.7458	-1.883	-0.049	-0.073
.8550	.7500	-1.881	-0.058	-0.065
.8570	.7505	-1.882	-0.064	-0.065
269.8585	0.7509	-1.887	-0.060	-0.060
.8604	.7513	-1.885	-0.062	-0.063
.8650	.7525	-1.894	-0.055	-0.058
.8669	.7530	-1.884	-0.063	-0.061
.8683	.7533	-1.888	-0.058	-0.060
269.8702	0.7538	-1.884	-0.062	-0.059
.8743	.7548	-1.890	-0.056	-0.058
.8763	.7553	-1.886	-0.054	-0.066
.8780	.7557	-1.884	-0.058	-0.062
.8799	.7562	-1.886	-0.052	-0.064
269.8839	0.7572	-1.892	-0.048	-0.073
.8859	.7577	-1.889	-0.049	-0.071
.8872	.7580	-1.891	-0.051	-0.071
.8892	.7585	-1.895	-0.045	-0.070
.8933	.7595	-1.886	-0.056	-0.070
269.8951	0.7600	-1.888	-0.055	-0.067
.8964	.7603	-1.892	-0.046	-0.070
.8983	.7608	-1.888	-0.050	-0.072
.9045	.7623	-1.882	-0.050	-0.076
.9065	.7628	-1.884	-0.049	-0.074
269.9077	0.7631	-1.882	-0.047	-0.072
.9097	.7636	-1.882	-0.048	-0.074
.9137	.7646	-1.884	-0.050	-0.074
.9156	.7651	-1.881	-0.054	-0.074
.9171	.7655	-1.883	-0.048	-0.078
269.9190	0.7660	-1.881	-0.050	-0.078
.9354	.7701	-1.883	-0.050	-0.068
.9376	.7706	-1.882	-0.049	-0.072
.9391	.7710	-1.884	-0.053	-0.065
.9412	.7715	-1.881	-0.053	-0.071
269.9456	0.7726	-1.880	-0.051	-0.075
.9476	.7731	-1.882	-0.046	-0.079
.9494	.7736	-1.880	-0.049	-0.074
.9513	.7740	-1.877	-0.053	-0.074
.9576	.7756	-1.871	-0.056	-0.073

TABLE I (*Continued*)

