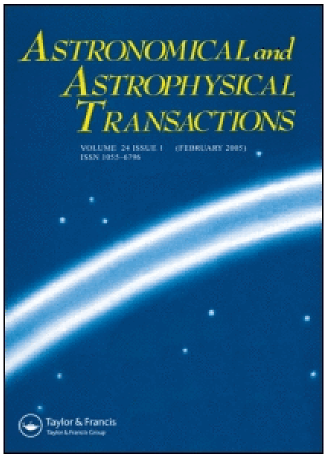

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THE CATALOGUE OF OPEN CLUSTER PARAMETERS – SECOND VERSION

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The catalogue of colour excesses, ages and distance moduli of open clusters of our Galaxy is composed by reprocessing of published photometric data in the UBV, BV, RGU, DDO and uvbyβ systems using a homogeneous set of standard relations. The methods of cluster parameter estimation and computer routines used are briefly discussed. The catalogue of mean values of parameter estimates for 425 clusters is given.

KEY WORDS *Stellar clusters, photometry, parameters, catalogue*

1 INTRODUCTION

There is no doubt that among the great number of objects which populate our Galaxy, open clusters have the most accurately determined distances from the Sun and, at the same time, known astrophysical ages for a considerable number of objects. Some time ago Loktin and Matkin (1990a, 1990b) undertook the redetermination of color excesses, distance moduli and ages for 327 open clusters of our Galaxy using almost all published photometric data in the UBV system. The first version of thus obtained catalogue of cluster parameters was published in Loktin and Matkin (1994). Subsequently we enriched the catalogue by newly determined parameter estimates, and created computer programs for utilization of RGU, uvbyβ and DDO photometric data.

From the moment of the publication of the first version of the catalogue a lot of new data were published and some progress in the theory of stellar evolution was achieved. That is why we decided to carry out a new redetermination of cluster parameters, adding the data of the BV, RGU, uvbyβ and DDO systems and using a modern set of theoretical isochrones. We represent the results ot this work in this paper. In subsequent sections we discuss the data processing for the photometric system used, the method of catalogue construction and the comparison of ours and previously published results on open clusters parameters.

2 UBV SYSTEM

The bulk of the published photometric data for open cluster stars was hitherto obtained in the UBV system. Therefore we start the discussion on the methods of cluster parameter estimation with this system.

2.1 Estimation of Colour Excess

The colour excess $E(B-V)$ for cluster stars may be determined in two ways: (a) by the bestfit procedure on the cluster two-colour diagram with a standard sequence of dereddened stars, and (b) by the use of Johnson's Q-method which allows the estimation of colour excess for every star separately. It is well known that for a lot of clusters the reddening is not uniform in cluster fields, which leads to the growth of dispersion of the cluster sequence on the two-colour diagram. This leads to lower precision of reddening estimation or to the impossibility of excess determination by the fitting method. For such clusters the Q-method reveals definite advantages. However, the estimation of colour excess by the Q-method is difficult for clusters older than approximately $\log t > 8.0$ because the small errors in observed colour indices lead to large errors of true colour indices for the regions of the extremes of the $Q_{\rm UBV} - (B-V)$ sequence. In some cases there is a difficulty in the choice of the relevant part of this sequence. We have to mention that the fitting procedure supplies us only mean colour excess for cluster stars.

The Q-method was realized in the following manner. For each star we determined the approximate true colour with the index $(B-V)_0 = (B-V) - E(B-V)$ for the computation of the ratio of total to selective extinction using the preliminary value of $E(B-V)$. For the estimation of the total to selective absorbtion ratio we used the expression:

$$\frac{A_{\rm V}}{E(B-V)} = 3.34 + 0.19(B-V)_0 + [0.025 + 0.017(B-V)_0]E(B-V). \qquad (1)$$

The coefficients in the expression above were calculated by the least squares method using the data of the tables from the monograph of Straizis (1977) for main sequence stars. Then we got the estimates of absolute stellar magnitude for each star for a proper choice of the part of the standard $Q-(B-V)_0$ curve using the preliminary value of the cluster distance modulus. This is nesessary because for stars with $Q_{\rm UBV} > -0\overset{\rm m}{.}5$ the line of growing reddening crosses the standard curve in three points.

For the calculation of the value of the parameter $Q_{\rm UBV} = (U-B) - [E(U-B)/E(B-V)](B-V)$ the ratio of the colour indexes was computed using the expression

$$\frac{E(U-B)}{E(B-V)} = 0.71 + (B-V)_0[0.078 + (B-V)_0(0.371 - 0.206(B-V)_0] + 0.05E(B-V), \qquad (2)$$

which was established in the same manner as (1). The true values of $(B-V)_0$ were determined for the calculated value of $Q_{\rm UBV}$, the standard dependence $Q_{\rm UBV} - (B-V)_0$ being approximated by three polynomials.

It is well known (Straizis, 1977) that the position of the dereddened sequence on the two-colour diagram depends on the luminosity class of the stars. For example if we determine the colour excess of upper main sequence stars, deviating from ZAMS by evolution, using the dereddened star sequence for ZAMS, we would get some extra reddening. In order to account for this effect we add to the true colour index of stars of the upper main sequence the correction according to the expression

$$\Delta = 0.007 + M_{\rm V}[-0.0101 + M_{\rm V}(-0.012M_{\rm V} + 0.0092Q_{\rm UBV})], \qquad (3)$$

which we obtained using the tables of true colour indexes for stars of various luminosity classes from Straizis (1977) and which is applicable for stars with $M_{\rm V} < +1^{\rm m}.0$ of V to III luminosity classes.

For clusters older than $\log t > 8.0$ we inserted the corrections in the values of colour indexes accounting for the metallicity deviations, the colour index $(B-V)$ being reduced by the value of (0.044[Fe/H] − 0.016)[Fe/H], and the values of V by 0.44[Fe/H]. These expressions were obtained by superposition of theoretical isochrones of various metallicities but equal age from the paper of Vandenbergh (1985). It is clear that this correction is not very adequate, but our knowledge of the values of [Fe/H] for open clusters is poor, and the influence of cluster-to-cluster metallicity variations on the determination of cluster parameters is not very large. The correction was applied only for clusters with confident values of [Fe/H] found in publications.

The determination of colour excess for the most complete usage of photometrical information was carried out for both the $Q_{\rm UBV} - (B-V)$ and $Q_{\rm UBV} - (U-B)$ diagrams, and the excess $E(U-B)$ which we got from the latter diagram was recalculated in $E(B-V)$ using expression (2). All the corrections we have used in $E(B-V)$ from the $Q-(B-V)$ diagram were introduced in the estimate from the $Q-(U-B)$ diagram. The standard relations for unreddened stars for both diagrams were approximated by polynomials. The mean value of $E(B-V)$ was obtained by the averaging of two estimates; half weight was given to the estimate from the $Q-(U-B)$ diagram because of the usually lower precision of the observed values of the $(U-B)$ indexes. If the difference between the two estimates for a given star exceeded $0^{\rm m}.1$, the star was given a lower weight in further data processing.

Lower weights for further processing were given to stars with estimates of $E(B-V)$ deviating from the mean in order to reduce the influence of non-members. Stars with the highest deviation in $E(B-V)$ were considered as non-members and excluded from the sample. The mean value of $E(B-V)$ for the entire cluster was calculated as the weighted mean for all stars remaining in the sample.

Another estimate of cluster colour excess was obtained by a fitting procedure on the two-colour diagram. The method used was described by Loktin and Matkin (1990a, 1990b). In the new set of computer programs only (a) the table containing the standard $(B-V)-(U-B)$ relation for unreddened main sequence stars was replaced by an approximating polynomials, and (b) we refused the determination

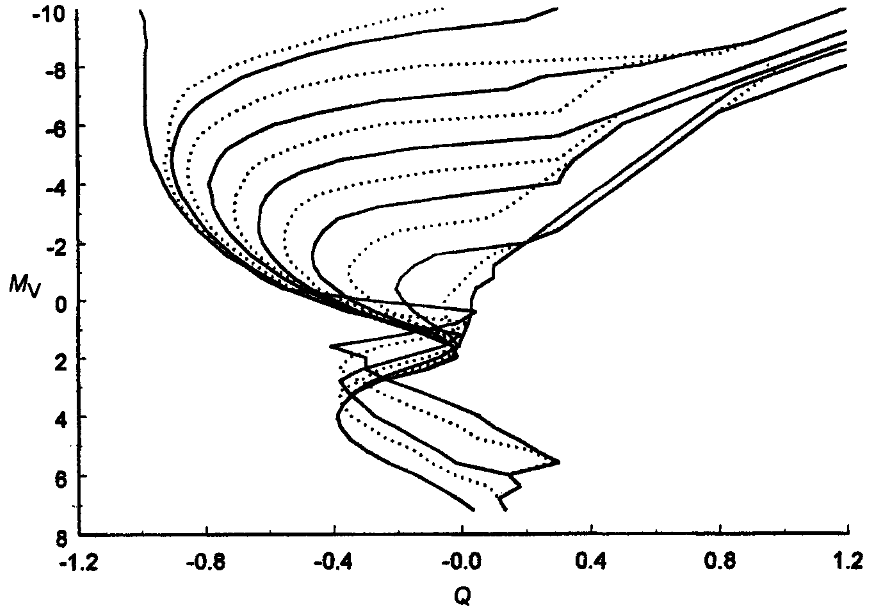

Figure 1 The isochrone set on the $M_V - Q_{UBV}$ plane used for cluster parameter estimation.

of metallicity because of the low accuracy of the photometric estimates of [Fe/H] for most clusters. The values of the $E(U-B)/E(B-V)$ ratio were calculated from equation (2). We used the standard relation for unreddened stars taken from Kholopov (1981) approximated by polynomials. The luminosity and metallicity corrections described above were introduced in the estimates as usual.

Two final estimates of mean cluster reddening for objects with $\log t < 8.0$ were obtained as a result of data treatment and we got only one estimate for older clusters by diagram fitting.

