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Evolutionary stellar models using Rogers & Iglesias opacities, with particular attention to internal structure constants

A. Claret[1,*] and A. Giménez[1,2]

[1] Instituto de Astrofísica de Andalucía, Apartado Correos 3004, E-18080 Granada, Spain
[2] Laboratorio de Astrofísica Espacial y Física Fundamental, INTA, E-28850 Torrejón de Ardoz, Madrid, Spain

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Abstract. — New stellar evolutionary models, including internal structure constants, are presented in this paper making use of the most recent input physics in order to extend our previous studies on this subject. The new opacities (Anders-Grevesse mixture) recently obtained at Lawrence Livermore Laboratory by Rogers & Iglesias have been introduced and for the lower temperatures we have adopted recent computations by Alexander. The main impact of these improvements were the changes of the solar helium content and mixing-length parameter. The adopted initial chemical compositions are (Y, Z) = (0.267, 0.01); (0.280, 0.02); (0.294, 0.02) and (0.321, 0.03) in order to cover the range of metallic abundances generally found in double-lined eclipsing binary stars. The grids cover a mass range from 1 to 40 $M_{\odot}$ and were computed from the ZAMS up to the first phases of carbon ignition. Core overshooting and mass loss were taked into account though standard models are also available on request. The new models show a general tendency to be cooler and more centrally concentrated in mass than our previous computations for the typical masses where apsidal motion is observed. Concerning the stellar interior, this tendency is a good indication that the revised opacity calculations may help, together with other improvements in the adopted physics of the models, to explain the still remaining discrepancies between observed apsidal motion rates and theoretical predictions.

Key words: evolutionary stellar models – stellar structure – binary stars – apsidal motion

1. Introduction.

Following our main objective of investigating the internal structure of main-sequence or little evolved stars (see Claret & Giménez 1989a, 1989b, 1991a, 1991b and references given therein) we present in this paper new grids of theoretical models based on the most recent opacities described by Rogers & Iglesias 1992. The new opacities were computed using OPAL code that takes into account several improvements with respect to older ones like a better treatment of the equation of state or the inclusion of spectral lines (Iglesias & Rogers 1991). The impact of these new calculations on, e.g., pulsating stars is now being evaluated and it seems that they are able to explain some classical discrepancies in this field what fully justifies the presentation of this new grid in order to allow similar studies in stellar structure and evolution using accurate absolute dimensions.

As a consequence of the use of these opacities, we have found through the calibration of a solar model, that the initial helium content $Y_{\odot}$ and the mixing-length parameter α are different from those derived using Los Alamos opacities. On the other hand, Schaller *et al.* 1992, on the basis of several clusters, derived a smaller value for α_{ov}, namely, 0.20. Stothers & Chin 1991 argue that this value is could be a upper limit for α_{ov}.

At the present level of our knowlege of eclipsing binary stars (see Andersen 1991 for a good review) such improvements in the input physics of the models are highly needed since this kind of stars provides a crucial test for theoretical calculations. The masses and radii of these stars are measured with an accuracy around 1%. Moreover, the constraint of the same age and chemical composition for both components and, more recently the determination of metallic abundances (Clausen 1992) make them the best available test of the stellar evolutionary theory.

The present grids are mainly devoted to the interpretation of double-lined eclipsing binaries, but of course, they can be used in differents areas of astrophysical research.

2. The models.

As mentioned before, new opacities are responsible for the revision of the solar helium content as well as the

* *Present address*: Instituto de Astrofísica de Canarias, 38200 La Laguna, Tenerife, Spain.

mixing-length parameter with respect to values derived from Los Alamos tables. According to our calibration, the best fit for the Sun at an age of 4.6×10^9 years was obtained for $Y_\odot = 0.294$ and $\alpha = 1.5$ using a standard value of $Z_\odot$. Of course, other combinations around these values are possible but we think that they are the best approximation to actual Sun. Indeed, our values of $Y_\odot$ and α are in close agreement with those established by Schaller *et al.* 1992.

Since Rogers & Iglesias tables do not provide opacity values for low temperatures ($T_{\rm min} = 6000$ K) or temperatures above 10^8 K, we have used Alexander (1992) opacities and Los Alamos Opacity Library - LAOL - (Huebner *et al.* 1977; Weiss *et al.* 1990) respectively to complete the necessary input values. Interpolation in κ was performed by means of a bi-cubic spline in terms of log T and log R (ρ/T^3). Mass loss was computed using the results by Nieuwenhuijzen & de Jager 1990 which parametrizes it as a function of R, L and M. Reimer's 1977 formula was adopted in the case of cool stars. Following the discussion by Stothers & Chin 1991 and Schaller *et al.* 1992, we have adopted the overshooting parameter equal to 0.20 though this value could be even smaller.

The models were computed from the ZAMS up to stages of helium ignition for some masses though later evolutionary stages are also available on request. The adopted mixing-length and chemical compositions take into account the solar calibration described above, $\alpha = 1.5$ and $Y = Y_p + \frac{\Delta Y}{\Delta Z}Z$. In this way, we have used: $(Y, Z) = (0.267, 0.01)$; (0.294, 0.02) and (0.321, 0.03). As we do not know, a priori, what is the chemical composition of the eclipsing binaries, it is also important to have a symmetrical grid, with respect to the log $T_{\rm eff}$ - log g diagram, in order to compare it with observations from a statistical point of view. We have found that the best fit is achieved with the grid $(Y, Z) = (0.280, 0.02)$. Similar results are obtained if we take $(Y, Z) = (0.321, 0.03)$. It is interesting to note that also for Los Alamos Opacities the best value of Y that fits, as an average, observational data of eclipsing binaries with accurate absolute dimensions is 0.28 though for different values of α and α_{ov}.

Additional stellar models were calculated for the mass range between 1.0 and 2.0 $M_\odot$ in order to improve interpolation processes in this problematic region of the HR diagram. In our first papers, we only had 6 models in this interval while at present we have 11. As pointed out by Claret & Giménez 1989a it is important to secure enough models to perform a good interpolation because of the change in the main source of nuclear energy generation. More massive models are also available now (32 and 40 $M_\odot$). For the sake of comparison with our previous grids, we have computed some models using the same chemical composition $(Y, Z) = (0.280, 0.02)$ and α (2.0). This is made in order to avoid to mixing effects of different origin that may difficult the interpretation. For the mass range where we observe apsidal motion, the present models are cooler and more concentrated in mass than previous computations in this series of papers about stellar evolution and internal structure (see Figure 1a, 1b and 2). Moreover, our results confirm the test performed by Stothers & Chin 1991.

A preliminary comparison with accurate data from binary stars, including apsidal motion measurements, indicate a good agreement with the new models. Figure 3 shows a comparison between updated binary stars data given by Andersen 1991 and the present models for log $M \geq 0.0$. We have adopted as a typical chemical composition $(Y, Z) = (0.280, 0.02)$. A quite satisfactory general agreement is found given the existing uncertainties in effective temperatures and chemical compositions. Small changes in the adopted value of Z could explain the location of the component stars since the points are distributed symmetrically around the straight line with slope equal to 1.0. A detailed analysis in terms of the corresponding isochrones is currently being carried out.

Figure 4 shows the HR diagram for the grid with $(Y, Z) = (0.280, 0.02)$. This diagram is specially useful for eclipsing binaries investigators. Isochrones are drawn with an interval of log $\tau = 0.2$.

3. The tables.

The resulting tables have been organized, as in previous papers, following a format which has proven to be quite satisfactory, mainly in studies of binary stars. We have also computed the radius of gyration (β) as well as the parameter α which is related to the gravitational energy. Both parameters are defined in Claret and Giménez 1989b. These constants, for each individual model, are necessary to calculate values for the moment of inertia and the potential energy of each configuration and, thus, circularization and synchronization times (Claret & Giménez 1992a).

Tables 1 up to 24 refer to models with $(Y, Z) = (0.280, 0.02)$ while tables 25 up to 48 concern models with $(Y, Z) = (0.267, 0.01)$, and mixing length parameter equal to 1.5. Models with $(Y, Z) = (0.321, 0.03)$ are presented in tables 49 to 72. All symbols in these tables have their habitual meaning. For the sake of simplicity, only 20 models are presented for each evolutionary track but full models and additional material (e.g., isochrones) can be sent to interested readers on request (magnetic tapes, diskettes or e-mail: IAC::ACLARET ACLARET@IAC.ES. The complete grid for which solar calibration was based (0.294, 0.02; $l/H_p = 1.5$) is also available.

A detailed analysis of the effects of the new opacities on the interpretation of binary star data (including apsidal motion) will be presented in another paper under preparation (Claret & Giménez 1992b).

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TABLE 1

Log m = 0.0000 X = 0.7000 Z = 0.0200

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	-0.1725	4.5370	3.7450	-1.619	-2.061	-2.348	.141E+01	.2980
3.000000D+06	-0.1725	4.5370	3.7450	-1.619	-2.061	-2.348	.141E+01	.2980
4.095000D+09	-0.0651	4.4663	3.7542	-1.729	-2.160	-2.444	.157E+01	.2770
8.191000D+09	0.0560	4.3646	3.7590	-1.837	-2.252	-2.530	.178E+01	.2550
1.097066D+10	0.1835	4.2285	3.7569	-1.903	-2.296	-2.568	.208E+01	.2370
1.193160D+10	0.2465	4.1423	3.7511	-1.893	-2.271	-2.539	.226E+01	.2340
1.249676D+10	0.2868	4.0660	3.7421	-1.836	-2.202	-2.465	.239E+01	.2390
1.284392D+10	0.3072	3.9984	3.7303	-1.735	-2.094	-2.356	.245E+01	.2530
1.305446D+10	0.3082	3.9391	3.7157	-1.600	-1.957	-2.220	.243E+01	.2760
1.318297D+10	0.3079	3.8880	3.7029	-1.479	-1.839	-2.104	.240E+01	.3000
1.330311D+10	0.3285	3.8196	3.6909	-1.366	-1.733	-2.002	.244E+01	.3250
1.338636D+10	0.3660	3.7564	3.6845	-1.308	-1.680	-1.952	.255E+01	.3390
1.345111D+10	0.4079	3.6986	3.6805	-1.276	-1.651	-1.925	.271E+01	.3470
1.350460D+10	0.4502	3.6459	3.6779	-1.257	-1.635	-1.910	.289E+01	.3510
1.356101D+10	0.5004	3.5836	3.6749	-1.246	-1.627	-1.903	.314E+01	.3550
1.360856D+10	0.5489	3.5275	3.6730	-1.237	-1.620	-1.897	.340E+01	.3570
1.369487D+10	0.6517	3.4127	3.6700	-1.229	-1.615	-1.895	.405E+01	.3590
1.387883D+10	0.9878	3.0292	3.6581	-1.248	-1.641	-1.928	.764E+01	.3560
1.390909D+10	1.0744	2.9284	3.6546	-1.257	-1.652	-1.941	.907E+01	.3540
1.395643D+10	1.2486	2.7220	3.6465	-1.282	-1.681	-1.975	.130E+02	.3490