JD⊙ 2441000.+	Phase	ΔV	$\Delta(B-V)$	$\Delta(U-B)$
269.9597	0.7761	-1.871	-0.052	-0.081
.9613	.7765	-1.872	-0.058	-0.075
.9634	.7771	-1.873	-0.056	-0.071
.9691	.7785	-1.880	-0.056	-0.062
.9711	.7790	-1.878	-0.054	-0.066
269.9728	0.7794	-1.878	-0.052	-0.074
.9750	.7800	-1.872	-0.056	-0.068
.9812	.7815	-1.880	-0.056	-0.066
.9833	.7820	-1.878	-0.054	-0.070
.9847	.7824	-1.878	-0.052	-0.070
269.9866	0.7829	-1.878	-0.054	-0.066
.9911	.7840	-1.878	-0.055	-0.074
.9931	.7845	-1.874	-0.058	-0.062
.9948	.7849	-1.876	-0.055	-0.072
.9969	.7854	-1.874	-0.060	-0.068
270.0018	0.7867	-1.866	-0.060	-0.072
.0037	.7871	-1.868	-0.054	-0.074
.0054	.7876	-1.864	-0.060	-0.070
.0072	.7880	-1.866	-0.058	-0.066
.0119	.7892	-1.862	-0.057	-0.068
270.0138	0.7897	-1.864	-0.054	-0.064
.0152	.7900	-1.866	-0.048	-0.069
.0172	.7905	-1.858	-0.055	-0.070
.0222	.7918	-1.868	-0.047	-0.070
.0242	.7923	-1.868	-0.046	-0.066
270.0255	0.7926	-1.872	-0.042	-0.070
.0274	.7931	-1.868	-0.046	-0.068
334.7632	.9668	-1.329	-0.052	-0.060
.7652	.9673	-1.324	-0.056	-0.050
.7693	.9683	-1.318	-0.048	-0.056
334.7713	0.9688	-1.309	-0.060	-0.052
.7753	.9698	-1.308	-0.046	-0.052
.7773	.9703	-1.306	-0.050	-0.052
.7817	.9714	-1.302	-0.053	-0.048
.7837	.9719	-1.304	-0.044	-0.050
334.7887	0.9732	-1.294	-0.036	-0.050
.7906	.9737	-1.292	-0.038	-0.046
.7979	.9755	-1.272	-0.045	-0.059
.7998	.9759	-1.261	-0.049	-0.054
.8038	.9769	-1.258	-0.052	-0.050
334.8058	0.9774	-1.253	-0.046	-0.062
.8098	.9784	-1.264	-0.040	-0.057
.8118	.9789	-1.260	-0.040	-0.048
.8529	.9892	-1.221	-0.040	-0.038
.8550	.9897	-1.224	-0.040	-0.044
334.8590	0.9907	-1.226	-0.038	-0.034
.8609	.9912	-1.231	-0.036	-0.030
.8650	.9922	-1.228	-0.032	-0.048
.8670	.9927	-1.213	-0.048	-0.036
.8819	.9965	-1.216	-0.035	-0.042
334.8839	0.9970	-1.204	-0.040	-0.039
.8897	.9984	-1.202	-0.036	-0.034
.8918	.9989	-1.208	-0.032	-0.041
.8969	.0002	-1.206	-0.028	-0.048
.8991	.0008	-1.206	-0.042	-0.036

TABLE I (*Continued*)

JD⊙ 2441000.+	Phase	ΔV	$\Delta(B-V)$	$\Delta(U-B)$
334.9038	0.0019	-1.212	-0.036	-0.044
.9059	.0025	-1.210	-0.045	-0.042
.9112	.0038	-1.226	-0.032	-0.038
.9131	.0043	-1.220	-0.036	-0.052
.9177	.0054	-1.228	-0.033	-0.044
334.9196	0.0059	-1.213	-0.053	-0.026
335.8135	.2292	-1.886	-0.045	-0.060
.8155	.2297	-1.886	-0.045	-0.071
.8222	.2314	-1.885	-0.045	-0.080
.8236	.2317	-1.890	-0.037	-0.080
335.8290	0.2331	-1.904	-0.030	-0.075
.8304	.2334	-1.902	-0.044	-0.072
.8364	.2349	-1.889	-0.058	-0.074
.8378	.2353	-1.896	-0.048	-0.068
.8428	.2365	-1.893	-0.052	-0.074
335.8450	0.2371	-1.896	-0.041	-0.078
.8505	.2385	-1.893	-0.055	-0.063
.8524	.2389	-1.885	-0.064	-0.062
336.6014	.4261	-1.620	-0.044	-0.048
.6035	.4266	-1.614	-0.048	-0.052
336.6071	0.4275	-1.606	-0.050	-0.055
.6086	.4279	-1.610	-0.044	-0.056
.6133	.4290	-1.606	-0.043	-0.058
.6146	.4294	-1.603	-0.043	-0.056
.6312	.4335	-1.575	-0.054	-0.040
336.6328	0.4339	-1.574	-0.050	-0.046
.6372	.4350	-1.569	-0.048	-0.054
.6385	.4353	-1.569	-0.048	-0.050
.6423	.4363	-1.560	-0.056	-0.056
.6437	.4366	-1.554	-0.056	-0.058
336.6615	0.4411	-1.538	-0.052	-0.044
.6637	.4416	-1.534	-0.054	-0.046
.6688	.4429	-1.529	-0.058	-0.054
.6701	.4432	-1.527	-0.058	-0.050
.6738	.4442	-1.522	-0.056	-0.052
336.6758	0.4447	-1.518	-0.050	-0.056
.7010	.4510	-1.486	-0.057	-0.047
.7025	.4513	-1.491	-0.048	-0.053
.7071	.4525	-1.471	-0.060	-0.054
.7084	.4528	-1.472	-0.054	-0.056
336.7124	0.4538	-1.468	-0.050	-0.055
.7139	.4542	-1.462	-0.055	-0.053
.7337	.4591	-1.437	-0.050	-0.052
.7350	.4594	-1.446	-0.046	-0.056
.7420	.4612	-1.436	-0.048	-0.062
336.7436	0.4616	-1.431	-0.052	-0.058
.7474	.4625	-1.426	-0.049	-0.060
.7488	.4629	-1.425	-0.047	-0 056
.7529	.4639	-1.414	-0.053	-0.060
.7543	.4643	-1.416	-0.045	-0.062
336.7596	0.4656	-1.407	-0.044	-0.058
.7603	.4658	-1.402	-0.052	-0.062
.7656	.4671	-1.400	-0.050	-0.056
.7669	.4674	-1.395	-0.052	-0.056
.7717	.4686	-1.392	-0.056	-0.052