2.2 Determination of Distances and Ages

As in our previous work (Loktin and Matkin, 1994) we determined the distance moduli and ages of open clusters sumiltaneously by a search of the closest theoretical isochrones to the cluster main sequences. The set of isochrones was taken from Bertelli *et al.* (1994); the number of isochrones used was increased in comparison with the previous version of program set for the sake of higher precision. The time interval between two subsequent isochrones was equal to 0.2 in $\log t$, starting with $\log t = 6.6$, but we added 'the youngest' isochrone – ZAMS with $\log t = 0$, constructed as the blue envelope of the isochrones set. The weak ends of the youngest isochrones were replaced by the isochrones of pre-main-sequence stars calculated by Iben. As our experience showed, this approach essentially improved the fitting of the cluster main sequence with isochrones for not very distant young clusters such as NGC2264. In our previous work the diagram fitting for young clusters ($\log t < 8.0$) was carried out on the $V-(U-V)$ plane, though for older clusters we used the $V-(B-V)$ plane. For our new version of the catalogue we decided to carry out diagram fitting on the $V-(B-V)$ plane for clusters of all ages and, in addition, to use the $V-Q_{\rm UBV}$ plane for young clusters, where the value $Q_{\rm UBV}$ played the role of a measure of effective temperature. The isochrones on this plane, showed in Figure 1, had a complicated shape very handy for precise main sequence fitting of young clusters. The upper ends of all isochrones were arbitrarily replaced by the growing curve passing to the upper right corner of the plane for the sake of simplicity of calculations, which no-wise influenced the fitting, because we rejected red giants from our samples.

2.3 Mean Values of Distance and Age from UBV Data

UBV data, the most numerous in publications, was chosen for the construction of the base of the catalogue. The estimates of cluster parameters made on the basis of other photometric systems were reduced to the values obtained in this systems by applying the corresponding corrections.

As one could see above we got two estimates of colour excess for most clusters. For each estimate we determined two estimates of the distance modulus and age by isochrone fitting on the planes $M_V-(B-V)_0$ and $M_V-Q_{\rm UBV}$. Thus we had four estimates of distance modulus/age for young clusters ($\log t < 8.2$).

All estimates obtained were combined by using mean differences between the sets of estimates. Two sets of colour excess estimates showed a small mean difference (near $0^{\rm m}_{.}02$). In order to bring all estimates of the distance moduli and age logarithms to the same scales we chose as a basis the estimates obtained by diagram fitting on the $M_V-(B-V)_0$ plane because the determinations of cluster parameters were made on this plane for clusters of all ages. For all sets of estimates we determined the values of the correction to the mean scale and weights as inverse rms deviations. We got these values of the weights for the estimates of the distance modulus: (1) for estimates of colour excess by fitting on the two-colour diagram and modulus/age determination on the $M_V-(B-V)_0$ plane, the weight equals 0.75; (2) for colour excess we got, by the Q-method and the modulus/age by fitting on the $M_V-(B-V)_0$ plane, the weight equal to 0.9; (3) for the excess provided by diagram fitting and distance modulus/age by fitting on the $M_V-Q_{\rm UBV}$ plane - 0.95; (4) for the excess got by the Q-method and the modulus/age on the $M_V-Q_{\rm UBV}$ plane - 1.0 (all weights were normalized to this value). For age estimates the normalized weights are nearly the same and we used the values given above.

As we could expect, we got slightly more reliable results by determining the colour excess by the Q-method and the distance modulus/age on the $M_V-Q_{\rm UBV}$ plane.

We used the correction $+0^{\rm m}_{.}2$ to the values of the mean distance modulus to bring the distance scale into accord with the Hyades distance modulus value of $3^{\rm m}_{.}42$ from Loktin and Matkin (1989). The correctness of this choice was confirmed

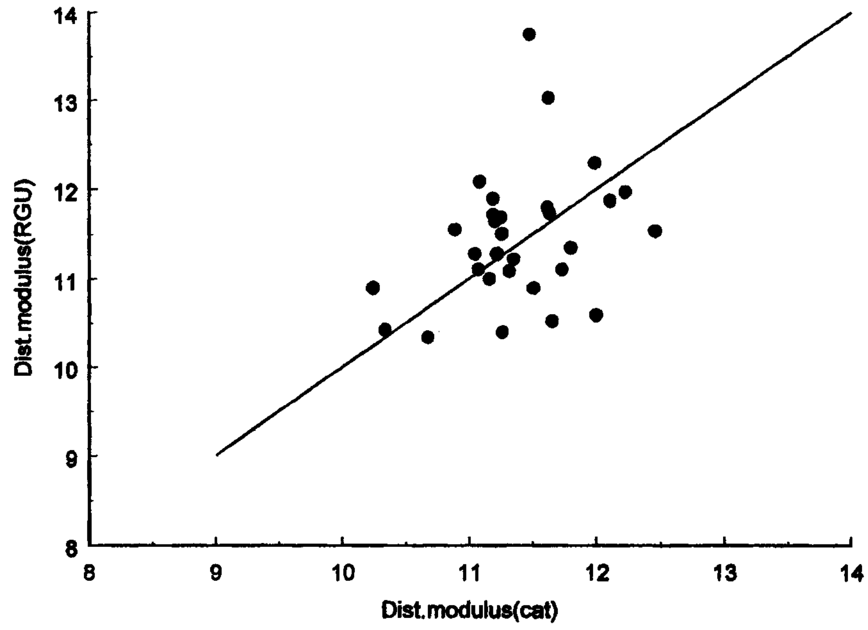

Figure 2 Comparison of cluster distance moduli estimates from RGU photometry data with the values from the catalogue.

by the recent work of Torres *et al.* (1997) where they got the value $3^{\mathrm{m}}\!.39$ for the Hyades distance modulus.

3 BV PHOTOMETRY

Most of the clusters observed in BV bands were observed in other photometric systems providing us with estimates of colour excess. These estimates, if they exist, were used for the determination of distance moduli and ages. Only a small fraction of clusters were observed only in BV bands. For such clusters we chose the values $E(B-V)$ to achieve the best fit of the cluster main sequence with the corresponding isochrone for the whole length of the observed main sequence. Low weights were attributed to such estimates of cluster parameters, because the selection of colour excess did not guarantee the precision better than $\pm 0^{\mathrm{m}}\!.05$.

4 DDO AND uvbyβ PHOTOMETRIC SYSTEMS

For the sake of brevity we will not discuss the methods of data treatment for these systems in detail, because everything required was described in already published

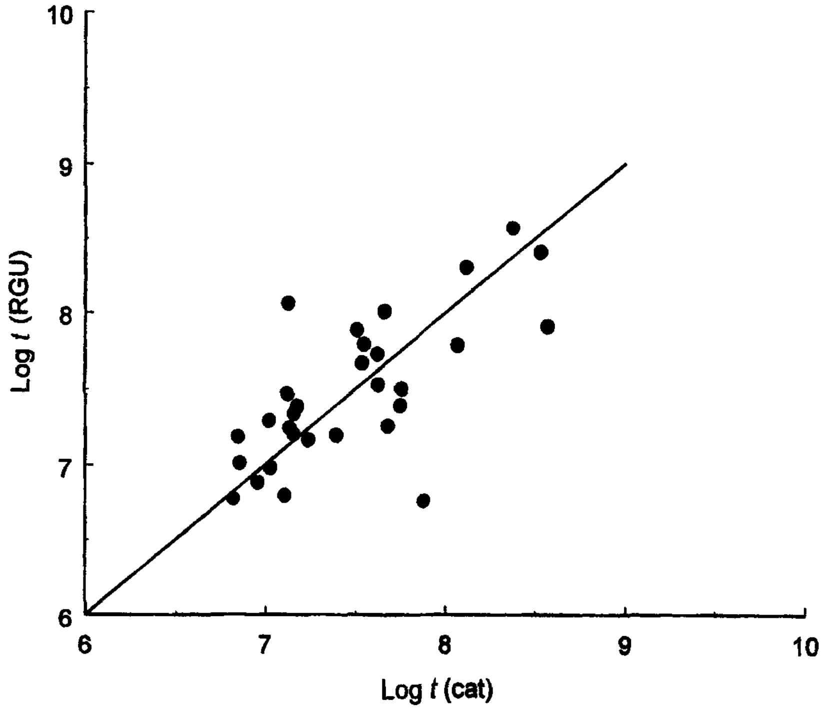

Figure 3 Comparison of logarithms of cluster age estimates from RGU photometry data with the values from the catalogue.

papers. The discussion of cluster parameter determination using DDO-data was given in Loktin (1995). This system does not provide age determination, and for the formation of the catalogue we used other sources.

The method treatment of uvbyβ data was discussed by Malisheva (1997).

The resulting estimates of cluster parameters obtained for the data in these two systems were reduced to common scales by the use of corresponding corrections which we determined as the mean values of deviations from the estimates we got from UBV photometry.

5 RGU PHOTOMETRY

54 data files containing RGU photometry of cluster stars were selected from the publications. The computer programs for data processing were constructed on the basis of programs for UBV data processing. The colour excess was found by a diagram fitting procedure and by the Q-method, and the distance modulus/ages were estimated by isochrone fitting on the $G - (G - R)$ plane. Diagram fitting on the $G - Q_{\mathrm{RGU}}$ plane was not used because of insufficient accuracy of photographic

RGU data. The values for the normal colour curve on the $(G-R)-(U-G)$ plane, the colour excess ratio and the expressions for the transformations between UBV and RGU magnitudes and colours were taken from Steinlin (1967). As in the case of the UBV system, two panels, $Q_{\mathrm{RGU}}-(G-R)$ and $Q_{\mathrm{RGU}}-(U-G)$, were used for the evaluation of individual colour excesses of cluster stars. Comparison between the estimates of distance moduli and ages obtained from RGU data with that which we obtained from other sources is given in Figures 2 and 3.