TABLE 2

Log m = 0.0212 X = 0.7000 Z = 0.0200

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	-0.0715	4.5090	3.7579	-1.695	-2.146	-2.437	.148E+01	.2850
5.110000D+08	-0.0567	4.4991	3.7592	-1.712	-2.161	-2.452	.150E+01	.2820
4.095000D+09	0.0551	4.4155	3.7662	-1.835	-2.273	-2.562	.168E+01	.2600
8.191000D+09	0.2008	4.2727	3.7670	-1.949	-2.363	-2.644	.198E+01	.2360
9.325178D+09	0.2702	4.1913	3.7640	-1.976	-2.376	-2.652	.217E+01	.2280
1.007288D+10	0.3274	4.1105	3.7581	-1.965	-2.350	-2.621	.234E+01	.2240
1.056453D+10	0.3674	4.0327	3.7486	-1.902	-2.273	-2.539	.248E+01	.2290
1.086655D+10	0.3843	3.9652	3.7360	-1.787	-2.148	-2.410	.253E+01	.2440
1.105130D+10	0.3783	3.9075	3.7200	-1.628	-1.985	-2.248	.249E+01	.2710
1.116541D+10	0.3698	3.8574	3.7054	-1.483	-1.844	-2.109	.243E+01	.3000
1.126768D+10	0.3854	3.7922	3.6930	-1.361	-1.729	-1.998	.244E+01	.3270
1.134139D+10	0.4213	3.7274	3.6858	-1.298	-1.671	-1.943	.256E+01	.3420
1.139620D+10	0.4620	3.6724	3.6822	-1.267	-1.644	-1.918	.270E+01	.3490
1.145456D+10	0.5146	3.6064	3.6788	-1.246	-1.625	-1.901	.293E+01	.3540
1.150029D+10	0.5624	3.5496	3.6766	-1.233	-1.615	-1.892	.316E+01	.3570
1.153943D+10	0.6076	3.4959	3.6745	-1.227	-1.611	-1.890	.341E+01	.3590
1.158007D+10	0.6598	3.4363	3.6726	-1.222	-1.608	-1.887	.373E+01	.3610
1.169791D+10	0.8526	3.2170	3.6660	-1.222	-1.612	-1.896	.529E+01	.3610
1.178970D+10	1.0854	2.9471	3.6567	-1.242	-1.638	-1.926	.831E+01	.3570
1.183603D+10	1.2630	2.7355	3.6482	-1.266	-1.666	-1.959	.119E+02	.3520

TABLE 3

Log m = 0.0492 X = 0.7000 Z = 0.0200

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	0.0617	4.4676	3.7739	-1.812	-2.280	-2.581	.158E+01	.2680
1.000000D+06	0.0617	4.4676	3.7739	-1.812	-2.280	-2.581	.158E+01	.2680
1.966863D+09	0.1326	4.4124	3.7778	-1.900	-2.363	-2.663	.170E+01	.2540
3.379908D+09	0.1860	4.3648	3.7793	-1.958	-2.414	-2.713	.180E+01	.2430
6.205999D+09	0.3040	4.2363	3.7766	-2.046	-2.479	-2.769	.207E+01	.2250
7.029339D+09	0.3624	4.1648	3.7734	-2.071	-2.490	-2.776	.224E+01	.2170
7.647433D+09	0.4162	4.0875	3.7675	-2.064	-2.466	-2.745	.242E+01	.2130
8.073825D+09	0.4562	4.0114	3.7585	-2.008	-2.392	-2.662	.257E+01	.2160
8.355429D+09	0.4742	3.9406	3.7453	-1.886	-2.253	-2.517	.264E+01	.2290
8.529915D+09	0.4618	3.8827	3.7277	-1.696	-2.054	-2.317	.258E+01	.2580
8.667493D+09	0.4370	3.8182	3.7054	-1.458	-1.820	-2.086	.244E+01	.3050
8.746813D+09	0.4514	3.7566	3.6936	-1.340	-1.709	-1.979	.245E+01	.3320
8.805499D+09	0.4866	3.6962	3.6873	-1.283	-1.658	-1.931	.256E+01	.3450
8.849633D+09	0.5239	3.6446	3.6837	-1.254	-1.632	-1.907	.271E+01	.3520
8.898194D+09	0.5740	3.5815	3.6805	-1.233	-1.614	-1.891	.292E+01	.3580
8.936757D+09	0.6192	3.5274	3.6782	-1.222	-1.605	-1.883	.314E+01	.3610
8.970558D+09	0.6633	3.4756	3.6763	-1.215	-1.600	-1.879	.338E+01	.3620
9.034291D+09	0.7588	3.3641	3.6723	-1.208	-1.597	-1.878	.400E+01	.3650
9.084868D+09	0.8513	3.2577	3.6688	-1.208	-1.599	-1.882	.473E+01	.3650
9.231980D+09	1.3068	2.7207	3.6485	-1.255	-1.655	-1.949	.117E+02	.3550

TABLE 4

Log m = 0.0719 X = 0.7000 Z = 0.0200

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	0.1690	4.4320	3.7862	-1.920	-2.411	-2.726	.166E+01	.2540
1.000000D+06	0.1690	4.4320	3.7862	-1.920	-2.411	-2.726	.166E+01	.2540
1.451760D+09	0.2300	4.3818	3.7888	-1.998	-2.486	-2.802	.178E+01	.2420
2.441835D+09	0.2738	4.3401	3.7894	-2.047	-2.530	-2.844	.187E+01	.2340
3.527734D+09	0.3200	4.2848	3.7871	-2.079	-2.548	-2.858	.197E+01	.2270
4.397759D+09	0.3530	4.2282	3.7812	-2.066	-2.515	-2.814	.204E+01	.2250
5.147222D+09	0.3749	4.1735	3.7730	-2.019	-2.444	-2.731	.207E+01	.2270
5.746648D+09	0.3982	4.1226	3.7661	-1.977	-2.385	-2.664	.212E+01	.2290
5.908453D+09	0.5059	4.0701	3.7799	-2.208	-2.642	-2.939	.253E+01	.1990
5.923503D+09	0.5275	4.0136	3.7712	-2.144	-2.555	-2.839	.265E+01	.2030
6.174030D+09	0.5390	3.9472	3.7575	-2.010	-2.394	-2.665	.269E+01	.2150
6.370447D+09	0.5336	3.8944	3.7429	-1.851	-2.218	-2.482	.268E+01	.2350
6.533934D+09	0.4839	3.8378	3.7163	-1.547	-1.907	-2.171	.247E+01	.2880
6.645014D+09	0.4732	3.7740	3.6977	-1.350	-1.718	-1.987	.240E+01	.3300
6.718337D+09	0.5044	3.7115	3.6899	-1.272	-1.648	-1.920	.250E+01	.3480
6.774540D+09	0.5443	3.6547	3.6857	-1.238	-1.618	-1.893	.265E+01	.3570
6.820559D+09	0.5845	3.6031	3.6828	-1.220	-1.602	-1.878	.283E+01	.3610
6.942878D+09	0.7228	3.4398	3.6765	-1.194	-1.582	-1.862	.356E+01	.3680
7.004438D+09	0.8143	3.3322	3.6725	-1.192	-1.583	-1.864	.419E+01	.3690
7.053951D+09	0.9059	3.2273	3.6692	-1.194	-1.587	-1.871	.494E+01	.3680

TABLE 5

Log m = 0.0969 X = 0.7000 Z = 0.0200

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	0.2862	4.3934	3.7996	-2.045	-2.571	-2.911	.177E+01	.2400
1.000000D+06	0.2863	4.3934	3.7996	-2.045	-2.572	-2.912	.177E+01	.2400
1.385962D+09	0.3548	4.3317	3.8013	-2.133	-2.657	-3.000	.190E+01	.2260
2.407395D+09	0.4045	4.2736	3.7992	-2.177	-2.689	-3.027	.201E+01	.2180
3.122968D+09	0.4376	4.2225	3.7947	-2.183	-2.677	-3.005	.209E+01	.2150
3.868726D+09	0.4669	4.1591	3.7862	-2.150	-2.613	-2.923	.215E+01	.2140
4.402668D+09	0.4805	4.1066	3.7764	-2.080	-2.513	-2.807	.217E+01	.2190
4.750259D+09	0.4963	4.0689	3.7710	-2.045	-2.463	-2.749	.221E+01	.2210
4.836666D+09	0.5152	4.0563	3.7725	-2.078	-2.500	-2.788	.228E+01	.2160
4.896388D+09	0.6261	4.0099	3.7887	-2.346	-2.814	-3.134	.274E+01	.1860
4.898471D+09	0.6182	4.0043	3.7853	-2.307	-2.763	-3.074	.274E+01	.1890
4.908017D+09	0.6363	3.9511	3.7765	-2.240	-2.669	-2.965	.282E+01	.1920
5.077110D+09	0.6313	3.8718	3.7554	-2.009	-2.391	-2.662	.282E+01	.2140
5.240781D+09	0.5775	3.8186	3.7287	-1.673	-2.034	-2.297	.260E+01	.2640
5.368362D+09	0.5294	3.7573	3.7014	-1.359	-1.728	-1.997	.240E+01	.3280
5.483501D+09	0.5870	3.6469	3.6881	-1.233	-1.613	-1.888	.260E+01	.3580
5.645997D+09	0.7687	3.4262	3.6784	-1.183	-1.573	-1.853	.349E+01	.3710
5.704663D+09	0.8624	3.3151	3.6740	-1.180	-1.572	-1.854	.412E+01	.3720
5.750242D+09	0.9541	3.2090	3.6704	-1.182	-1.576	-1.860	.486E+01	.3710
5.787795D+09	1.0470	3.1006	3.6666	-1.189	-1.585	-1.871	.578E+01	.3700

TABLE 6

Log m = 0.1239 X = 0.7000 Z = 0.0200

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	0.4120	4.3547	3.8146	-2.179	-2.756	-3.137	.187E+01	.2250
1.000000D+06	0.4121	4.3546	3.8146	-2.179	-2.756	-3.138	.187E+01	.2250
1.549699D+09	0.4978	4.2615	3.8128	-2.277	-2.841	-3.220	.206E+01	.2110
2.250422D+09	0.5369	4.2031	3.8079	-2.318	-2.868	-3.240	.218E+01	.2030
2.875710D+09	0.5704	4.1377	3.7999	-2.287	-2.802	-3.150	.224E+01	.2030
3.358152D+09	0.5890	4.0789	3.7899	-2.231	-2.710	-3.033	.228E+01	.2050
3.751992D+09	0.5985	4.0248	3.7787	-2.145	-2.588	-2.888	.230E+01	.2100
3.969914D+09	0.6101	3.9937	3.7739	-2.111	-2.539	-2.832	.233E+01	.2120
4.073896D+09	0.6576	3.9720	3.7803	-2.223	-2.670	-2.974	.252E+01	.1990
4.091403D+09	0.7570	3.9328	3.7954	-2.477	-2.981	-3.329	.298E+01	.1730
4.093510D+09	0.7424	3.9182	3.7881	-2.395	-2.870	-3.197	.297E+01	.1790
4.101935D+09	0.7574	3.8590	3.7770	-2.301	-2.739	-3.042	.304E+01	.1850
4.174155D+09	0.7277	3.7838	3.7508	-1.977	-2.354	-2.624	.296E+01	.2170
4.281821D+09	0.6038	3.7334	3.7072	-1.401	-1.767	-2.035	.246E+01	.3190
4.340627D+09	0.6155	3.6727	3.6950	-1.270	-1.646	-1.918	.248E+01	.3500
4.382699D+09	0.6495	3.6193	3.6901	-1.224	-1.605	-1.880	.261E+01	.3600
4.424619D+09	0.6943	3.5598	3.6865	-1.197	-1.582	-1.859	.279E+01	.3670
4.521455D+09	0.8311	3.3960	3.6797	-1.170	-1.561	-1.842	.350E+01	.3740
4.610906D+09	1.0119	3.1819	3.6714	-1.170	-1.566	-1.850	.483E+01	.3750
4.644083D+09	1.1043	3.0734	3.6673	-1.177	-1.574	-1.860	.572E+01	.3730