TABLE I (*Continued*)

JD⊙ 2441000.+	Phase	ΔV	$\Delta(B-V)$	$\Delta(U-B)$
336.7735	0.4691	-1.394	-0.048	-0.056
.7782	.4702	-1.382	-0.046	-0.056
.7796	.4706	-1.383	-0.048	-0.055
.8005	.4758	-1.358	-0.060	-0.050
.8029	.4764	-1.358	-0.048	-0.050
336.8072	0.4775	-1.357	-0.056	-0.054
.8087	.4779	-1.345	-0.064	-0.056
.8146	.4793	-1.341	-0.058	-0.051
.8162	.4797	-1.348	-0.046	-0.054
.8329	.4839	-1.333	-0.049	-0.053
336.8414	0.4860	-1.327	-0.062	-0.041
.8451	.4870	-1.322	-0.058	-0.046
.8502	.4882	-1.328	-0.056	-0.058
.8658	.4921	-1.336	-0.036	-0.067
.8679	.4926	-1.335	-0.038	-0.070
336.8732	0.4940	-1.338	-0.036	-0.064
.8746	.4943	-1.338	-0.030	-0.080
.8801	.4957	-1.336	-0.056	-0.060
.8815	.4960	-1.330	-0.042	-0.070
.8865	.4973	-1.340	-0.042	-0.064
336.8884	0.4978	-1.342	-0.030	-0.068
.8938	.4991	-1.342	-0.038	-0.064
.8956	.4996	-1.337	-0.040	-0.062
.9004	.5008	-1.329	-0.045	-0.064
.9020	.5012	-1.330	-0.039	-0.082
336.9067	0.5023	-1.330	-0.058	-0.061
.9086	.5028	-1.332	-0.036	-0.069
.9126	.5038	-1.332	-0.052	-0.059
.9140	.5042	-1.334	-0.046	-0.051
.9182	.5052	-1.338	-0.050	-0.051
336.9199	0.5056	-1.331	-0.053	-0.052
337.7413	.7109	-1.868	-0.054	-0.068
.7430	.7113	-1.867	-0.056	-0.069
.7475	.7124	-1.868	-0.056	-0.064
.7502	.7131	-1.868	-0.058	-0.063
337.7539	0.7140	-1.866	-0.052	-0.068
.7557	.7145	-1.868	-0.052	-0.072
.7608	.7157	-1.869	-0.055	-0.065
.7624	.7161	-1.867	-0.055	-0.069
.7668	.7172	-1.874	-0.053	-0.064
337.7682	0.7176	-1.872	-0.055	-0.067
.7903	.7231	-1.875	-0.054	-0.064
.7917	.7235	-1.868	-0.060	-0.068
.7966	.7247	-1.874	-0.056	-0.070
.7981	.7251	-1.872	-0.058	-0.064
337.8020	0.7260	-1.874	-0.054	-0.066
.8038	.7265	-1.866	-0.054	-0.064
.8076	.7274	-1.874	-0.060	-0.068
.8093	.7279	-1.873	-0.062	-0.064
.8130	.7288	-1.875	-0.057	-0.071
337.8146	0.7292	-1.868	-0.063	-0.065
.8548	.7392	-1.876	-0.066	-0.064
.8565	.7396	-1.882	-0.056	-0.061
.8615	.7409	-1.893	-0.047	-0.064
.8637	.7414	-1.890	-0.061	-0.066