6 THE CATALOGUE OF MEAN CLUSTER PARAMETER VALUES

The newly formed catalogue of weighted mean values of estimated colour excesses, distance moduli and ages of 425 open clusters is given in Table 1. The first two columns of the table contain tht ordinal number and cluster name, clusters in the table being arranged according to their names in alphabetical order providing a comfortable search of a particular cluster. In the 3rd and 4th columns of the table the galactic longitude and latitude are given. The 5th and 6th columns contain mean values of the colour excess and its rms error (only for clusters for wich more than two data sources were used, else a zero value, of the error denotes the absence of an estimate). The 7th and 8th columns contain the same for the mean distance moduli, and the 9th and 10th for decimal logarithms of age. The 11th column contains the values of the weight of estimated parameters, the details of which one can find in our earlier publications (Loktin and Matkin, 1990a, 1990b). In the last, 12th column the number of processed data sources is given.

The frequency distribution of the values of the rms errors of cluster parameters are shown on Figure 4. These distributions characterize the inner accuracy of the catalogued estimates. The most probable values of the errors are $0^{\mathrm{m}}\!.025$ for colour excess, $0^{\mathrm{m}}\!.2$ for distance modulus and 0.1 for logarithm of age. We have to note that these values are only a mean measure of the quality of the ctuster parameter estimates, and the real values of the errors for a particular cluster vary considerably from cluster to cluster and obviously depend on the precision of the photometry, cluster richness in stars, and background stellar density.

Comparison of our values of cluster distance moduli and logarithms of age with those collected by Lynga (1987) is shown in Figures 5 and 6. One can see in Figure 5 the existance of some systematic shift of our values caused by the choise of different value of the Hyades distance. For clusters close to the Sun the random deviations from the 45° line is very small, but for distant clusters some cases of the large deviations occur. The divergence of age determinations (Figure 6) is more pronounced. This may be caused by the inhomogeneity of the data collected by Lynga. Appreciable systematic deviations between the two age scales exist for the youngest clusters with $\log t < 7.0$. For such clusters the age scale is completely defined by the position of the poorly determined upper end of ZAMS. For some of the youngest clusters in Lynga's catalogue, one value of $\log t = 6.0$ is attributed, which is clearly seen in Figure 6. A small systematic deviation exists for the oldest

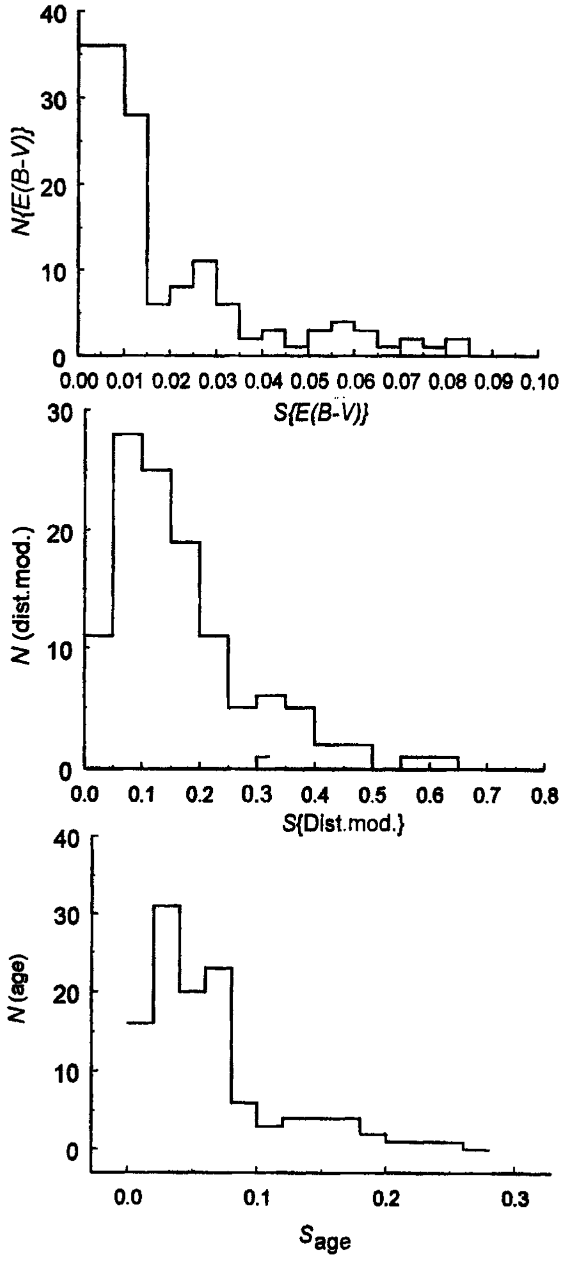

Figure 4 Frequency distributions of the errors of the mean values of the estimates in the catalogue: upper – for the errors in $E(B-V)$; middle – for distance moduli; lower – for logarithms of age.

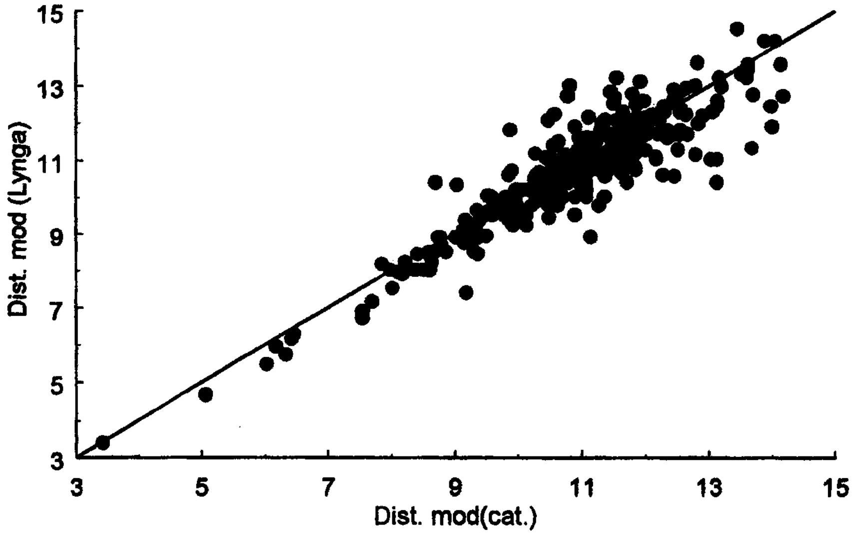

Figure 5 Comparison of distance moduli estimates from our catalogue and that of Lynga (1987).

clusters ($\log t > 9.0$). This may be caused by our attempt to account for the metallicity differences (see above) and by the diffrerence of the isochrone sets used.

The full version of our catalogue consists of three files. One of them is the file of weighted means presented here. Two other files include the individual estimates of cluster parameters for each data file and references to data sources. This full version of the catalogue may be requested from the authors by e-mail (Alexhander.Loktin@usu.ru).

7 CONCLUSIONS

We present the second version of our homogeneous catalogue of open stellar cluster parameters. The redetermination of colour excesses, distance moduli and ages of 425 open clusters was made by processing data in the UBV, BV, DDO, RGU, and uvbyβ photometrical systems. In all 949 files were processed with the help of a new set of computer programs. The inner accuracy of the parameter estimates turned out to be high. Large values of the rms errors of the parameters for some clusters may be caused by the unreality of some clusters or the small number of observed stars or by the influence of the dense stellar background.

We are planning further work on the improvement of the catalogue in three directions. They are: (1) the processing of newly published observational data, (2) use of new sets of theoretical isochrones, and (3) the investigation of the effects hindering the determination of cluster parameters, namely the influence of double stars and age dispersion of cluster members.

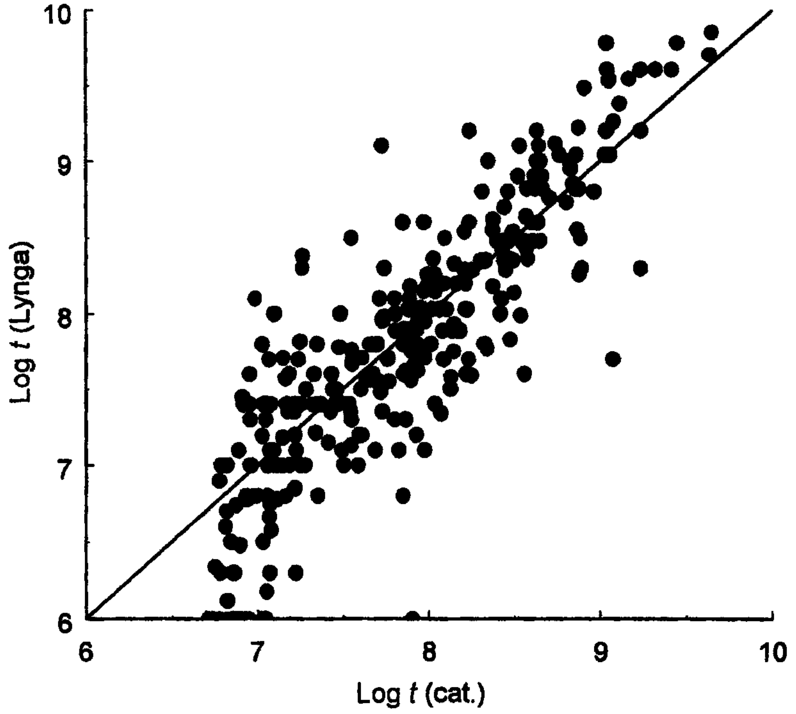

Figure 6 Comparison of logarithms of age eastimates from our catalogue and that of Lynga (1987).

All observers are welcome to send us new observations in the systems discussed so we can include more data in the catalogue.

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Table 1.