TABLE 7

Log m = 0.1492 X = 0.7000 Z = 0.0200

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	0.5276	4.3228	3.8292	-2.289	-2.914	-3.340	.196E+01	.2150
1.000000D+05	0.5275	4.3228	3.8292	-2.289	-2.914	-3.340	.196E+01	.2150
8.994820D+08	0.5841	4.2594	3.8274	-2.356	-2.973	-3.396	.209E+01	.2050
1.557426D+09	0.6272	4.1967	3.8225	-2.392	-2.993	-3.407	.220E+01	.1990
2.092826D+09	0.6610	4.1327	3.8150	-2.401	-2.978	-3.375	.229E+01	.1950
2.486914D+09	0.6829	4.0760	3.8063	-2.380	-2.925	-3.299	.236E+01	.1940
2.870182D+09	0.6997	4.0119	3.7945	-2.317	-2.819	-3.162	.240E+01	.1960
3.168268D+09	0.7066	3.9573	3.7826	-2.223	-2.683	-2.996	.242E+01	.2020
3.306210D+09	0.7160	3.9315	3.7784	-2.194	-2.641	-2.946	.244E+01	.2030
3.397255D+09	0.7782	3.9069	3.7878	-2.356	-2.837	-3.167	.271E+01	.1860
3.405623D+09	0.8683	3.8770	3.8029	-2.586	-3.129	-3.512	.314E+01	.1650
3.408404D+09	0.8514	3.8421	3.7899	-2.463	-2.957	-3.299	.314E+01	.1730
3.418291D+09	0.8600	3.7844	3.7777	-2.352	-2.802	-3.112	.320E+01	.1790
3.467725D+09	0.8059	3.7131	3.7463	-1.934	-2.309	-2.577	.303E+01	.2220
3.538194D+09	0.6808	3.6529	3.7000	-1.303	-1.677	-1.948	.250E+01	.3420
3.568615D+09	0.7132	3.5921	3.6929	-1.232	-1.613	-1.888	.265E+01	.3580
3.596217D+09	0.7575	3.5298	3.6884	-1.196	-1.581	-1.858	.283E+01	.3670
3.644620D+09	0.8497	3.4156	3.6829	-1.168	-1.559	-1.839	.327E+01	.3750
3.723208D+09	1.0316	3.1970	3.6737	-1.159	-1.555	-1.840	.449E+01	.3770
3.778083D+09	1.2116	2.9836	3.6654	-1.170	-1.570	-1.858	.626E+01	.3750

TABLE 8

Log m = 0.1761 X = 0.7000 Z = 0.0200

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	0.6462	4.3029	3.8471	-2.365	-3.029	-3.491	.202E+01	.2080
6.408389D+08	0.6933	4.2458	3.8446	-2.420	-3.075	-3.534	.213E+01	.2000
1.199462D+09	0.7343	4.1786	3.8381	-2.462	-3.102	-3.553	.224E+01	.1930
1.537182D+09	0.7619	4.1264	3.8319	-2.485	-3.111	-3.553	.233E+01	.1890
1.911805D+09	0.7893	4.0567	3.8214	-2.489	-3.089	-3.513	.243E+01	.1860
2.196063D+09	0.8065	3.9956	3.8104	-2.462	-3.031	-3.428	.249E+01	.1850
2.408380D+09	0.8162	3.9447	3.8001	-2.412	-2.945	-3.314	.253E+01	.1870
2.640131D+09	0.8211	3.8874	3.7870	-2.314	-2.799	-3.131	.255E+01	.1930
2.744357D+09	0.8316	3.8612	3.7831	-2.290	-2.762	-3.085	.259E+01	.1930
2.815732D+09	0.9267	3.8364	3.8006	-2.553	-3.096	-3.479	.300E+01	.1690
2.818168D+09	0.9848	3.8229	3.8118	-2.681	-3.263	-3.683	.328E+01	.1580
2.821375D+09	0.9660	3.7634	3.7922	-2.538	-3.055	-3.417	.332E+01	.1660
2.828922D+09	0.9689	3.7101	3.7796	-2.425	-2.894	-3.219	.337E+01	.1730
2.863401D+09	0.8816	3.6429	3.7410	-1.874	-2.244	-2.511	.305E+01	.2310
2.888301D+09	0.7583	3.6336	3.7078	-1.380	-1.748	-2.017	.246E+01	.3240
2.900620D+09	0.7697	3.5805	3.6974	-1.257	-1.635	-1.909	.245E+01	.3530
2.911106D+09	0.8082	3.5194	3.6918	-1.205	-1.589	-1.866	.255E+01	.3650
2.923444D+09	0.8609	3.4495	3.6875	-1.177	-1.565	-1.844	.276E+01	.3720
2.946258D+09	0.9548	3.3333	3.6819	-1.156	-1.548	-1.830	.325E+01	.3780
3.045855D+09	1.3111	2.9048	3.6638	-1.166	-1.567	-1.856	.673E+01	.3760

TABLE 9

Log m = 0.1987 X = 0.7000 Z = 0.0200

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	0.7435	4.3032	3.8659	-2.380	-3.055	-3.528	.202E+01	.2070
5.030662D+08	0.7866	4.2481	3.8629	-2.429	-3.096	-3.566	.212E+01	.2000
8.644790D+08	0.8176	4.1961	3.8576	-2.468	-3.127	-3.594	.221E+01	.1940
1.167717D+09	0.8450	4.1405	3.8506	-2.503	-3.152	-3.615	.230E+01	.1890
1.418277D+09	0.8674	4.0843	3.8421	-2.529	-3.169	-3.627	.239E+01	.1850
1.626612D+09	0.8850	4.0300	3.8330	-2.544	-3.171	-3.621	.248E+01	.1810
1.802159D+09	0.8985	3.9798	3.8238	-2.543	-3.154	-3.590	.255E+01	.1790
2.003205D+09	0.9110	3.9164	3.8111	-2.513	-3.092	-3.501	.262E+01	.1790
2.191368D+09	0.9182	3.8539	3.7972	-2.442	-2.975	-3.347	.266E+01	.1820
2.366391D+09	0.9315	3.7998	3.7870	-2.377	-2.873	-3.216	.272E+01	.1850
2.419132D+09	1.0868	3.7820	3.8214	-2.739	-3.345	-3.788	.338E+01	.1540
2.420939D+09	1.0544	3.7341	3.8014	-2.634	-3.193	-3.592	.342E+01	.1600
2.423983D+09	1.0655	3.6721	3.7886	-2.558	-3.074	-3.436	.352E+01	.1630
2.433113D+09	1.0528	3.6207	3.7726	-2.384	-2.839	-3.154	.352E+01	.1750
2.445287D+09	0.9909	3.5852	3.7482	-2.019	-2.404	-2.678	.327E+01	.2110
2.463548D+09	0.8307	3.5882	3.7089	-1.388	-1.756	-2.025	.248E+01	.3220
2.469635D+09	0.8350	3.5464	3.6996	-1.276	-1.652	-1.925	.241E+01	.3480
2.481809D+09	0.9240	3.4141	3.6888	-1.181	-1.569	-1.848	.262E+01	.3710
2.497459D+09	1.0709	3.2327	3.6801	-1.150	-1.545	-1.828	.322E+01	.3790
2.563601D+09	1.4356	2.7882	3.6602	-1.170	-1.573	-1.863	.779E+01	.3760

TABLE 10

Log m = 0.2504 X = 0.7000 Z = 0.0200

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	0.9622	4.3185	3.9115	-2.353	-3.032	-3.508	.198E+01	.2110
6.272732D+08	1.0409	4.1915	3.8994	-2.454	-3.115	-3.584	.218E+01	.1960
1.022755D+09	1.0943	4.0597	3.8798	-2.534	-3.180	-3.645	.240E+01	.1850
1.168993D+09	1.1130	3.9924	3.8676	-2.567	-3.206	-3.669	.251E+01	.1800
1.288965D+09	1.1279	3.9254	3.8546	-2.596	-3.230	-3.691	.262E+01	.1750
1.386563D+09	1.1380	3.8607	3.8410	-2.617	-3.244	-3.702	.273E+01	.1710
1.467694D+09	1.1449	3.8019	3.8280	-2.628	-3.246	-3.697	.283E+01	.1690
1.560290D+09	1.1500	3.7333	3.8121	-2.613	-3.210	-3.643	.292E+01	.1680
1.642563D+09	1.1536	3.6799	3.7997	-2.567	-3.133	-3.538	.298E+01	.1690
1.709232D+09	1.2126	3.6628	3.8101	-2.675	-3.271	-3.705	.323E+01	.1590
1.713912D+09	1.3184	3.7146	3.8495	-2.771	-3.389	-3.846	.350E+01	.1510
1.715332D+09	1.2771	3.6043	3.8116	-2.744	-3.344	-3.784	.374E+01	.1510
1.716528D+09	1.2836	3.5451	3.7985	-2.712	-3.288	-3.704	.387E+01	.1510
1.720116D+09	1.2720	3.4756	3.7782	-2.561	-3.068	-3.423	.394E+01	.1600
1.724901D+09	1.2237	3.4338	3.7557	-2.246	-2.666	-2.960	.376E+01	.1860
1.732078D+09	1.0342	3.4576	3.7142	-1.493	-1.858	-2.125	.275E+01	.2990
1.735905D+09	1.0348	3.3963	3.6990	-1.284	-1.660	-1.934	.257E+01	.3460
1.738842D+09	1.0961	3.3030	3.6910	-1.215	-1.600	-1.877	.268E+01	.3630
1.743053D+09	1.2142	3.1509	3.6826	-1.178	-1.570	-1.851	.308E+01	.3720
1.769915D+09	1.9801	2.1844	3.6324	-1.204	-1.618	-1.919	.142E+02	.3690