TABLE I (*Continued*)

JD⊙ 2441000.+	Phase	ΔV	Δ(B−V)	Δ(U−B)
337.8676	0.7424	-1.884	-0.060	-0.064
.8692	.7428	-1.886	-0.050	-0.074
.8808	.7457	-1.883	-0.052	-0.063
.8824	.7461	-1.886	-0.059	-0.062
.8865	.7471	-1.877	-0.051	-0.050
337.8889	0.7477	-1.884	-0.051	-0.066
.8937	.7489	-1.881	-0.064	-0.046
.8951	.7493	-1.876	-0.056	-0.071
.9002	.7506	-1.874	-0.066	-0.060
.9016	.7509	-1.888	-0.056	-0.070
340.7637	0.4660	-1.410	-0.050	-0.069
.7656	.4665	-1.408	-0.055	-0.069
.7702	.4676	-1.402	-0.056	-0.050
.7718	.4680	-1.400	-0.054	-0.046
.7769	.4693	-1.382	-0.046	-0.042
340.7787	0.4697	-1.374	-0.052	-0.044
.7845	.4712	-1.383	-0.047	-0.056
.7861	.4716	-1.386	-0.049	-0.054
.8031	.4758	-1.354	-0.054	-0.065
.8045	.4762	-1.358	-0.048	-0.067
340.8112	0.4779	-1.354	-0.040	-0.054
.8128	.4783	-1.348	-0.047	-0.056
.8172	.4794	-1.344	-0.044	-0.060
.8186	.4797	-1.346	-0.050	-0.058
.8228	.4808	-1.342	-0.044	-0.060
340.8244	0.4812	-1.353	-0.042	-0.071
.8305	.4827	-1.337	-0.055	-0.056
.8323	.4831	-1.347	-0.050	-0.055
.8364	.4841	-1.320	-0.061	-0.050
.8382	.4846	-1.330	-0.057	-0.052
340.8428	0.4857	-1.329	-0.059	-0.054
.8443	.4861	-1.329	-0.058	-0.062
.8514	.4879	-1.326	-0.059	-0.066
.8532	.4883	-1.327	-0.055	-01060
.8596	.4899	-1.334	-0.060	-0.062
340.8613	0.4904	-1.328	-0.054	-0.066
.8686	.4922	-1.341	-0.054	-0.065
.8702	.4926	-1.332	-0.054	-0.052
.8770	.4943	-1.334	-0.049	-0.042
.8786	.4947	-1.336	-0.049	-0.056
340.8843	0.4961	-1.326	-0.055	-0.066
.8860	.4965	-1.326	-0.051	-0.066
.9042	.5011	-1.320	-0.060	-0.082
.9056	.5014	-1.318	-0.046	-0.116

The color indices of the two components are essentially the same as is shown in Figure 1 by the lack of change in the differential color indices throughout the cycle of light variations. Although the present data are sparse in spots, they agree to within $0^m.01$ with the magnitudes and color indices found by Mayer and Horak (1971) (see their Table 2) outside of eclipse, within primary minimum, and within secondary minimum.