N	*Cluster*	l°	b°	$E(B-V)$	σ_E	*Mod.*	σ_{Mod}	$log\,t$	σ_t	W	N_{ref}
1	NGC103	119.8	−1.4	0.406	0.000	12.557	0.000	8.126	0.000	1.07	1
2	NGC129	120.3	−2.6	0.548	0.013	11.198	0.058	7.886	0.031	4.07	5
3	NGC146	120.9	0.5	0.480	0.000	12.552	0.000	7.822	0.000	1.32	1
4	NGC188	122.8	22.5	0.082	0.013	11.709	0.332	9.632	0.005	1.22	4
5	NGC225	122.0	−1.1	0.274	0.000	9.240	0.000	8.114	0.000	1.50	2
6	NGC366	124.7	−0.6	1.256	0.000	11.411	0.000	7.410	0.000	1.56	1
7	NGC381	124.9	−1.2	0.336	0.000	10.276	0.000	8.570	0.000	0.66	1
8	NGC436	126.1	−3.9	0.460	0.000	12.549	0.000	7.926	0.000	1.10	1
9	NGC457	126.6	−4.4	0.468	0.012	12.109	0.107	7.324	0.027	2.60	3
10	NGC559	127.2	0.8	0.790	0.059	10.652	0.181	7.748	0.206	1.36	3
11	NGC581	128.0	−1.8	0.376	0.021	11.885	0.088	7.336	0.053	2.76	4
12	NGC609	127.8	2.1	0.350	0.000	13.143	0.000	9.232	0.000	0.11	1
13	NGC637	128.5	1.7	0.634	0.000	11.825	0.000	6.980	0.000	1.21	2
14	NGC654	129.1	−0.4	0.856	0.057	11.660	0.115	7.148	0.040	3.08	8
15	NGC659	129.3	−1.5	0.652	0.000	11.590	0.000	7.548	0.000	1.80	2
16	NGC663	129.5	−1.0	0.779	0.072	11.619	0.133	7.209	0.079	3.36	5
17	NGC744	132.4	−6.2	0.384	0.000	10.553	0.000	8.248	0.000	1.41	1
18	NGC752	137.2	−23.4	0.034	0.006	8.454	0.136	9.050	0.021	1.94	8
19	NGC869	134.6	−3.7	0.576	0.010	11.787	0.190	7.069	0.027	5.05	4
20	NGC884	135.1	−3.6	0.561	0.024	12.039	0.067	7.032	0.048	5.28	4
21	NGC957	136.2	−2.7	0.842	0.054	11.447	0.020	7.042	0.066	2.87	3
22	NGC1027	135.8	1.5	0.325	0.000	9.592	0.000	8.203	0.000	1.38	1
23	NGC1039	143.6	−15.6	0.070	0.005	8.642	0.066	8.249	0.038	1.80	3
24	NGC1245	146.6	−8.9	0.300	0.026	12.447	0.204	8.704	0.133	1.53	3
25	NGC1252	274.6	−50.4	0.744	0.000	9.400	0.000	8.069	0.000	0.29	1
26	NGC1342	155.0	−15.4	0.319	0.000	9.269	0.000	8.655	0.000	1.02	2
27	NGC1444	148.2	−1.3	0.712	0.000	10.548	0.000	7.964	0.000	0.66	2

Table 1. (Cont.)

N	*Cluster*	l°	b°	$E(B-V)$	σ_E	*Mod.*	σ_{Mod}	$log\,t$	σ_t	*W*	N_{ref}
28	NGC1502	143.6	7.6	0.760	0.016	9.721	0.091	7.051	0.034	2.76	7
29	NGC1528	152.0	0.3	0.258	0.000	9.603	0.000	8.568	0.000	1.01	1
30	NGC1545	153.4	0.2	0.303	0.000	9.411	0.000	8.448	0.000	0.52	1
31	NGC1647	180.4	−16.8	0.370	0.009	8.813	0.151	8.158	0.124	1.98	3
32	NGC1662	187.7	−21.1	0.304	0.013	8.357	0.064	8.625	0.049	1.13	3
33	NGC1664	161.7	−0.5	0.254	0.000	10.547	0.000	8.465	0.000	0.77	1
34	NGC1778	168.9	−2.0	0.336	0.008	10.988	0.148	8.155	0.027	2.06	3
35	NGC1817	186.1	−13.1	0.334	0.000	11.627	0.000	8.612	0.000	1.12	2
36	NGC1893	173.6	−1.7	0.595	0.057	12.787	0.099	7.027	0.062	1.85	3
37	NGC1907	172.6	0.3	0.415	0.000	11.113	0.000	8.567	0.000	1.50	2
38	NGC1912	172.3	0.7	0.248	0.000	10.291	0.000	8.463	0.000	1.01	1
39	NGC1931	173.9	0.3	0.738	0.000	12.600	0.000	7.002	0.000	1.52	2
40	NGC1960	174.5	1.0	0.218	0.000	10.659	0.000	7.468	0.000	2.67	2
41	NGC2099	177.7	3.1	0.302	0.008	10.856	0.163	8.540	0.013	2.59	4
42	NGC2129	186.6	0.1	0.652	0.000	11.096	0.000	7.318	0.000	1.27	2
43	NGC2141	198.1	−5.8	0.250	0.000	13.181	0.000	9.231	0.000	0.26	1
44	NGC2158	186.6	1.8	0.360	0.000	13.679	0.000	9.023	0.000	0.99	2
45	NGC2168	186.6	2.2	0.260	0.029	9.724	0.183	7.979	0.172	4.34	4
46	NGC2169	195.6	−2.9	0.198	0.011	10.258	0.076	7.067	0.035	1.73	5
47	NGC2175	190.2	0.4	0.598	0.000	11.210	0.000	6.953	0.000	1.03	2
48	NGC2186	203.6	−6.2	0.272	0.000	10.952	0.000	7.738	0.000	0.35	1
49	NGC2194	197.3	−2.3	0.383	0.000	13.042	0.000	8.515	0.000	1.17	1
50	NGC2204	226.0	−16.1	0.085	0.012	12.252	1.076	8.896	0.041	0.98	3
51	NGC2215	216.0	−10.1	0.300	0.000	10.711	0.000	8.369	0.000	0.10	1
52	NGC2232	214.4	−7.7	0.024	0.000	7.987	0.000	7.727	0.000	1.22	2
53	NGC2236	204.4	−1.7	0.479	0.084	12.487	0.305	8.538	0.164	1.19	3
54	NGC2243	239.5	−18.0	0.051	0.003	13.399	0.412	9.032	0.007	0.73	3

Table 1. (Cont.)

N	Cluster	l°	b°	$E(B-V)$	σ_E	Mod.	σ_{Mod}	$log\, t$	σ_t	W	N_{ref}
55	NGC2244	206.4	−2.0	0.462	0.004	10.885	0.088	6.896	0.037	3.74	6
56	NGC2251	203.6	0.1	0.186	0.000	10.770	0.000	8.427	0.000	0.94	2
57	NGC2254	204.4	0.1	0.398	0.000	12.021	0.000	8.307	0.000	0.97	1
58	NGC2264	202.9	2.2	0.050	0.005	9.182	0.129	6.954	0.035	2.99	7
59	NGC2269	208.0	0.4	0.398	0.000	11.288	0.000	8.416	0.000	0.31	1
60	NGC2281	175.0	17.1	0.063	0.012	8.873	0.055	8.554	0.007	1.22	3
61	NGC2286	215.3	−2.3	0.170	0.000	12.463	0.000	8.883	0.000	0.26	1
62	NGC2287	231.1	−10.2	0.027	0.008	9.356	0.106	8.385	0.074	2.24	9
63	NGC2301	212.6	0.3	0.028	0.012	9.856	0.034	8.216	0.102	2.56	3
64	NGC2302	219.3	−3.1	0.207	0.000	10.517	0.000	7.847	0.000	0.46	1
65	NGC2323	221.7	−1.2	0.213	0.017	9.992	0.352	8.096	0.106	2.41	3
66	NGC2324	213.5	3.3	0.127	0.000	13.055	0.000	8.630	0.000	0.67	2
67	NGC2335	223.6	−1.3	0.393	0.000	10.909	0.000	8.210	0.000	1.24	2
68	NGC2343	224.3	−1.2	0.118	0.000	10.272	0.000	7.104	0.000	1.48	2
69	NGC2345	226.6	−2.3	0.616	0.000	11.915	0.000	7.853	0.000	1.17	1
70	NGC2353	224.7	0.4	0.066	0.000	10.457	0.000	7.974	0.000	2.27	1
71	NGC2354	238.4	−6.8	0.307	0.000	13.209	0.000	8.126	0.000	1.44	2
72	NGC2360	229.8	−1.4	0.111	0.000	11.532	0.000	8.749	0.000	0.54	2
73	NGC2362	238.2	−5.5	0.092	0.008	10.752	0.195	6.914	0.079	1.89	3
74	NGC2367	235.6	−3.9	0.332	0.000	11.638	0.000	6.737	0.000	0.36	1
75	NGC2374	228.4	1.0	0.090	0.000	10.987	0.000	8.463	0.000	0.45	2
76	NGC2383	235.3	−2.4	0.213	0.000	11.247	0.000	7.167	0.000	0.29	1
77	NGC2384	235.4	−2.4	0.236	0.000	11.907	0.000	6.904	0.000	0.69	2
78	NGC2395	204.6	14.0	0.120	0.000	8.701	0.000	9.070	0.000	0.28	1
79	NGC2414	231.4	2.0	0.508	0.000	12.845	0.000	6.976	0.000	0.43	1
80	NGC2420	198.1	19.7	0.029	0.005	12.599	0.205	9.048	0.047	1.34	
81	NGC2421	236.2	0.0	0.453	0.000	11.846	0.000	7.367	0.000		

Table 1. (Cont.)