TABLE 11

Log m = 0.2989 X = 0.7000 Z = 0.0200

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	1.1638	4.3244	3.9512	-2.326	-3.007	-3.484	.194E+01	.2140
4.131318D+08	1.2363	4.2039	3.9392	-2.422	-3.085	-3.556	.212E+01	.2000
8.296512D+08	1.3198	3.9901	3.9066	-2.549	-3.190	-3.655	.247E+01	.1820
9.933673D+08	1.3495	3.8485	3.8787	-2.609	-3.239	-3.700	.270E+01	.1730
1.053472D+09	1.3581	3.7810	3.8639	-2.633	-3.259	-3.719	.282E+01	.1690
1.141023D+09	1.3660	3.6621	3.8362	-2.666	-3.285	-3.741	.304E+01	.1630
1.183668D+09	1.3691	3.6016	3.8218	-2.676	-3.288	-3.740	.315E+01	.1610
1.221331D+09	1.3842	3.5652	3.8165	-2.689	-3.297	-3.745	.327E+01	.1590
1.238962D+09	1.4828	3.6547	3.8635	-2.742	-3.361	-3.819	.339E+01	.1540
1.239327D+09	1.5102	3.6693	3.8740	-2.755	-3.374	-3.833	.345E+01	.15200
1.239543D+09	1.5333	3.6787	3.8822	-2.767	-3.386	-3.845	.353E+01	.1510
1.240160D+09	1.4760	3.6025	3.8488	-2.751	-3.366	-3.822	.367E+01	.1520
1.240708D+09	1.4874	3.5152	3.8298	-2.775	-3.386	-3.838	.392E+01	.1480
1.241803D+09	1.4896	3.4164	3.8056	-2.779	-3.378	-3.818	.420E+01	.1460
1.243447D+09	1.4730	3.3376	3.7818	-2.684	-3.234	-3.625	.434E+01	.1500
1.251118D+09	1.2114	3.2790	3.7018	-1.356	-1.727	-1.998	.281E+01	.3290
1.252213D+09	1.2435	3.2185	3.6946	-1.276	-1.654	-1.929	.282E+01	.3480
1.256299D+09	1.4550	2.9340	3.6764	-1.193	-1.585	-1.868	.360E+01	.3690
1.257892D+09	1.5493	2.8127	3.6697	-1.187	-1.583	-1.868	.417E+01	.3710
1.267928D+09	2.1539	2.0349	3.6264	-1.208	-1.624	-1.926	.144E+02	.3690

TABLE 12

Log m = 0.3997 X = 0.7000 Z = 0.0200

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	1.5707	4.3234	4.0275	-2.270	-2.951	-3.428	.186E+01	.2210
3.054619D+08	1.6902	4.1192	4.0063	-2.422	-3.077	-3.545	.216E+01	.1990
4.343926D+08	1.7479	3.9670	3.9827	-2.510	-3.152	-3.618	.239E+01	.1870
4.799481D+08	1.7691	3.8913	3.9691	-2.547	-3.183	-3.648	.251E+01	.1810
5.461094D+08	1.7966	3.7475	3.9400	-2.604	-3.232	-3.696	.276E+01	.1720
5.896635D+08	1.8096	3.6218	3.9118	-2.647	-3.271	-3.732	.298E+01	.1660
6.112915D+08	1.8157	3.5532	3.8962	-2.668	-3.289	-3.750	.312E+01	.1630
6.273686D+08	1.8281	3.5134	3.8893	-2.686	-3.306	-3.765	.324E+01	.1600
6.380522D+08	1.9175	3.6060	3.9348	-2.718	-3.340	-3.802	.333E+01	.1570
6.384051D+08	1.9685	3.6382	3.9556	-2.741	-3.362	-3.825	.348E+01	.1540
6.387781D+08	1.9171	3.5120	3.9112	-2.741	-3.358	-3.819	.376E+01	.1520
6.391096D+08	1.9288	3.4001	3.8862	-2.773	-3.388	-3.846	.409E+01	.1480
6.396069D+08	1.9257	3.2750	3.8541	-2.799	-3.411	-3.863	.448E+01	.1440
6.399384D+08	1.9156	3.2016	3.8333	-2.806	-3.414	-3.862	.471E+01	.1430
6.402700D+08	1.9006	3.1271	3.8109	-2.810	-3.412	-3.854	.495E+01	.1420
6.409330D+08	1.8509	2.9935	3.7651	-2.701	-3.249	-3.635	.528E+01	.1480
6.425907D+08	1.6365	2.9129	3.6913	-1.384	-1.756	-2.029	.366E+01	.3220
6.440055D+08	1.8798	2.5646	3.6651	-1.235	-1.626	-1.910	.488E+01	.3590
6.451405D+08	2.0875	2.2923	3.6489	-1.223	-1.622	-1.912	.704E+01	.3630
6.462654D+08	2.3057	2.0014	3.6308	-1.215	-1.624	-1.920	.111E+02	.3660

TABLE 13

Log m = 0.4997 X = 0.7000 Z = 0.0200

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	1.9588	4.3168	4.0979	-2.208	-2.890	-3.367	.179E+01	.2290
5.110000D+07	1.9991	4.2645	4.0949	-2.253	-2.928	-3.402	.186E+01	.2230
1.139210D+08	2.0461	4.1887	4.0877	-2.312	-2.978	-3.449	.196E+01	.2140
2.323757D+08	2.1541	3.9598	4.0574	-2.458	-3.100	-3.565	.229E+01	.1930
2.770966D+08	2.2012	3.8102	4.0318	-2.533	-3.166	-3.630	.253E+01	.1820
3.050340D+08	2.2301	3.6718	4.0044	-2.590	-3.217	-3.682	.277E+01	.1730
3.336651D+08	2.2629	3.4985	3.9693	-2.658	-3.280	-3.745	.313E+01	.1640
3.400937D+08	2.3904	3.6217	4.0320	-2.707	-3.329	-3.793	.336E+01	.1580
3.398899D+08	2.3384	3.5878	4.0105	-2.682	-3.305	-3.770	.322E+01	.1610
3.403443D+08	2.3514	3.4297	3.9742	-2.732	-3.352	-3.816	.384E+01	.1530
3.404623D+08	2.3617	3.3372	3.9537	-2.761	-3.380	-3.843	.413E+01	.1490
3.405802D+08	2.3618	3.2573	3.9338	-2.779	-3.397	-3.859	.438E+01	.1470
3.408161D+08	2.3515	3.1124	3.8949	-2.805	-3.420	-3.875	.486E+01	.1430
3.410519D+08	2.3260	2.9561	3.8495	-2.821	-3.428	-3.873	.542E+01	.1410
3.412878D+08	2.2740	2.7552	3.7863	-2.815	-3.403	-3.826	.621E+01	.1400
3.415215D+08	2.1706	2.6040	3.7226	-2.409	-2.852	-3.155	.635E+01	.1680
3.418719D+08	2.0734	2.5224	3.6779	-1.478	-1.848	-2.120	.522E+01	.3010
3.419887D+08	2.1340	2.4214	3.6678	-1.379	-1.755	-2.032	.555E+01	.3230
3.422224D+08	2.2531	2.2507	3.6549	-1.303	-1.688	-1.970	.653E+01	.3420
3.480169D+08	2.4152	2.0222	3.6383	-1.254	-1.651	-1.940	.132E+02	.3550

TABLE 14

Log m = 0.5999 X = 0.7000 Z = 0.0200

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	2.3403	4.3063	4.1656	-2.145	-2.826	-3.302	.172E+01	.2370
4.527280D+07	2.4002	4.2256	4.1604	-2.215	-2.887	-3.360	.182E+01	.2270
1.027262D+08	2.4939	4.0726	4.1455	-2.332	-2.985	-3.452	.202E+01	.2100
1.485627D+08	2.5885	3.8458	4.1125	-2.466	-3.101	-3.566	.236E+01	.1910
1.655348D+08	2.6288	3.7035	4.0870	-2.534	-3.162	-3.627	.259E+01	.1810
1.759891D+08	2.6547	3.5852	4.0639	-2.583	-3.209	-3.675	.280E+01	.1730
1.838686D+08	2.6821	3.4988	4.0491	-2.624	-3.249	-3.715	.301E+01	.1680
1.866230D+08	2.7393	3.5793	4.0835	-2.641	-3.264	-3.729	.308E+01	.1660
1.867810D+08	2.7861	3.6259	4.1069	-2.660	-3.282	-3.747	.321E+01	.1630
1.868847D+08	2.7575	3.4592	4.0581	-2.687	-3.308	-3.775	.361E+01	.1590
1.869769D+08	2.7778	3.3151	4.0271	-2.737	-3.358	-3.826	.404E+01	.1520
1.870230D+08	2.7819	3.2517	4.0123	-2.757	-3.379	-3.846	.425E+01	.1500
1.871152D+08	2.7821	3.1374	3.9838	-2.786	-3.408	-3.874	.463E+01	.1460
1.872074D+08	2.7741	3.0201	3.9524	-2.809	-3.430	-3.893	.505E+01	.1430
1.872995D+08	2.7569	2.8863	3.9147	-2.829	-3.446	-3.901	.558E+01	.1410
1.874839D+08	2.6687	2.4777	3.7905	-2.836	-3.415	-3.825	.752E+01	.1370
1.875300D+08	2.6274	2.3364	3.7449	-2.795	-3.341	-3.720	.831E+01	.1380
1.875761D+08	2.5674	2.2401	3.7058	-2.502	-2.941	-3.239	.856E+01	.1570
1.876452D+08	2.4740	2.2051	3.6737	-1.790	-2.155	-2.423	.762E+01	.2410
1.876913D+08	2.5117	2.1043	3.6579	-1.518	-1.885	-2.157	.781E+01	.2920

TABLE 15

Log m = 0.6998 X = 0.7000 Z = 0.0200

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	2.7051	4.3000	4.2302	-2.078	-2.759	-3.236	.164E+01	.2460
2.445353D+07	2.7647	4.2248	4.2263	-2.147	-2.820	-3.293	.173E+01	.2360
5.398261D+07	2.8518	4.0931	4.2151	-2.255	-2.913	-3.381	.190E+01	.2210
6.567027D+07	2.8918	4.0185	4.2065	-2.308	-2.958	-3.424	.200E+01	.2130
7.494496D+07	2.9278	3.9434	4.1967	-2.357	-3.001	-3.466	.211E+01	.2060
8.223505D+07	2.9594	3.8687	4.1860	-2.402	-3.041	-3.505	.222E+01	.1990
8.790738D+07	2.9860	3.7958	4.1744	-2.443	-3.077	-3.542	.233E+01	.1930
9.591037D+07	3.0262	3.6619	4.1509	-2.510	-3.138	-3.603	.255E+01	.1830
9.866572D+07	3.0405	3.6051	4.1403	-2.536	-3.163	-3.629	.266E+01	.1800
1.017736D+08	3.0594	3.5363	4.1278	-2.568	-3.193	-3.660	.280E+01	.1750
1.036708D+08	3.0733	3.5025	4.1229	-2.588	-3.213	-3.680	.289E+01	.1720
1.055906D+08	3.1362	3.5911	4.1607	-2.610	-3.234	-3.699	.298E+01	.1700
1.056440D+08	3.1722	3.6217	4.1774	-2.628	-3.250	-3.715	.311E+01	.1670
1.056827D+08	3.1319	3.5313	4.1447	-2.624	-3.246	-3.712	.331E+01	.1670
1.057109D+08	3.1522	3.4168	4.1212	-2.669	-3.291	-3.759	.363E+01	.1610
1.057672D+08	3.1754	3.2219	4.0783	-2.738	-3.362	-3.833	.425E+01	.1520
1.058235D+08	3.1772	3.0447	4.0344	-2.788	-3.414	-3.885	.488E+01	.1460
1.058798D+08	3.1631	2.8472	3.9815	-2.832	-3.458	-3.924	.570E+01	.1410
1.059643D+08	3.0927	2.4054	3.8534	-2.873	-3.468	-3.892	.805E+01	.1350
1.060065D+08	3.0061	2.0015	3.7308	-2.809	-3.325	-3.678	.112E+02	.1330