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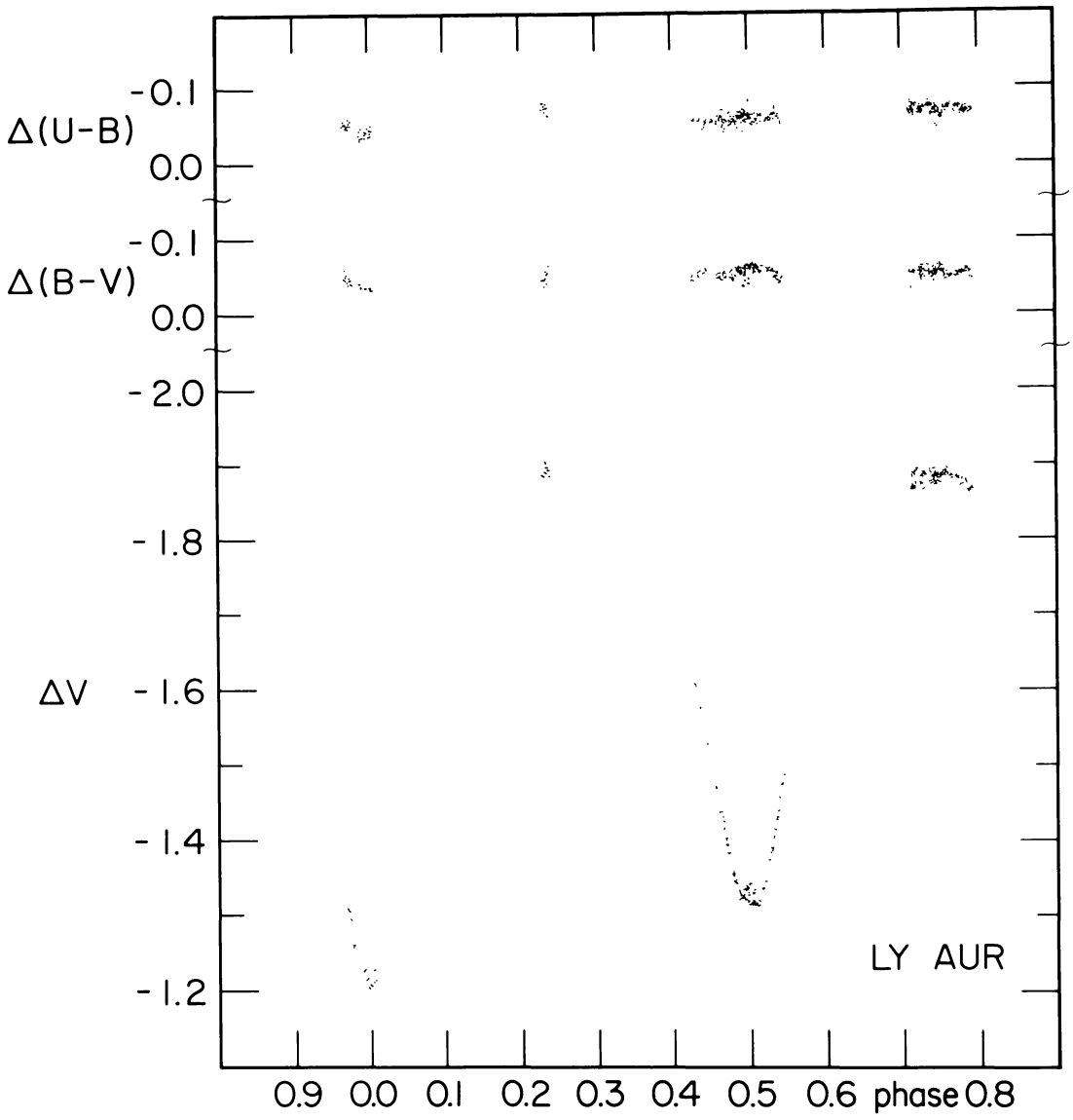

FIG. 1 — The differential light and color curves for the eclipsing binary LY Aurigae.