N	*Cluster*	l°	b°	$E(B-V)$	σ_E	*Mod.*	σ_{Mod}	*log t*	σ_t	W	N_{ref}
82	NGC2422	231.0	3.1	0.068	0.006	8.604	0.060	7.861	0.085	2.62	5
83	NGC2423	230.5	3.5	0.097	0.021	9.574	0.343	8.867	0.006	0.98	4
84	NGC2437	231.9	4.1	0.154	0.000	10.844	0.000	8.390	0.000	1.71	2
85	NGC2439	246.4	−4.4	0.406	0.033	13.150	0.301	7.251	0.103	2.59	3
86	NGC2447	240.1	0.2	0.046	0.000	10.232	0.000	8.588	0.000	0.73	2
87	NGC2451	252.4	−6.7	0.054	0.013	7.562	0.412	7.648	0.055	2.86	7
88	NGC2453	243.3	−0.9	0.446	0.000	11.816	0.000	7.187	0.000	0.88	2
89	NGC2467	243.1	0.4	0.321	0.000	10.714	0.000	7.103	0.000	1.50	2
90	NGC2477	253.6	−5.8	0.279	0.012	10.588	0.383	8.848	0.010	1.06	4
91	NGC2482	241.6	2.0	0.093	0.000	10.793	0.000	8.604	0.000	0.45	2
92	NGC2483	244.7	0.1	0.303	0.000	11.252	0.000	7.089	0.000	0.42	1
93	NGC2489	246.7	−0.8	0.374	0.000	13.140	0.000	7.264	0.000	1.23	1
94	NGC2506	230.6	9.9	0.081	0.000	12.848	0.000	9.045	0.000	0.85	2
95	NGC2516	273.9	−15.9	0.101	0.010	8.213	0.129	8.052	0.038	3.77	9
96	NGC2527	246.1	1.9	0.038	0.000	9.048	0.000	8.649	0.000	0.55	1
97	NGC2533	247.8	1.3	0.047	0.000	12.797	0.000	8.876	0.000	0.33	1
98	NGC2539	234.7	11.1	0.082	0.020	10.825	0.131	8.570	0.002	1.07	3
99	NGC2546	254.9	−2.0	0.133	0.000	9.972	0.000	7.874	0.000	2.69	1
100	NGC2547	264.6	−8.6	0.037	0.012	8.399	0.014	7.557	0.198	2.14	3
101	NGC2548	227.9	15.4	0.031	0.000	9.584	0.000	8.557	0.000	0.72	2
102	NGC2567	249.8	3.0	0.128	0.052	11.275	0.135	8.469	0.033	1.42	5
103	NGC2571	249.1	−3.6	0.137	0.060	10.791	0.068	7.488	0.061	2.47	3
104	NGC2627	251.6	6.6	0.086	0.000	11.695	0.000	8.566	0.000	0.40	1
105	NGC2658	254.6	−6.1	0.043	0.000	11.681	0.000	9.152	0.000	0.19	1
106	NGC2659	264.2	−1.6	0.514	0.000	11.322	0.000	6.890	0.000	0.25	1
107	NGC2660	265.9	−3.0	0.313	0.000	12.409	0.000	9.033	0.000	1.02	2
108	NGC2669	270.7	−6.3	0.176	0.000	10.328	0.000	7.927	0.000	0.86	1

Table 1. (Cont.)

N	*Cluster*	l°	b°	$E(B-V)$	σ_E	*Mod.*	σ_{Mod}	$\log t$	σ_t	W	N_{ref}
109	NGC2670	267.5	−3.5	0.430	0.000	10.527	0.000	7.690	0.000	0.92	2
110	NGC2682	215.6	31.7	0.059	0.005	9.943	0.045	9.409	0.020	4.15	8
111	NGC2818	262.0	8.6	0.121	0.000	11.495	0.000	8.626	0.000	0.64	2
112	NGC2910	275.3	−1.2	0.336	0.000	12.234	0.000	8.203	0.000	1.02	2
113	NGC2972	274.7	1.8	0.343	0.000	11.725	0.000	7.968	0.000	0.56	2
114	NGC3033	279.6	−2.1	0.327	0.000	9.977	0.000	7.845	0.000	0.52	1
115	NGC3105	279.9	0.3	0.989	0.000	13.597	0.000	7.236	0.000	0.85	2
116	NGC3114	283.3	−3.8	0.069	0.013	9.952	0.168	8.093	0.052	3.26	7
117	NGC3228	280.7	4.6	0.020	0.000	8.694	0.000	7.932	0.000	0.35	1
118	NGC3247	284.6	−0.4	0.221	0.000	11.100	0.000	8.083	0.000	1.22	1
119	NGC3293	285.9	0.1	0.262	0.011	12.030	0.145	7.014	0.061	3.18	5
120	NGC3324	286.2	−0.2	0.438	0.000	11.978	0.000	6.754	0.000	0.96	2
121	NGC3330	284.2	3.8	0.050	0.000	9.909	0.000	8.229	0.000	0.15	1
122	NGC3496	289.6	−0.4	0.469	0.000	10.131	0.000	8.471	0.000	0.55	1
123	NGC3532	289.6	1.5	0.037	0.013	8.587	0.130	8.492	0.069	3.28	9
124	NGC3572	290.7	0.2	0.389	0.026	11.653	0.179	6.891	0.068	1.25	3
125	NGC3590	291.2	−0.2	0.449	0.040	11.242	0.237	7.231	0.062	1.49	4
126	NGC3603	291.6	−0.5	1.326	0.026	12.800	0.208	6.842	0.002	0.78	3
127	NGC3680	286.8	16.9	0.066	0.007	10.014	0.170	9.077	0.013	1.56	5
128	NGC3766	294.1	0.0	0.173	0.014	11.358	0.166	7.160	0.057	6.32	7
129	NGC3960	294.4	6.2	0.302	0.000	11.922	0.000	8.822	0.000	0.64	2
130	NGC4052	297.4	−0.9	0.156	0.000	10.566	0.000	8.495	0.000	0.36	1
131	NGC4103	297.6	1.2	0.294	0.012	11.217	0.457	7.393	0.143	1.37	3
132	NGC4337	299.3	4.6	0.146	0.000	8.598	0.000	8.454	0.000	0.36	1
133	NGC4349	299.8	0.8	0.384	0.025	11.842	0.124	8.315	0.003	1.83	3
134	NGC4439	300.1	2.7	0.335	0.000	11.353	0.000	7.909	0.000	0.57	2
135	NGC4463	300.7	−2.0	0.421	0.000	10.360	0.000	7.505	0.000	0.53	1

Table 1. (Cont.)

N	*Cluster*	l°	b°	$E(B-V)$	σ_E	*Mod.*	σ_{Mod}	$log\, t$	σ_t	W	N_{ref}
136	NGC4609	301.9	−0.1	0.328	0.000	10.590	0.000	7.892	0.000	1.15	1
137	NGC4755	303.2	2.5	0.386	0.012	11.638	0.093	7.216	0.076	4.65	8
138	NGC4815	303.6	−2.1	0.808	0.001	12.595	0.037	8.369	0.047	1.88	4
139	NGC5138	307.6	3.6	0.262	0.000	11.643	0.000	7.986	0.000	0.81	1
140	NGC5168	307.8	1.6	0.431	0.051	11.401	0.235	8.001	0.232	1.56	3
141	NGC5281	309.2	−0.7	0.233	0.000	10.373	0.000	7.146	0.000	0.60	1
142	NGC5316	310.2	0.1	0.267	0.026	10.575	0.189	8.202	0.015	1.63	3
143	NGC5460	315.8	12.6	0.092	0.000	9.308	0.000	8.207	0.000	2.30	2
144	NGC5606	314.9	1.0	0.469	0.008	11.444	0.163	7.075	0.036	2.36	4
145	NGC5617	314.7	−0.1	0.485	0.033	11.081	0.366	7.915	0.032	4.24	5
146	NGC5662	316.9	3.5	0.313	0.014	9.287	0.103	7.968	0.082	3.83	6
147	NGC5749	319.5	4.5	0.376	0.000	10.219	0.000	7.728	0.000	2.02	2
148	NGC5822	321.7	3.6	0.150	0.015	9.964	0.125	8.821	0.021	2.01	9
149	NGC5823	321.2	2.5	0.090	0.045	10.535	0.630	8.900	0.129	0.76	4
150	NGC6025	324.6	−6.0	0.159	0.009	9.545	0.085	7.889	0.259	2.77	3
151	NGC6031	329.3	−1.5	0.371	0.000	11.457	0.000	8.069	0.000	1.45	2
152	NGC6067	329.8	−2.2	0.380	0.029	10.909	0.478	8.076	0.064	1.30	4
153	NGC6087	327.8	−5.4	0.172	0.003	9.912	0.082	7.976	0.079	2.09	5
154	NGC6124	340.8	6.0	0.750	0.000	8.699	0.000	8.147	0.000	1.12	2
155	NGC6134	334.9	−0.2	0.395	0.042	9.955	0.272	8.968	0.046	0.99	3
156	NGC6167	335.3	−1.3	0.779	0.000	10.376	0.000	7.887	0.000	3.47	2
157	NGC6178	338.4	1.2	0.201	0.000	10.018	0.000	7.248	0.000	0.81	1
158	NGC6192	340.7	2.1	0.637	0.000	11.100	0.000	8.130	0.000	1.76	1
159	NGC6193	336.7	−1.6	0.471	0.031	10.445	0.023	6.775	0.017	1.38	3
160	NGC6200	338.0	−1.1	0.578	0.000	11.735	0.000	6.928	0.000	0.56	1
161	NGC6204	338.6	−1.1	0.430	0.062	10.483	0.205	7.564	0.382	2.11	3
162	NGC6208	339.7	−5.8	0.210	0.000	10.170	0.000	9.069	0.000	0.36	1

Table 1. (Cont.)