TABLE 16

Log m = 0.7993 X = 0.7000 Z = 0.0200

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	3.0566	4.2898	4.2906	-2.016	-2.696	-3.174	.158E+01	.2550
1.270000D+07	3.1100	4.2263	4.2881	-2.078	-2.751	-3.226	.166E+01	.2460
3.288923D+07	3.2147	4.0768	4.2769	-2.208	-2.866	-3.335	.184E+01	.2270
4.468011D+07	3.2939	3.9294	4.2599	-2.316	-2.962	-3.427	.204E+01	.2110
5.453369D+07	3.3766	3.7175	4.2276	-2.444	-3.077	-3.542	.237E+01	.1930
5.650219D+07	3.3962	3.6544	4.2167	-2.478	-3.108	-3.573	.248E+01	.1880
5.806774D+07	3.4123	3.5983	4.2067	-2.506	-3.135	-3.601	.258E+01	.1840
5.980254D+07	3.4324	3.5313	4.1950	-2.542	-3.169	-3.636	.272E+01	.1790
6.111415D+07	3.4511	3.4949	4.1905	-2.566	-3.193	-3.660	.283E+01	.1750
6.195815D+07	3.5019	3.5853	4.2259	-2.583	-3.209	-3.676	.291E+01	.1730
6.199151D+07	3.5332	3.6183	4.2419	-2.601	-3.225	-3.692	.304E+01	.1710
6.202631D+07	3.5156	3.4168	4.1871	-2.642	-3.266	-3.735	.355E+01	.1640
6.204177D+07	3.5327	3.3008	4.1624	-2.687	-3.312	-3.784	.391E+01	.1580
6.205724D+07	3.5435	3.1912	4.1377	-2.726	-3.353	-3.827	.428E+01	.1530
6.207270D+07	3.5487	3.0835	4.1121	-2.761	-3.390	-3.865	.467E+01	.1490
6.208817D+07	3.5490	2.9724	4.0844	-2.792	-3.423	-3.899	.512E+01	.1460
6.210364D+07	3.5449	2.8520	4.0533	-2.825	-3.458	-3.933	.565E+01	.1420
6.213457D+07	3.5182	2.5498	3.9711	-2.892	-3.520	-3.979	.727E+01	.1350
6.215003D+07	3.4919	2.3420	3.9125	-2.918	-3.530	-3.966	.866E+01	.1320
6.216550D+07	3.4452	2.0440	3.8263	-2.916	-3.479	-3.869	.112E+02	.1280

TABLE 17

Log m = 0.8998 X = 0.7000 Z = 0.0200

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	3.4006	4.2782	4.3486	-1.959	-2.638	-3.116	.153E+01	.2630
1.339150D+07	3.5013	4.1539	4.3427	-2.081	-2.749	-3.222	.167E+01	.2450
1.878507D+07	3.5493	4.0820	4.3367	-2.145	-2.806	-3.277	.176E+01	.2360
2.301186D+07	3.5927	4.0092	4.3294	-2.206	-2.860	-3.329	.185E+01	.2270
2.894711D+07	3.6658	3.8626	4.3110	-2.314	-2.958	-3.425	.206E+01	.2110
3.101606D+07	3.6948	3.7910	4.3004	-2.362	-3.002	-3.468	.217E+01	.2040
3.395439D+07	3.7407	3.6573	4.2784	-2.442	-3.075	-3.541	.239E+01	.1930
3.578077D+07	3.7735	3.5488	4.2595	-2.502	-3.133	-3.601	.259E+01	.1840
3.665011D+07	3.7911	3.4973	4.2510	-2.535	-3.164	-3.633	.272E+01	.1790
3.699950D+07	3.7993	3.4843	4.2498	-2.545	-3.175	-3.644	.276E+01	.1780
3.758985D+07	3.8363	3.5532	4.2763	-2.562	-3.190	-3.659	.285E+01	.1760
3.762807D+07	3.8788	3.6033	4.2995	-2.587	-3.214	-3.683	.301E+01	.1720
3.764085D+07	3.8461	3.5352	4.2742	-2.578	-3.204	-3.673	.321E+01	.1720
3.765015D+07	3.8577	3.3987	4.2430	-2.626	-3.253	-3.725	.360E+01	.1660
3.765945D+07	3.8733	3.2490	4.2095	-2.683	-3.312	-3.788	.409E+01	.1590
3.766875D+07	3.8839	3.0935	4.1733	-2.738	-3.370	-3.850	.468E+01	.1520
3.767805D+07	3.8870	2.9268	4.1324	-2.791	-3.429	-3.911	.540E+01	.1460
3.768735D+07	3.8808	2.7352	4.0829	-2.845	-3.486	-3.967	.638E+01	.1400
3.769664D+07	3.8630	2.4957	4.0186	-2.907	-3.546	-4.014	.787E+01	.1340
3.770594D+07	3.8271	2.1607	3.9259	-2.965	-3.577	-4.007	.106E+02	.1280

TABLE 18

Log m = 1.0000 X = 0.7000 Z = 0.0200

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	3.7304	4.2656	4.4029	-1.907	-2.584	-3.062	.148E+01	.2700
5.551807D+06	3.7932	4.1923	4.4003	-1.985	-2.657	-3.133	.156E+01	.2590
9.643526D+06	3.8462	4.1207	4.3956	-2.057	-2.722	-3.196	.165E+01	.2480
1.282889D+07	3.8933	4.0484	4.3893	-2.125	-2.785	-3.257	.174E+01	.2380
1.687195D+07	3.9634	3.9201	4.3748	-2.234	-2.884	-3.354	.192E+01	.2220
1.853411D+07	3.9973	3.8463	4.3648	-2.291	-2.937	-3.406	.203E+01	.2140
2.091183D+07	4.0521	3.7025	4.3425	-2.390	-3.029	-3.497	.226E+01	.2000
2.175286D+07	4.0740	3.6343	4.3310	-2.434	-3.071	-3.541	.238E+01	.1940
2.242382D+07	4.0918	3.5731	4.3201	-2.472	-3.106	-3.577	.249E+01	.1890
2.294799D+07	4.1075	3.5201	4.3108	-2.504	-3.138	-3.610	.260E+01	.1840
2.350365D+07	4.1251	3.4658	4.3016	-2.539	-3.173	-3.646	.274E+01	.1790
2.372636D+07	4.1327	3.4521	4.3001	-2.551	-3.184	-3.658	.279E+01	.1780
2.411208D+07	4.1674	3.5217	4.3261	-2.571	-3.203	-3.676	.290E+01	.1750
2.413501D+07	4.2008	3.5732	4.3474	-2.593	-3.225	-3.697	.305E+01	.1720
2.414465D+07	4.1811	3.4864	4.3208	-2.598	-3.227	-3.701	.338E+01	.1700
2.414722D+07	4.1782	3.4322	4.3065	-2.611	-3.241	-3.716	.353E+01	.1680
2.415236D+07	4.1876	3.2931	4.2741	-2.662	-3.295	-3.774	.399E+01	.1610
2.415750D+07	4.1984	3.1357	4.2374	-2.721	-3.358	-3.842	.459E+01	.1540
2.416778D+07	4.2037	2.7606	4.1450	-2.850	-3.499	-3.990	.645E+01	.1410
2.417807D+07	4.1668	2.1691	3.9879	-3.014	-3.649	-4.096	.112E+02	.1250

TABLE 19

Log m = 1.1089 X = 0.7000 Z = 0.0200

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	4.0708	4.2529	4.4576	-1.858	-2.532	-3.012	.144E+01	.2770
3.100000D+06	4.1238	4.1918	4.4556	-1.930	-2.600	-3.078	.151E+01	.2670
5.914749D+06	4.1785	4.1203	4.4514	-2.009	-2.675	-3.151	.160E+01	.2550
8.107112D+06	4.2261	4.0467	4.4448	-2.084	-2.745	-3.219	.169E+01	.2440
1.123401D+07	4.3088	3.8952	4.4277	-2.226	-2.878	-3.350	.191E+01	.2230
1.320970D+07	4.3716	3.7410	4.4048	-2.351	-2.995	-3.468	.216E+01	.2060
1.491488D+07	4.4369	3.5258	4.3673	-2.502	-3.142	-3.619	.257E+01	.1850
1.526393D+07	4.4519	3.4682	4.3567	-2.541	-3.181	-3.660	.270E+01	.1800
1.565583D+07	4.4695	3.4051	4.3453	-2.585	-3.225	-3.706	.287E+01	.1740
1.591354D+07	4.4833	3.3785	4.3421	-2.613	-3.253	-3.736	.300E+01	.1700
1.610177D+07	4.5126	3.4602	4.3699	-2.628	-3.267	-3.749	.311E+01	.1680
1.611355D+07	4.5472	3.5133	4.3918	-2.660	-3.299	-3.780	.339E+01	.1630
1.611903D+07	4.5282	3.4140	4.3622	-2.667	-3.306	-3.789	.379E+01	.1620
1.612086D+07	4.5259	3.3487	4.3453	-2.684	-3.323	-3.809	.403E+01	.1590
1.612452D+07	4.5331	3.1647	4.3011	-2.755	-3.400	-3.894	.481E+01	.1510
1.612635D+07	4.5360	3.0595	4.2755	-2.794	-3.444	-3.942	.532E+01	.1470
1.612818D+07	4.5382	2.9416	4.2466	-2.838	-3.494	-3.997	.598E+01	.1420
1.613001D+07	4.5387	2.8088	4.2135	-2.888	-3.550	-4.056	.681E+01	.1370
1.613184D+07	4.5366	2.6572	4.1751	-2.943	-3.610	-4.116	.792E+01	.1320
1.613550D+07	4.5196	2.2620	4.0721	-3.076	-3.739	-4.213	.118E+02	.1210

TABLE 20

Log m = 1.1998 X = 0.7000 Z = 0.0200

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	4.3397	4.2421	4.4994	-1.824	-2.495	-2.975	.141E+01	.2820
2.651943D+06	4.4008	4.1670	4.4959	-1.916	-2.585	-3.063	.150E+01	.2690
4.601817D+06	4.4524	4.0947	4.4907	-2.000	-2.665	-3.142	.159E+01	.2560
6.165289D+06	4.5009	4.0179	4.4836	-2.085	-2.746	-3.222	.170E+01	.2440
7.356559D+06	4.5394	3.9436	4.4747	-2.160	-2.817	-3.292	.180E+01	.2330
8.735459D+06	4.5910	3.8264	4.4583	-2.269	-2.920	-3.396	.199E+01	.2170
1.056695D+07	4.6750	3.5686	4.4149	-2.478	-3.124	-3.605	.247E+01	.1890
1.091174D+07	4.6931	3.4955	4.4011	-2.531	-3.178	-3.662	.263E+01	.1820
1.119160D+07	4.7084	3.4296	4.3885	-2.577	-3.225	-3.713	.279E+01	.1750
1.141036D+07	4.7203	3.3780	4.3785	-2.616	-3.265	-3.755	.293E+01	.1710
1.168172D+07	4.7368	3.3272	4.3699	-2.661	-3.312	-3.806	.313E+01	.1650
1.185248D+07	4.7605	3.3843	4.3901	-2.684	-3.333	-3.827	.329E+01	.1620
1.186785D+07	4.8003	3.4615	4.4194	-2.726	-3.375	-3.868	.373E+01	.1560
1.186507D+07	4.7787	3.4354	4.4075	-2.697	-3.346	-3.839	.339E+01	.1600
1.187216D+07	4.7852	3.3301	4.3828	-2.747	-3.398	-3.895	.434E+01	.1530
1.187324D+07	4.7922	3.2748	4.3707	-2.778	-3.431	-3.932	.460E+01	.1500
1.187540D+07	4.8029	3.1334	4.3380	-2.849	-3.510	-4.020	.537E+01	.1420
1.187648D+07	4.8054	3.0559	4.3193	-2.883	-3.549	-4.063	.584E+01	.1390
1.187863D+07	4.8083	2.8674	4.2729	-2.963	-3.641	-4.164	.711E+01	.1310
1.188403D+07	4.7907	2.1260	4.0831	-3.258	-3.931	-4.394	.156E+02	.1070

TABLE 21

Log m = 1.2999 X = 0.7000 Z = 0.0200

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	4.6184	4.2307	4.5412	-1.792	-2.461	-2.941	.139E+01	.2870
3.534439D+06	4.7325	4.0761	4.5311	-1.994	-2.660	-3.139	.159E+01	.2570
4.683017D+06	4.7774	3.9987	4.5229	-2.086	-2.749	-3.228	.170E+01	.2440
5.590574D+06	4.8174	3.9198	4.5132	-2.173	-2.833	-3.313	.182E+01	.2310
6.894718D+06	4.8818	3.7508	4.4870	-2.342	-2.997	-3.481	.211E+01	.2080
7.751596D+06	4.9321	3.5761	4.4559	-2.498	-3.154	-3.644	.247E+01	.1870
8.058404D+06	4.9508	3.4942	4.4402	-2.566	-3.223	-3.718	.266E+01	.1790
8.252389D+06	4.9628	3.4368	4.4288	-2.632	-3.293	-3.793	.286E+01	.1700
8.400773D+06	4.9738	3.3830	4.4181	-2.654	-3.316	-3.818	.295E+01	.1680
8.514915D+06	4.9831	3.3321	4.4077	-2.695	-3.359	-3.865	.311E+01	.1630
8.665815D+06	4.9933	3.2782	4.3968	-2.740	-3.407	-3.917	.329E+01	.1580
8.860993D+06	5.0082	3.2230	4.3867	-2.797	-3.469	-3.985	.357E+01	.1510
8.963397D+06	5.0245	3.2755	4.4039	-2.815	-3.485	-4.001	.372E+01	.1490
8.975160D+06	5.0381	3.3295	4.4208	-2.823	-3.493	-4.007	.382E+01	.1470
8.978175D+06	5.0647	3.3758	4.4390	-2.866	-3.538	-4.055	.430E+01	.1420
8.981278D+06	5.0535	3.2689	4.4095	-2.884	-3.558	-4.079	.502E+01	.1390
8.982830D+06	5.0779	3.1709	4.3911	-2.984	-3.670	-4.204	.571E+01	.1310
8.985158D+06	5.0878	2.9782	4.3454	-3.096	-3.800	-4.349	.724E+01	.1210
8.988261D+06	5.0928	2.6038	4.2530	-3.295	-4.027	-4.580	.112E+02	.1060
8.991364D+06	5.0889	2.0155	4.1050	-3.590	-4.266	-4.701	.218E+02	.0850

TABLE 22

Log m = 1.3998 X = 0.7000 Z = 0.0200

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	4.8779	4.2194	4.5782	-1.768	-2.434	-2.914	.137E+01	.2900
2.470774D+06	4.9768	4.0856	4.5695	-1.962	-2.630	-3.112	.155E+01	.2620
4.164953D+06	5.0582	3.9262	4.5500	-2.167	-2.833	-3.319	.180E+01	.2330
5.270151D+06	5.1232	3.7474	4.5216	-2.369	-3.034	-3.526	.213E+01	.2050
5.673779D+06	5.1487	3.6556	4.5050	-2.464	-3.130	-3.628	.232E+01	.1930
5.850004D+06	5.1624	3.6024	4.4951	-2.518	-3.186	-3.688	.244E+01	.1860
6.004510D+06	5.1738	3.5506	4.4850	-2.568	-3.239	-3.746	.257E+01	.1800
6.491311D+06	5.2099	3.3510	4.4441	-2.755	-3.442	-3.970	.312E+01	.1580
6.807606D+06	5.2334	3.1854	4.4086	-2.915	-3.619	-4.166	.372E+01	.1420
6.913378D+06	5.2410	3.1299	4.3967	-2.971	-3.683	-4.238	.397E+01	.1370
7.022474D+06	5.2517	3.0643	4.3829	-3.045	-3.768	-4.333	.434E+01	.1300
7.046625D+06	5.2542	3.0577	4.3819	-3.059	-3.783	-4.350	.443E+01	.1280
7.119847D+06	5.2786	3.1314	4.4064	-3.120	-3.853	-4.430	.487E+01	.1230
7.124426D+06	5.3005	3.1487	4.4162	-3.201	-3.947	-4.538	.635E+01	.1150
7.123355D+06	5.3052	3.1795	4.4251	-3.207	-3.956	-4.549	.597E+01	.1150
7.126568D+06	5.3184	2.9446	4.3697	-3.387	-4.168	-4.783	.828E+01	.1020
7.127639D+06	5.3232	2.8069	4.3364	-3.483	-4.278	-4.895	.988E+01	.0960
7.128710D+06	5.3276	2.6364	4.2949	-3.601	-4.407	-5.009	.122E+02	.0880
7.129781D+06	5.3303	2.4306	4.2441	-3.740	-4.540	-5.090	.156E+02	.0810
7.130852D+06	5.3315	2.1731	4.1801	-3.891	-4.636	-5.098	.213E+02	.0720

TABLE 23

Log m = 1.5000 X = 0.7000 Z = 0.0200

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	5.1186	4.2103	4.6111	-1.747	-2.410	-2.890	.135E+01	.2940
1.171528D+06	5.1731	4.1381	4.6067	-1.864	-2.533	-3.017	.145E+01	.2760
2.065011D+06	5.2144	4.0665	4.5991	-1.971	-2.642	-3.128	.156E+01	.2610
3.383868D+06	5.2880	3.9020	4.5764	-2.200	-2.875	-3.370	.183E+01	.2290
3.858430D+06	5.3176	3.8098	4.5607	-2.321	-3.000	-3.503	.201E+01	.2130
4.428983D+06	5.3586	3.6471	4.5303	-2.523	-3.216	-3.739	.236E+01	.1880
4.839790D+06	5.3885	3.4816	4.4964	-2.740	-3.452	-4.001	.284E+01	.1640
4.930541D+06	5.3979	3.4226	4.4840	-2.789	-3.512	-4.071	.297E+01	.1590
5.091632D+06	5.4104	3.3286	4.4636	-2.898	-3.636	-4.213	.328E+01	.1490
5.181839D+06	5.4170	3.2725	4.4513	-2.963	-3.712	-4.300	.348E+01	.1430
5.365210D+06	5.4339	3.1097	4.4148	-3.147	-3.928	-4.546	.414E+01	.1270
5.460548D+06	5.4416	3.0223	4.3949	-3.251	-4.050	-4.685	.457E+01	.1190
5.511655D+06	5.4460	2.9668	4.3821	-3.317	-4.129	-4.773	.487E+01	.1140
5.587494D+06	5.4520	2.8905	4.3645	-3.419	-4.251	-4.908	.534E+01	.1070
5.639617D+06	5.4563	2.8390	4.3527	-3.492	-4.339	-5.002	.573E+01	.1020
5.688940D+06	5.4619	2.7808	4.3396	-3.586	-4.452	-5.122	.624E+01	.0960
5.754978D+06	5.5003	2.7691	4.3462	-4.012	-4.993	-5.722	.913E+01	.0760
5.757122D+06	5.5050	2.7259	4.3366	-4.106	-5.104	-5.824	.112E+02	.0710
5.758552D+06	5.5039	2.4886	4.2770	-4.266	-5.233	-5.833	.152E+02	.0640
5.759267D+06	5.5269	2.1035	4.1865	-4.977	-5.798	-6.167	.234E+02	.0420

TABLE 24

Log m = 1.6000 X = 0.7000 Z = 0.0200

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	5.3440	4.2011	4.6402	-1.734	-2.396	-2.877	.134E+01	.2960
1.059791D+06	5.3973	4.1210	4.6334	-1.875	-2.548	-3.037	.146E+01	.2750
1.784302D+06	5.4363	4.0424	4.6236	-2.007	-2.689	-3.186	.159E+01	.2560
2.369794D+06	5.4713	3.9518	4.6097	-2.155	-2.848	-3.359	.174E+01	.2360
3.144091D+06	5.5230	3.7607	4.5748	-2.458	-3.186	-3.736	.214E+01	.2000
3.319386D+06	5.5346	3.7015	4.5629	-2.550	-3.291	-3.857	.227E+01	.1900
3.482538D+06	5.5459	3.6368	4.5496	-2.651	-3.408	-3.992	.244E+01	.1790
3.632694D+06	5.5578	3.5599	4.5333	-2.770	-3.548	-4.155	.265E+01	.1670
3.892676D+06	5.5786	3.3886	4.4957	-3.040	-3.874	-4.539	.319E+01	.1430
4.060924D+06	5.5927	3.2407	4.4622	-3.274	-4.163	-4.881	.375E+01	.1260
4.200188D+06	5.6031	3.0948	4.4284	-3.631	-4.611	-5.405	.474E+01	.1030
4.233289D+06	5.6076	3.0279	4.4128	-3.609	-4.582	-5.369	.475E+01	.1040
4.273010D+06	5.6103	2.9752	4.4002	-3.705	-4.700	-5.501	.505E+01	.0990
4.310083D+06	5.6145	2.8972	4.3818	-3.837	-4.864	-5.677	.551E+01	.0920
4.352452D+06	5.6180	2.8196	4.3633	-3.972	-5.030	-5.847	.602E+01	.0850
4.419715D+06	5.6234	2.6647	4.3259	-4.247	-5.360	-6.139	.718E+01	.0730
4.450159D+06	5.6258	2.5771	4.3046	-4.406	-5.539	-6.275	.794E+01	.0670
4.479152D+06	5.6281	2.4805	4.2810	-4.588	-5.733	-6.403	.888E+01	.0610
4.506723D+06	5.6303	2.3612	4.2518	-4.826	-5.966	-6.528	.102E+02	.0540
4.545296D+06	5.6334	2.1204	4.1923	-5.303	-6.002	-6.237	.167E+02	.0360