N	Cluster	l°	b°	$E(B-V)$	σ_E	Mod.	σ_{Mod}	$\log t$	σ_t	W	N_{ref}
163	NGC6231	343.5	1.2	0.437	0.008	10.661	0.184	6.843	0.017	2.81	7
164	NGC6242	345.5	2.4	0.373	0.000	10.510	0.000	7.608	0.000	2.25	2
165	NGC6249	341.6	−1.2	0.433	0.000	10.120	0.000	7.386	0.000	0.56	1
166	NGC6250	340.8	−1.8	0.341	0.000	9.916	0.000	7.415	0.000	1.32	2
167	NGC6259	342.0	−1.5	0.498	0.000	10.371	0.000	8.336	0.000	0.37	2
168	NGC6268	346.0	1.3	0.387	0.000	10.368	0.000	7.236	0.000	1.48	1
169	NGC6281	347.8	2.0	0.148	0.007	8.707	0.243	8.497	0.031	1.38	4
170	NGC6322	345.3	−3.0	0.590	0.000	10.296	0.000	7.058	0.000	2.23	2
171	NGC6383	355.1	0.1	0.298	0.011	10.270	0.164	6.962	0.041	2.32	6
172	NGC6396	354.0	−1.9	0.926	0.000	10.687	0.000	7.506	0.000	0.40	1
173	NGC6405	356.6	−0.7	0.143	0.011	8.756	0.120	7.974	0.044	3.92	7
174	NGC6416	357.0	−1.5	0.251	0.000	9.503	0.000	8.087	0.000	2.15	2
175	NGC6425	357.9	−1.6	0.399	0.000	9.608	0.000	7.347	0.000	1.13	1
176	NGC6451	359.5	−1.6	0.672	0.000	11.743	0.000	8.134	0.000	2.18	1
177	NGC6475	355.9	−4.5	0.103	0.032	7.549	0.109	8.475	0.313	1.74	4
178	NGC6494	9.9	2.9	0.356	0.000	9.144	0.000	8.477	0.000	1.07	2
179	NGC6514	7.0	−0.3	0.189	0.000	9.685	0.000	7.368	0.000	2.47	2
180	NGC6520	2.3	−2.9	0.431	0.000	11.142	0.000	7.724	0.000	2.04	1
181	NGC6530	6.1	−1.4	0.329	0.012	10.735	0.051	6.867	0.035	3.49	4
182	NGC6531	7.7	−0.4	0.284	0.000	10.595	0.000	7.070	0.000	1.47	1
183	NGC6546	7.3	−1.4	0.491	0.000	10.015	0.000	7.849	0.000	1.10	1
184	NGC6604	18.3	1.7	0.979	0.000	11.462	0.000	6.810	0.000	0.79	2
185	NGC6611	17.0	0.8	0.787	0.024	11.313	0.156	6.884	0.045	3.36	7
186	NGC6613	14.2	−1.0	0.438	0.000	10.793	0.000	7.458	0.000	1.06	1
187	NGC6633	36.1	8.3	0.182	0.000	8.032	0.000	8.629	0.000	1.19	2
188	NGC6649	21.6	−0.8	1.201	0.145	10.835	0.352	7.566	0.174	3.01	5
189	NGC6664	24.0	−0.5	0.705	0.000	10.355	0.000	7.162	0.000	0.69	2

Table 1. (Cont.)

N	*Cluster*	l°	b°	$E(B-V)$	σ_E	*Mod.*	σ_{Mod}	$\log t$	σ_t	W	N_{ref}
190	NGC6694	23.9	−2.9	0.589	0.000	11.173	0.000	7.931	0.000	1.84	1
191	NGC6704	28.2	−2.2	0.717	0.000	12.520	0.000	7.863	0.000	1.43	1
192	NGC6705	27.3	−2.8	0.426	0.000	11.520	0.000	8.302	0.000	4.65	2
193	NGC6709	42.2	4.7	0.304	0.000	10.310	0.000	8.178	0.000	1.69	1
194	NGC6716	15.4	−9.6	0.223	0.066	9.665	0.268	7.961	0.093	2.42	4
195	NGC6755	38.6	−1.7	0.826	0.000	10.915	0.000	7.719	0.000	1.50	2
196	NGC6791	70.0	10.9	0.117	0.033	13.990	0.927	9.643	0.010	0.84	3
197	NGC6802	55.4	0.9	0.848	0.000	10.407	0.000	8.870	0.000	0.38	1
198	NGC6811	79.4	12.0	0.160	0.000	10.575	0.000	8.799	0.000	0.76	2
199	NGC6819	74.0	8.5	0.238	0.043	12.018	0.204	9.174	0.074	1.42	3
200	NGC6823	59.4	−0.1	0.839	0.055	11.533	0.131	6.820	0.020	1.79	7
201	NGC6830	60.1	−1.8	0.493	0.000	11.251	0.000	7.572	0.000	1.87	2
202	NGC6834	65.7	1.2	0.710	0.000	11.741	0.000	7.883	0.000	3.26	2
203	NGC6866	79.4	6.8	0.169	0.000	10.959	0.000	8.576	0.000	1.21	2
204	NGC6871	72.6	2.1	0.436	0.000	11.131	0.000	6.958	0.000	1.79	2
205	NGC6910	78.7	2.0	0.928	0.000	10.524	0.000	7.127	0.000	0.69	2
206	NGC6913	76.9	0.6	0.705	0.085	10.447	0.100	7.111	0.029	2.23	5
207	NGC6939	95.9	12.3	0.320	0.000	10.521	0.000	9.346	0.000	0.46	2
208	NGC6940	69.9	−7.2	0.214	0.000	9.584	0.000	8.858	0.000	0.38	2
209	NGC7031	91.3	2.3	0.854	0.000	9.924	0.000	8.138	0.000	1.03	2
210	NGC7039	88.0	−1.7	0.136	0.030	10.037	0.577	7.820	0.356	1.15	3
211	NGC7044	85.9	−4.1	0.590	0.000	12.652	0.000	9.279	0.000	0.30	1
212	NGC7062	89.9	−2.7	0.452	0.011	11.004	0.104	8.465	0.064	0.97	4
213	NGC7063	83.1	−9.9	0.091	0.000	9.344	0.000	7.977	0.000	1.86	2
214	NGC7067	91.2	−1.7	0.854	0.061	10.776	0.293	7.487	0.076	1.45	3
215	NGC7082	91.2	−3.0	0.237	0.000	10.948	0.000	8.233	0.000	2.19	1
216	NGC7086	94.4	0.2	0.807	0.000	10.719	0.000	8.142	0.000	1.73	2

Table 1. (Cont.)

N	*Cluster*	l°	b°	$E(B-V)$	σ_E	*Mod.*	σ_{Mod}	*log t*	σ_t	W	N_{ref}
217	NGC7092	92.5	−2.3	0.013	0.004	7.721	0.079	8.445	0.058	1.08	4
218	NGC7128	97.4	0.4	1.018	0.000	12.084	0.000	7.254	0.000	0.86	1
219	NGC7142	105.4	9.5	0.397	0.025	11.288	0.200	9.276	0.096	0.77	3
220	NGC7160	104.0	6.5	0.375	0.010	9.626	0.016	7.278	0.038	3.14	3
221	NGC7209	95.5	−7.3	0.168	0.000	10.491	0.000	8.617	0.000	0.62	2
222	NGC7226	101.4	−0.6	0.536	0.000	12.242	0.000	8.436	0.000	1.44	2
223	NGC7235	102.7	0.8	0.943	0.000	12.455	0.000	7.072	0.000	1.71	2
224	NGC7243	98.9	−5.6	0.220	0.004	9.691	0.057	8.058	0.043	2.19	4
225	NGC7245	101.4	−1.9	0.473	0.000	11.770	0.000	8.246	0.000	1.43	2
226	NGC7261	104.0	0.9	0.969	0.000	11.280	0.000	7.670	0.000	1.18	2
227	NGC7380	107.1	−0.9	0.599	0.000	11.822	0.000	7.077	0.000	0.92	2
228	NGC7419	109.1	1.1	1.828	0.000	10.855	0.000	7.283	0.000	1.25	1
229	NGC7510	111.0	0.0	0.835	0.131	11.902	0.096	7.578	0.033	1.45	3
230	NGC7654	112.8	0.5	0.647	0.012	11.018	0.091	1.764	0.141	2.70	5
231	NGC7762	117.2	5.8	0.710	0.073	9.512	0.037	8.425	0.444	0.78	3
232	NGC7788	116.4	−0.8	0.283	0.000	12.030	0.000	7.593	0.000	1.27	1
233	NGC7789	115.5	−5.4	0.217	0.048	11.996	0.521	9.235	0.003	1.26	3
234	NGC7790	116.6	−1.0	0.529	0.013	12.510	0.177	7.749	0.174	2.15	5
235	IC166	130.1	−0.2	1.050	0.000	13.147	0.000	8.629	0.000	0.16	1
236	IC348	160.4	−17.7	0.929	0.037	8.080	0.257	7.641	0.137	0.67	3
237	IC361	147.5	5.7	1.117	0.000	10.300	0.000	7.718	0.000	0.17	1
238	IC1311	77.7	4.2	0.760	0.000	13.788	0.000	8.625	0.000	0.37	1
239	IC1369	89.6	−0.4	0.572	0.000	11.746	0.000	8.640	0.000	0.80	1
240	IC1442	101.4	−2.2	0.541	0.000	12.005	0.000	6.982	0.000	0.93	1
241	IC1805	134.7	1.0	0.793	0.017	11.101	0.266	6.822	0.045	1.27	3
242	IC1848	137.2	0.1	0.596	0.000	11.742	0.000	6.840	0.000	1.29	1
243	IC2157	186.5	1.3	0.548	0.000	11.701	0.000	7.800	0.000	0.93	1

Table 1. (Cont.)