TABLE 25

Log m = 0.0000 X = 0.7230 Z = 0.0100

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	-0.0401	4.5270	3.7756	-1.742	-2.212	-2.514	.150E+01	.2800
4.095000D+09	0.1029	4.4192	3.7844	-1.915	-2.373	-2.672	.174E+01	.2500
8.191000D+09	0.2826	4.2453	3.7858	-2.120	-2.548	-2.837	.227E+01	.2100
8.900506D+09	0.3330	4.1850	3.7834	-2.122	-2.549	-2.838	.233E+01	.2110
9.343948D+09	0.3732	4.1329	3.7804	-2.107	-2.519	-2.802	.243E+01	.2100
9.832118D+09	0.4255	4.0438	3.7712	-2.070	-2.462	-2.737	.264E+01	.2090
1.014878D+10	0.4577	3.9672	3.7601	-1.955	-2.326	-2.592	.276E+01	.2190
1.034006D+10	0.4642	3.9006	3.7451	-1.791	-2.150	-2.412	.279E+01	.2410
1.045655D+10	0.4576	3.8469	3.7300	-1.622	-1.978	-2.240	.274E+01	.2700
1.056701D+10	0.4611	3.7751	3.7129	-1.448	-1.809	-2.076	.272E+01	.3060
1.064006D+10	0.4906	3.7101	3.7041	-1.361	-1.729	-1.999	.282E+01	.3260
1.069508D+10	0.5286	3.6522	3.6991	-1.315	-1.687	-1.960	.299E+01	.3370
1.073940D+10	0.5682	3.5994	3.6958	-1.291	-1.666	-1.940	.319E+01	.3430
1.078748D+10	0.6193	3.5371	3.6930	-1.272	-1.650	-1.926	.347E+01	.3480
1.082613D+10	0.6652	3.4824	3.6908	-1.262	-1.642	-1.920	.376E+01	.3500
1.092709D+10	0.8143	3.3103	3.6850	-1.250	-1.635	-1.916	.495E+01	.3540
1.097470D+10	0.9045	3.2059	3.6815	-1.250	-1.637	-1.920	.589E+01	.3540
1.101492D+10	0.9958	3.1003	3.6779	-1.255	-1.645	-1.930	.705E+01	.3530
1.104734D+10	1.0837	2.9955	3.6737	-1.263	-1.655	-1.942	.844E+01	.3520
1.111724D+10	1.3528	2.6779	3.6615	-1.299	-1.697	-1.990	.147E+02	.3440

TABLE 26

Log m = 0.0212 X = 0.7230 Z = 0.0100

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	0.0592	4.4955	3.7873	-1.836	-2.324	-2.636	.157E+01	.2670
1.953824D+09	0.1363	4.4360	3.7917	-1.943	-2.430	-2.745	.171E+01	.2500
3.352321D+09	0.1965	4.3859	3.7942	-2.016	-2.499	-2.813	.183E+01	.2380
6.782778D+09	0.3820	4.1943	3.7927	-2.186	-2.641	-2.947	.229E+01	.2080
7.514154D+09	0.4518	4.1035	3.7874	-2.204	-2.638	-2.934	.252E+01	.2000
7.964671D+09	0.5048	4.0167	3.7790	-2.161	-2.568	-2.851	.273E+01	.1990
8.245177D+09	0.5373	3.9328	3.7661	-2.053	-2.435	-2.706	.288E+01	.2070
8.414275D+09	0.5425	3.8692	3.7515	-1.864	-2.226	-2.490	.289E+01	.2300
8.519981D+09	0.5267	3.8147	3.7339	-1.655	-2.012	-2.274	.281E+01	.2640
8.612674D+09	0.5192	3.7485	3.7155	-1.457	-1.818	-2.085	.274E+01	.3050
8.675300D+09	0.5429	3.6864	3.7059	-1.361	-1.729	-1.999	.282E+01	.3260
8.722919D+09	0.5794	3.6297	3.7009	-1.311	-1.684	-1.957	.297E+01	.3380
8.761037D+09	0.6173	3.5780	3.6974	-1.285	-1.661	-1.935	.316E+01	.3450
8.802039D+09	0.6654	3.5174	3.6943	-1.266	-1.644	-1.921	.342E+01	.3500
8.836824D+09	0.7118	3.4612	3.6918	-1.255	-1.636	-1.913	.371E+01	.3520
8.871817D+09	0.7644	3.4005	3.6898	-1.246	-1.629	-1.908	.407E+01	.3550
8.902838D+09	0.8165	3.3411	3.6880	-1.241	-1.626	-1.907	.448E+01	.3560
8.972940D+09	0.9582	3.1757	3.6821	-1.240	-1.629	-1.912	.587E+01	.3570
9.038838D+09	1.1427	2.9572	3.6736	-1.254	-1.647	-1.935	.852E+01	.3540
9.099702D+09	1.4092	2.6408	3.6611	-1.289	-1.688	-1.982	.148E+02	.3470

TABLE 27

Log m = 0.0492 X = 0.7230 Z = 0.0100

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	0.1903	4.4507	3.8018	-1.977	-2.502	-2.839	.168E+01	.2490
1.422836D+09	0.2560	4.3974	3.8049	-2.073	-2.599	-2.940	.181E+01	.2350
2.635682D+09	0.3191	4.3395	3.8062	-2.156	-2.680	-3.024	.195E+01	.2230
4.284704D+09	0.4196	4.2316	3.8044	-2.261	-2.771	-3.112	.220E+01	.2060
5.071409D+09	0.4896	4.1485	3.8011	-2.308	-2.799	-3.130	.242E+01	.1960
5.624132D+09	0.5534	4.0588	3.7946	-2.321	-2.787	-3.104	.266E+01	.1890
5.979828D+09	0.6018	3.9737	3.7854	-2.265	-2.695	-2.991	.287E+01	.1890
6.199744D+09	0.6286	3.8887	3.7709	-2.138	-2.532	-2.809	.302E+01	.1970
6.336749D+09	0.6244	3.8232	3.7535	-1.899	-2.264	-2.529	.300E+01	.2250
6.445169D+09	0.5854	3.7600	3.7279	-1.575	-1.933	-2.197	.280E+01	.2800
6.508913D+09	0.5829	3.7041	3.7133	-1.410	-1.775	-2.043	.275E+01	.3150
6.556763D+09	0.6089	3.6460	3.7053	-1.330	-1.701	-1.973	.285E+01	.3340
6.594944D+09	0.6443	3.5929	3.7009	-1.289	-1.665	-1.938	.301E+01	.3440
6.635417D+09	0.6928	3.5286	3.6969	-1.262	-1.641	-1.916	.325E+01	.3510
6.667834D+09	0.7381	3.4732	3.6944	-1.248	-1.629	-1.906	.352E+01	.3540
6.729857D+09	0.8412	3.3534	3.6902	-1.231	-1.616	-1.897	.422E+01	.3590
6.775837D+09	0.9341	3.2433	3.6859	-1.227	-1.615	-1.897	.504E+01	.3600
6.842288D+09	1.1116	3.0348	3.6782	-1.234	-1.627	-1.913	.715E+01	.3590
6.867774D+09	1.1999	2.9276	3.6735	-1.243	-1.638	-1.926	.859E+01	.3570
6.907082D+09	1.3794	2.7134	3.6648	-1.266	-1.665	-1.957	.125E+02	.3520

TABLE 28

Log m = 0.0719 X = 0.7230 Z = 0.0100

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	0.2949	4.4146	3.8133	-2.098	-2.665	-3.035	.178E+01	.2360
1.298398D+09	0.3645	4.3559	3.8160	-2.199	-2.769	-3.146	.192E+01	.2220
2.651986D+09	0.4436	4.2722	3.8149	-2.291	-2.850	-3.225	.211E+01	.2080
3.287842D+09	0.4812	4.2199	3.8112	-2.313	-2.857	-3.223	.220E+01	.2030
3.858145D+09	0.5104	4.1607	3.8037	-2.286	-2.795	-3.138	.227E+01	.2020
4.280992D+09	0.5315	4.1080	3.7958	-2.240	-2.718	-3.039	.232E+01	.2030
4.414051D+09	0.5428	4.0915	3.7945	-2.240	-2.713	-3.032	.235E+01	.2020
4.552564D+09	0.6216	4.0568	3.8055	-2.435	-2.952	-3.306	.268E+01	.1820
4.557670D+09	0.6449	4.0414	3.8075	-2.484	-3.012	-3.375	.279E+01	.1770
4.568880D+09	0.6617	3.9959	3.8003	-2.431	-2.926	-3.265	.289E+01	.1780
4.712195D+09	0.6794	3.9440	3.7918	-2.362	-2.822	-3.137	.297E+01	.1820
4.911160D+09	0.7005	3.8763	3.7801	-2.243	-2.661	-2.952	.308E+01	.1890
5.046599D+09	0.6905	3.8002	3.7586	-1.972	-2.345	-2.613	.308E+01	.2160
5.145117D+09	0.6350	3.7502	3.7322	-1.599	-1.958	-2.221	.281E+01	.2760
5.221315D+09	0.6216	3.6881	3.7133	-1.381	-1.748	-2.017	.273E+01	.3220
5.274857D+09	0.6524	3.6246	3.7052	-1.299	-1.672	-1.945	.286E+01	.3420
5.385498D+09	0.7807	3.4585	3.6957	-1.227	-1.611	-1.889	.355E+01	.3590
5.442733D+09	0.8728	3.3496	3.6915	-1.214	-1.602	-1.882	.419E+01	.3630
5.525005D+09	1.0509	3.1394	3.6835	-1.214	-1.606	-1.890	.589E+01	.3640
5.556381D+09	1.1426	3.0313	3.6794	-1.220	-1.614	-1.900	.705E+01	.3620

TABLE 29

Log m = 0.0969 X = 0.7230 Z = 0.0100

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	0.4086	4.3832	3.8276	-2.213	-2.826	-3.237	.187E+01	.2240
9.930559D+08	0.4703	4.3303	3.8298	-2.300	-2.917	-3.337	.200E+01	.2120
1.822916D+09	0.5248	4.2705	3.8285	-2.371	-2.984	-3.405	.213E+01	.2030
2.374605D+09	0.5619	4.2164	3.8242	-2.406	-3.007	-3.421	.223E+01	.1970
2.885856D+09	0.5941	4.1593	3.8180	-2.406	-2.979	-3.373	.232E+01	.1940
3.283968D+09	0.6181	4.1015	3.8096	-2.383	-2.924	-3.293	.239E+01	.1930
3.607890D+09	0.6337	4.0504	3.8007	-2.323	-2.825	-3.166	.242E+01	.1950
3.653972D+09	0.6366	4.0422	3.7994	-2.315	-2.813	-3.150	.243E+01	.1950
3.860107D+09	0.7270	4.0001	3.8114	-2.533	-3.085	-3.470	.281E+01	.1740
3.864725D+09	0.7628	3.9865	3.8170	-2.611	-3.184	-3.590	.298E+01	.1670
3.868987D+09	0.7703	3.9415	3.8076	-2.559	-3.099	-3.476	.308E+01	.1680
3.890991D+09	0.7844	3.8914	3.7986	-2.488	-2.988	-3.334	.315E+01	.1710
4.003015D+09	0.7914	3.8251	3.7838	-2.320	-2.758	-3.061	.322E+01	.1820
4.105978D+09	0.7742	3.7580	3.7627	-2.044	-2.427	-2.699	.319E+01	.2080
4.223596D+09	0.6801	3.6968	3.7239	-1.480	-1.843	-2.109	.276E+01	.3010
4.276893D+09	0.6831	3.6452	3.7117	-1.337	-1.708	-1.978	.276E+01	.3330
4.318922D+09	0.7134	3.5905	3.7056	-1.275	-1.651	-1.924	.289E+01	.3480
4.353317D+09	0.7501	3.5400	3.7022	-1.245	-1.625	-1.900	.307E+01	.3550
4.469074D+09	0.9282	3.3216	3.6921	-1.201	-1.590	-1.871	.422E+01	.3660
4.572650D+09	1.1986	3.0020	3.6798	-1.208	-1.603	-1.890	.707E+01	.3660