N	*Cluster*	l°	b°	$E(B-V)$	σ_E	*Mod.*	σ_{Mod}	$\log t$	σ_t	W	N_{ref}
244	IC2391	270.4	−6.9	0.009	0.004	6.340	0.049	7.661	0.030	2.95	9
245	IC2395	266.6	−3.8	0.061	0.000	9.362	0.000	7.223	0.000	1.00	2
246	IC2488	277.8	−4.4	0.231	0.000	10.426	0.000	8.113	0.000	0.53	1
247	IC2581	284.6	0.0	0.408	0.000	12.163	0.000	7.142	0.000	2.32	1
248	IC2602	289.6	−4.9	0.022	0.003	6.179	0.020	7.507	0.076	2.37	4
249	IC2714	292.4	−1.8	0.341	0.000	10.617	0.000	8.542	0.000	2.17	2
250	IC2944	294.6	−1.4	0.300	0.000	11.127	0.000	6.818	0.000	1.01	2
251	IC4651	340.1	−7.9	0.116	0.004	9.894	0.127	9.057	0.091	1.61	6
252	IC4665	30.6	17.1	0.172	0.004	7.856	0.090	7.634	0.041	1.96	6
253	IC4725	13.6	−4.5	0.469	0.006	9.119	0.073	7.965	0.030	3.93	9
254	IC4756	36.4	5.3	0.192	0.000	8.577	0.000	8.699	0.000	1.07	2
255	IC4996	75.4	1.3	0.676	0.018	11.358	0.013	6.948	0.040	1.37	3
256	IC5146	94.4	−5.5	0.593	0.000	9.806	0.000	8.023	0.000	0.70	1
257	ABT1	134.6	0.0	0.507	0.000	8.414	0.000	7.254	0.000	0.30	1
258	AM2	248.2	−5.8	0.570	0.000	15.779	0.000	9.335	0.000	1.20	1
259	Ba1	27.4	−1.9	0.482	0.000	11.843	0.000	7.893	0.000	0.75	1
260	Ba2	110.6	0.2	0.547	0.000	11.622	0.000	8.557	0.000	0.27	1
261	Ba3	111.4	0.2	0.825	0.000	11.683	0.000	7.095	0.000	0.95	2
262	Ba6	74.9	3.3	0.580	0.000	11.102	0.000	7.977	0.000	0.67	1
263	Ba7	203.8	0.5	0.396	0.000	11.285	0.000	8.033	0.000	0.54	1
264	Ba8	203.7	−0.1	0.370	0.000	10.769	0.000	8.102	0.000	1.20	1
265	Ba9	160.3	−0.4	0.702	0.000	12.559	0.000	7.724	0.000	1.12	1
266	Ba10	134.2	−2.6	0.774	0.000	11.597	0.000	7.608	0.000	0.77	2
267	Ba11	228.3	−0.8	0.315	0.000	11.296	0.000	7.816	0.000	1.16	2
268	Ba18	307.2	0.2	0.515	0.000	11.891	0.000	7.590	0.000	1.21	1
269	Ba19	307.2	1.3	0.643	0.000	10.616	0.000	7.805	0.000	0.79	1
270	Ba20	277.9	3.5	0.406	0.000	11.684	0.000	7.419	0.000	0.52	1

Table 1. (Cont.)

N	*Cluster*	l°	b°	$E(B-V)$	σ_E	*Mod.*	σ_{Mod}	$\log t$	σ_t	W	N_{ref}
271	Be11	157.1	−3.7	0.947	0.000	12.451	0.000	7.719	0.000	0.21	1
272	Be22	199.8	−8.1	0.700	0.000	14.575	0.000	9.027	0.000	0.51	1
273	Be28	210.4	1.5	0.761	0.000	12.192	0.000	7.846	0.000	0.24	1
274	Be29	198.0	8.0	0.157	0.000	16.015	0.000	9.025	0.000	0.64	2
275	Be31	206.2	5.1	0.080	0.000	14.741	0.000	9.313	0.000	0.75	1
276	Be42	36.2	−2.2	0.760	0.000	11.461	0.000	9.325	0.000	0.23	1
277	Be62	124.0	1.1	0.852	0.000	11.473	0.000	7.185	0.000	0.47	1
278	Be65	135.8	0.3	1.121	0.000	11.937	0.000	6.995	0.000	0.35	1
279	Be68	162.1	−2.4	0.671	0.000	11.277	0.000	8.391	0.000	1.13	1
280	Be82	46.8	1.6	1.021	0.000	9.825	0.000	7.493	0.000	0.60	1
281	Be86	76.7	1.3	0.891	0.000	10.245	0.000	7.116	0.000	0.86	2
282	Be87	75.7	0.3	1.369	0.000	9.159	0.000	7.152	0.000	0.71	1
283	Be94	103.1	−1.2	0.608	0.000	12.253	0.000	6.996	0.000	0.86	2
284	Be96	103.7	−2.1	0.630	0.000	12.601	0.000	6.822	0.000	0.68	1
285	Bjur2	72.8	1.4	0.360	0.000	10.371	0.000	7.011	0.000	0.45	1
286	Bo1	214.5	2.1	0.502	0.000	12.391	0.000	6.686	0.000	0.61	1
287	Bo2	212.1	−1.3	0.832	0.000	11.990	0.000	6.665	0.000	0.48	1
288	Bo4	228.4	1.1	0.194	0.000	9.855	0.000	7.545	0.000	0.87	1
289	Bo8	283.2	−1.4	0.526	0.000	12.204	0.000	7.943	0.000	0.30	1
290	Bo10	287.1	−0.3	0.313	0.023	11.679	0.319	6.857	0.054	0.96	3
291	Bo11	288.1	−1.0	0.576	0.000	12.065	0.000	6.764	0.000	0.39	2
292	Bo13	351.3	−2.5	0.854	0.000	10.314	0.000	6.823	0.000	0.43	1
293	Bo14	6.5	−0.6	1.508	0.000	8.964	0.000	6.996	0.000	0.64	1
294	Bo15	248.0	−5.5	0.573	0.000	11.918	0.000	6.742	0.000	0.51	1
295	Coma	221.1	84.1	0.013	0.006	5.063	0.050	8.652	0.071	1.40	
296	Cr69	195.1	−12.0	0.103	0.000	8.377	0.000	7.050	0.000		
297	Cr70	205.0	−17.4	0.042	0.000	8.091	0.000	6.980			

Table 1. (Cont.)

N	*Cluster*	$l°$	$b°$	$E(B-V)$	σ_E	*Mod.*	σ_{Mod}	*log t*	σ_t	W	N_{ref}
298	Cr96	208.0	−3.4	0.510	0.000	10.069	0.000	7.031	0.000	0.38	1
299	Cr121	235.4	−10.4	0.007	0.000	9.037	0.000	7.054	0.000	0.60	1
300	Cr132	243.3	−9.2	0.035	0.000	8.330	0.000	7.080	0.000	0.75	1
301	Cr135	248.8	−11.2	0.032	0.000	7.649	0.000	7.407	0.000	1.80	2
302	Cr140	245,2	−7.9	0.031	0.006	8.183	0.072	7.548	0.081	2.14	5
303	Cr173	261.3	−8.1	0.050	0.000	8.277	0.000	7.142	0.000	0.85	2
304	Cr197	261.7	8.9	0.548	0.000	9.770	0.000	7.128	0.000	0.54	1
305	Cr223	286.2	−1.9	0.175	0.000	11.288	0.000	7.776	0.000	1.19	2
306	Cr228	287.5	−1.0	0.343	0.000	11.591	0.000	6.830	0.000	0.94	1
307	Cr240	290.8	0.2	0.310	0.000	11.051	0.000	7.160	0.000	1.18	1
308	Cr258	299.9	2.0	0.160	0.000	10.520	0.000	8.032	0.000	1.19	2
309	Cr268	305.6	−4.5	0.308	0.000	11.618	0.000	8.759	0.000	0.31	1
310	Cr271	307.1	−1.6	0.287	0.000	10.492	0.000	8.322	0.000	0.23	1
311	Cr272	307.6	1.2	0.470	0.000	11.706	0.000	7.227	0.000	4.71	2
312	Cr359	29.8	12.5	0.193	0.000	7.136	0.000	7.506	0.000	0.58	1
313	Cr394	14.7	−9.0	0.235	0.000	9.346	0.000	7.803	0.000	1.58	1
314	Cr399	329.7	−3.4	0.377	0.000	10.707	0.000	8.205	0.000	1.15	1
315	Cr463	127.4	9.6	0.259	0.000	9.384	0.000	8.373	0.000	0.59	1
316	Cr469	12.8	−0.8	0.418	0.000	11.006	0.000	7.799	0.000	0.80	1
317	CV Mon	12.8	−0.8	0.710	0.000	11.289	0.000	8.025	0.000	0.86	2
318	Cz8	135.8	−1.6	0.803	0.000	10.897	0.000	7.904	0.000	0.21	1
319	Cz13	135.7	2.3	0.755	0.000	13.142	0.000	6.854	0.000	0.78	1
320	Cz20	168.3	1.3	0.422	0.000	12.791	0.000	7.173	0.000	1.26	1
321	δ Lir	66.9	15.5	0.040	0.000	8.110	0.000	7.731	0.000	1.43	1
322	Do25	211.9	−1.3	0.717	0.000	14.151	0.000	6.840	0.000	0.39	1
323	Do42	76.1	1.1	0.587	0.000	10.092	0.000	7.542	0.000	0.68	1
324	ES092-SC18	287.1	−6.7	0.500	0.000	15.281	0.000	9.024	0.000	0.47	1

Table 1. (Cont.)

N	*Cluster*	$l°$	$b°$	$E(B-V)$	σ_E	*Mod.*	σ_{Mod}	*log t*	σ_t	W	N_{ref}
325	ES096-SC04	305.4	−3.2	0.600	0.000	15.008	0.000	8.826	0.000	0.10	1
326	Ha6	227.8	0.2	0.450	0.000	12.577	0.000	8.826	0.000	0.35	1
327	Ha15	247.9	−4.2	1.141	0.000	11.741	0.000	7.166	0.000	0.67	1
328	Ha16	242.1	0.5	0.175	0.000	12.655	0.000	7.078	0.000	0.32	1
329	Ha18	243.1	0.4	0.611	0.000	14.054	0.000	6.893	0.000	0.41	1
330	Ha19	243.0	0.5	0.377	0.000	13.894	0.000	6.934	0.000	0.98	1
331	Ha20	247.0	−1.0	0.569	0.000	12.622	0.000	8.121	0.000	0.75	1
332	Ha21	244.8	1.7	0.106	0.000	12.503	0.000	7.920	0.000	0.76	1
333	Harv20	56.3	−4.7	0.247	0.000	11.091	0.000	7.476	0.000	0.54	1
334	Hogg10	290.8	0.1	0.460	0.000	11.400	0.000	6.784	0.000	0.98	2
335	Hogg14	300.1	2.9	0.229	0.000	10.084	0.000	8.099	0.000	0.36	1
336	Hogg15	302.0	−0.2	1.089	0.000	11.925	0.000	6.777	0.000	0.79	1
337	H0gg16	307.5	1.3	0.404	0.000	11.142	0.000	7.047	0.000	0.77	2
338	Hogg17	314.9	−0.9	0.594	0.000	10.740	0.000	8.030	0.000	0.68	1
339	Hogg18	320.8	6.4	0.503	0.000	11.083	0.000	7.759	0.000	0.81	1
340	HOGG22	338.6	−1.2	0.647	0.000	10.578	0.000	6.780	0.000	0.57	1
341	Hyades	180.1	−22.4	0.010	0.002	3.420	0.052	8.896	0.194	2.30	3
342	King4	136.0	−1.2	0.863	0.000	12.660	0.000	7.605	0.000	1.27	2
343	King8	176.4	3.1	0.580	0.000	14.185	0.000	8.618	0.000	0.30	1
344	King10	108.5	−0.4	1.138	0.000	12.797	0.000	7.446	0.000	2.10	1
345	King11	117.2	6.5	1.270	0.000	12.459	0.000	9.048	0.000	0.50	1
346	King12	116.1	−0.1	0.590	0.000	12.034	0.000	7.037	0.000	0.99	1
347	King14	120.7	0.4	0.414	0.000	12.222	0.000	7.924	0.000	1.95	1
348	King21	115.9	0.7	0.886	0.000	11.767	0.000	7.163	0.000	0.83	1
349	Ly1	310.9	−0.4	0.460	0.000	11.946	0.000	8.007	0.000	0.50	1
350	Ly2	313.8	−0.5	0.196	0.000	10.152	0.000	8.122	0.000	1.40	1
351	Ly6	330.4	0.3	1.250	0.079	11.174	0.929	7.430	0.091	0.66	3

Table 1. (Cont.)

N	*Cluster*	l°	b°	$E(B-V)$	σ_E	*Mod.*	σ_{Mod}	$log\, t$	σ_t	W	N_{ref}
352	Ly7	328.8	−2.8	0.273	0.000	9.528	0.000	7.930	0.000	0.42	1
353	Ly14	340.9	−1.2	1.428	0.000	9.879	0.000	6.712	0.000	0.19	1
354	Mark6	134.7	0.0	0.606	0.000	9.372	0.000	7.214	0.000	0.20	1
355	Mark38	12.0	−0.9	0.405	0.000	10.991	0.000	6.882	0.000	0.45	1
356	Mel20	147.0	−7.1	0.089	0.012	6.504	0.047	7.854	0.063	3.18	4
357	Mel66	259.6	−14.3	0.143	0.021	13.327	0.234	9.445	0.013	0.93	3
358	Mel71	229.0	4.5	0.113	0.000	12.647	0.000	8.371	0.000	0.94	1
359	Mel105	292.9	−2.4	0.482	0.000	11.873	0.000	8.316	0.000	1.84	2
350	Pis1	255.1	−0.8	0.578	0.000	14.010	0.000	7.928	0.000	0.18	1
361	Pis3	257.9	0.5	1.300	0.000	10.874	0.000	9.027	0.000	0.69	1
362	Pis4	262.7	−2.4	0.013	0.000	9.019	0.000	7.533	0.000	0.84	2
363	Pis5	259.4	0.9	0.421	0.000	9.848	0.000	7.197	0.000	0.48	1
364	Pis6	264.8	−2.9	0.372	0.000	11.235	0.000	7.283	0.000	1.77	2
365	Pis8	265.1	−2.6	0.706	0.000	10.743	0.000	7.427	0.000	0.86	2
366	Pis13	273.2	−0.8	0.628	0.000	11.548	0.000	7.656	0.000	0.49	1
367	Pis16	277.8	0.7	0.557	0.000	11.459	0.000	7.839	0.000	1.09	2
368	Pis17	289.5	1.4	0.471	0.000	12.876	0.000	7.023	0.000	0.29	1
369	Pis20	320.5	−1.2	1.179	0.028	11.677	0.381	6.864	0.050	2.06	4
370	Platais1	56.5	1.4	0.357	0.000	10.668	0.000	8.244	0.000	0.85	1
371	Pleiades	166.6	−23.5	0.030	0.000	6.035	0.000	8.131	0.000	2.43	1
372	Praesepe	205.5	32.5	0.009	0.003	6.507	0.141	8.863	0.017	2.61	5
373	Ros3	58.8	−4.7	0.348	0.000	10.985	0.000	8.036	0.000	1.13	2
374	Ros4	67.0	−1.3	0.991	0.000	12.151	0.000	7.447	0.000	0.42	1
375	Ros5	71.4	0.3	0.098	0.000	8.100	0.000	7.832	0.000	1.02	1
376	Ru18	239.9	−5.0	0.700	0.000	10.271	0.000	7.648	0.000	0.51	1
377	Ru36	242.6	−0.3	0.166	0.000	11.281	0.000	7.606	0.000	0.55	2
378	Ru44	245.8	0.5	0.619	0.011	13.527	0.137	6.941	0.076	1.87	3

Table 1. (Cont.)

N	*Cluster*	l°	b°	$E(B-V)$	σ_E	*Mod.*	σ_{Mod}	$\log t$	σ_t	W	N_{ref}
379	Ru49	244.7	2.2	0.259	0.000	11.457	0.000	7.930	0.000	0.55	1
380	Ru55	250.7	0.8	0.557	0.000	13.694	0.000	6.849	0.000	1.04	2
381	Ru59	253.0	0.9	0.088	0.000	9.860	0.000	7.727	0.000	0.19	1
382	Ru67	262.8	−0.8	0.432	0.000	11.039	0.000	8.256	0.000	0.45	1
383	Ru76	273.8	−1.0	0.376	0.000	10.658	0.000	7.734	0.000	0.16	1
384	Ru77	276.5	−3.1	0.622	0.000	13.232	0.000	7.501	0.000	0.95	1
385	Ru78	275.7	−1.9	0.350	0.000	11.228	0.000	7.987	0.000	0.48	1
386	Ru79	277.1	−0.8	0.717	0.029	11.635	0.195	7.093	0.029	1.03	4
387	Ru83	278.5	−0.6	0.453	0.000	12.107	0.000	8.450	0.000	0.99	1
388	Ru92	289.5	−2.0	0.461	0.000	12.019	0.000	7.798	0.000	0.35	1
389	Ru93	290.5	−1.1	0.229	0.000	10.940	0.000	8.193	0.000	1.07	1
390	Ru97	296.8	−0.4	0.229	0.000	10.816	0.000	8.343	0.000	0.42	2
391	Ru98	297.2	−2.2	0.162	0.000	8.622	0.000	8.508	0.000	0.38	1
392	Ru107	306.0	−2.3	0.458	0.000	10.948	0.000	7.478	0.000	0.49	1
393	Ru108	308.3	4.0	0.136	0.000	9.927	0.000	8.424	0.000	0.25	1
394	Ru119	333.3	−1.9	0.570	0.000	10.055	0.000	6.853	0.000	0.45	1
395	Ru127	352.9	−2.5	0.990	0.000	10.983	0.000	7.351	0.000	0.64	1
396	Sher1	289.6	−0.4	1.374	0.000	13.998	0.000	6.713	0.000	0.91	1
397	Stock8	173.4	−0.2	0.437	0.000	11.438	0.000	7.056	0.000	1.70	1
398	Stock13	290.5	1.6	0.218	0.000	11.143	0.000	7.222	0.000	1.25	2
399	Stock14	295.2	−0.6	0.223	0.006	11.780	0.083	7.058	0.039	1.65	4
400	Stock16	306.1	0.1	0.491	0.000	11.300	0.000	6.915	0.000	1.11	2
401	Stock17	115.3	0.1	0.736	0.000	11.809	0.000	6.775	0.000	0.39	1
402	S Vul	25.9	9.3	0.545	0.000	9.737	0.000	8.179	0.000	1.26	1
403	Tr1	128.2	−1.1	0.582	0.029	12.197	0.079	7.480	0.145	1.44	3
404	Tr2	137.4	−3.9	0.324	0.000	9.220	0.000	8.169	0.000	1.91	[illegible]
405	Tr7	238.3	−3.9	0.268	0.000	11.113	0.000	7.430	0.000	[illegible]	[illegible]

Table 1. (Cont.)

N	*Cluster*	l°	b°	$E(B-V)$	σ_E	*Mod.*	σ_{Mod}	$\log t$	σ_t	W	N_{ref}
406	Tr9	243.1	1.2	0.248	0.000	11.951	0.000	8.001	0.000	0.81	2
407	Tr10	262.8	0.6	0.033	0.007	8.173	0.185	7.542	0.150	0.96	3
408	Tr14	287.4	−0.6	0.515	0.011	12.302	0.245	6.828	0.029	2.87	4
409	Tr15	287.4	−0.4	0.424	0.000	11.411	0.000	6.926	0.000	0.97	2
410	Tr16	287.6	−0.7	0.486	0.015	12.329	0.198	6.788	0.033	1.54	4
411	Tr17	288.7	0.4	0.605	0.000	11.854	0.000	7.706	0.000	1.50	2
412	Tr18	291.0	−1.4	0.315	0.020	10.817	0.080	7.194	0.061	2.12	6
413	Tr21	307.6	−0.3	0.194	0.000	10.644	0.000	7.696	0.000	1.30	2
414	Tr22	314.7	−0.6	0.521	0.000	11.056	0.000	7.950	0.000	1.01	2
415	Tr24	344.4	1.7	0.423	0.000	10.332	0.000	6.919	0.000	1.60	1
416	Tr27	355.1	−0.7	1.184	0.000	10.440	0.000	7.063	0.000	0.89	2
417	Tr28	356.0	−0.2	0.733	0.000	10.793	0.000	7.290	0.000	0.52	2
418	Tr33	12.4	−3.2	0.357	0.000	11.374	0.000	7.685	0.000	0.64	1
419	Tr35	28.3	0.0	1.218	0.000	10.561	0.000	7.862	0.000	1.54	2
420	Tr37	99.3	3.7	0.457	0.039	9.776	0.119	7.054	0.068	1.80	3
421	VdB99	286.6	−0.6	0.054	0.000	8.667	0.000	7.605	0.000	1.57	2
422	Wat6	264.9	−2.8	0.243	0.000	11.144	0.000	7.671	0.000	0.62	1
423	West2	284.3	−2.8	0.785	0.000	11.517	0.000	7.215	0.000	0.19	1
424	WZ Sgr	12.1	−1.3	0.476	0.000	11.273	0.000	7.460	0.000	1.95	2
425	ζ Scl	14.9	−79.3	0.010	0.006	7.301	0.058	7.796	0.124	0.79	3