TABLE 30

Log m = 0.1239 X = 0.7230 Z = 0.0100

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	0.5291	4.3591	3.8450	-2.316	-2.979	-3.437	.195E+01	.2140
9.283040D+08	0.5967	4.2964	3.8462	-2.402	-3.060	-3.521	.209E+01	.2030
1.508429D+09	0.6411	4.2416	3.8436	-2.453	-3.103	-3.561	.220E+01	.1960
2.004046D+09	0.6798	4.1787	3.8375	-2.489	-3.125	-3.574	.232E+01	.1900
2.398306D+09	0.7094	4.1140	3.8288	-2.503	-3.117	-3.550	.242E+01	.1860
2.670466D+09	0.7285	4.0603	3.8201	-2.491	-3.080	-3.492	.249E+01	.1840
2.924032D+09	0.7424	4.0032	3.8093	-2.445	-2.995	-3.376	.254E+01	.1850
3.140326D+09	0.7596	3.9553	3.8016	-2.398	-2.914	-3.269	.260E+01	.1860
3.236129D+09	0.8816	3.8962	3.8174	-2.668	-3.254	-3.675	.323E+01	.1600
3.234136D+09	0.8893	3.9339	3.8287	-2.711	-3.323	-3.767	.316E+01	.1590
3.243570D+09	0.9003	3.8304	3.8056	-2.611	-3.156	-3.540	.336F+01	.1620
3.273332D+09	0.9046	3.7799	3.7941	-2.504	-2.999	-3.341	.343E+01	.1670
3.341359D+09	0.8594	3.6868	3.7595	-2.014	-2.394	-2.666	.332E+01	.2110
3.438942D+09	0.7428	3.6264	3.7152	-1.357	-1.727	-1.996	.276E+01	.3290
3.475362D+09	0.7666	3.5748	3.7083	-1.278	-1.654	-1.927	.286E+01	.3470
3.510947D+09	0.8075	3.5158	3.7038	-1.235	-1.616	-1.892	.306E+01	.3580
3.541108D+09	0.8510	3.4596	3.7006	-1.212	-1.597	-1.875	.329E+01	.3630
3.591775D+09	0.9403	3.3496	3.6954	-1.193	-1.581	-1.862	.386E+01	.3680
3.631622D+09	1.0277	3.2456	3.6912	-1.186	-1.578	-1.860	.452E+01	.3700
3.693595D+09	1.2104	3.0286	3.6827	-1.191	-1.587	-1.873	.640E+01	.3700

TABLE 31

Log m = 0.1492 X = 0.7230 Z = 0.0100

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	0.6406	4.3572	3.8660	-2.352	-3.037	-3.516	.197E+01	.2110
1.163771D+09	0.7401	4.2484	3.8637	-2.466	-3.134	-3.608	.219E+01	.1960
1.614140D+09	0.7818	4.1754	3.8559	-2.520	-3.177	-3.647	.232E+01	.1880
1.955448D+09	0.8127	4.0994	3.8446	-2.556	-3.199	-3.661	.245E+01	.1820
2.198897D+09	0.8331	4.0311	3.8326	-2.569	-3.195	-3.643	.256E+01	.1780
2.379187D+09	0.8461	3.9724	3.8212	-2.557	-3.159	-3.588	.263E+01	.1770
2.545395D+09	0.8568	3.9206	3.8109	-2.504	-3.068	-3.463	.268E+01	.1790
2.646787D+09	0.8688	3.8887	3.8059	-2.490	-3.037	-3.420	.273E+01	.1780
2.718792D+09	1.0000	3.9033	3.8424	-2.746	-3.373	-3.833	.322E+01	.1560
2.720115D+09	0.9824	3.8651	3.8285	-2.726	-3.341	-3.790	.330E+01	.1570
2.723002D+09	1.0005	3.7931	3.8150	-2.708	-3.296	-3.721	.347E+01	.1550
2.736473D+09	1.0078	3.7295	3.8009	-2.622	-3.160	-3.541	.358E+01	.1590
2.767265D+09	0.9866	3.6503	3.7758	-2.293	-2.720	-3.017	.359E+01	.1810
2.821152D+09	0.8217	3.5990	3.7218	-1.424	-1.790	-2.058	.285E+01	.3140
2.851944D+09	0.8398	3.5336	3.7099	-1.279	-1.656	-1.929	.296E+01	.3470
2.872157D+09	0.8743	3.4804	3.7053	-1.233	-1.615	-1.891	.312E+01	.3580
2.890288D+09	0.9113	3.4289	3.7016	-1.209	-1.594	-1.871	.332E+01	.3640
2.910512D+09	0.9567	3.3713	3.6986	-1.193	-1.580	-1.859	.359E+01	.3680
2.975525D+09	1.1348	3.1572	3.6896	-1.176	-1.571	-1.854	.494E+01	.3730
3.021676D+09	1.3123	2.9444	3.6807	-1.184	-1.582	-1.870	.695E+01	.3720

TABLE 32

Log m = 0.1761 X = 0.7230 Z = 0.0100

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	0.7560	4.3731	3.8921	-2.340	-3.028	-3.511	.195E+01	.2130
7.331981D+08	0.8280	4.2923	3.8899	-2.423	-3.099	-3.577	.210E+01	.2010
1.038164D+09	0.8602	4.2421	3.8854	-2.465	-3.134	-3.609	.219E+01	.1960
1.280598D+09	0.8867	4.1904	3.8791	-2.502	-3.164	-3.637	.228E+01	.1900
1.508210D+09	0.9114	4.1301	3.8702	-2.540	-3.195	-3.666	.238E+01	.1850
1.679048D+09	0.9303	4.0722	3.8605	-2.572	-3.221	-3.689	.248E+01	.1800
1.815900D+09	0.9444	4.0161	3.8500	-2.596	-3.239	-3.704	.257E+01	.1760
1.929484D+09	0.9558	3.9633	3.8396	-2.611	-3.245	-3.704	.266E+01	.1740
2.056648D+09	0.9653	3.8992	3.8260	-2.608	-3.224	-3.668	.275E+01	.1710
2.170116D+09	0.9751	3.8435	3.8145	-2.582	-3.170	-3.590	.283E+01	.1710
2.232795D+09	0.9874	3.8200	3.8117	-2.581	-3.159	-3.572	.289E+01	.1700
2.275926D+09	1.1176	3.8820	3.8598	-2.752	-3.382	-3.846	.325E+01	.1550
2.278530D+09	1.1070	3.7598	3.8266	-2.757	-3.370	-3.820	.354E+01	.1520
2.280981D+09	1.1151	3.7093	3.8160	-2.748	-3.348	-3.784	.366E+01	.1510
2.288335D+09	1.1167	3.6592	3.8038	-2.687	-3.251	-3.654	.376E+01	.1540
2.307945D+09	1.0854	3.5687	3.7734	-2.338	-2.776	-3.080	.377E+01	.1770
2.342262D+09	0.9079	3.5003	3.7119	-1.289	-1.665	-1.938	.278E+01	.3450
2.361872D+09	1.0029	3.3620	3.7011	-1.193	-1.580	-1.859	.319E+01	.3680
2.387364D+09	1.0893	3.2562	3.6962	-1.177	-1.569	-1.850	.394E+01	.3720
2.463832D+09	1.4496	2.8187	3.6769	-1.182	-1.583	-1.872	.806E+01	.3720

TABLE 33

Log m = 0.1987 X = 0.7230 Z = 0.0100

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	0.8500	4.3860	3.9132	-2.326	-3.016	-3.499	.193E+01	.2150
8.606567D+08	0.9495	4.2533	3.9049	-2.448	-3.118	-3.594	.216E+01	.1980
1.101269D+09	0.9801	4.1929	3.8975	-2.492	-3.155	-3.628	.226E+01	.1920
1.438150D+09	1.0248	4.0716	3.8783	-2.564	-3.214	-3.683	.246E+01	.1810
1.659396D+09	1.0514	3.9514	3.8549	-2.619	-3.258	-3.724	.267E+01	.1730
1.739933D+09	1.0603	3.8970	3.8435	-2.636	-3.270	-3.733	.276E+01	.1700
1.831015D+09	1.0683	3.8314	3.8291	-2.644	-3.265	-3.717	.287E+01	.1670
1.918179D+09	1.0786	3.7754	3.8177	-2.639	-3.243	-3.681	.297E+01	.1660
1.929950D+09	1.0815	3.7703	3.8172	-2.640	-3.244	-3.681	.298E+01	.1660
1.976816D+09	1.1686	3.8303	3.8539	-2.729	-3.358	-3.821	.316E+01	.1580
1.978181D+09	1.2185	3.8580	3.8733	-2.755	-3.385	-3.850	.328E+01	.1550
1.979963D+09	1.2001	3.7420	3.8397	-2.784	-3.390	-3.838	.379E+01	.1450
1.981276D+09	1.2088	3.6814	3.8268	-2.780	-3.395	-3.847	.373E+01	.1490
1.983901D+09	1.2123	3.6285	3.8144	-2.771	-3.372	-3.812	.386E+01	.1480
1.991403D+09	1.2064	3.5636	3.7967	-2.666	-3.213	-3.602	.397E+01	.1530
2.003406D+09	1.1406	3.4906	3.7620	-2.166	-2.570	-2.854	.376E+01	.1930
2.018410D+09	0.9777	3.4642	3.7147	-1.322	-1.695	-1.967	.275E+01	.3370
2.027412D+09	1.0649	3.3288	3.7027	-1.205	-1.591	-1.870	.299E+01	.3650
2.038543D+09	1.2072	3.1496	3.6934	-1.169	-1.563	-1.846	.369E+01	.3750
2.092099D+09	1.5756	2.6970	3.6724	-1.188	-1.590	-1.881	.949E+01	.3710

TABLE 34

Log m = 0.2504 X = 0.7230 Z = 0.0100

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	1.0636	4.4042	3.9582	-2.294	-2.986	-3.470	.188E+01	.2190
3.280831D+08	1.1156	4.3366	3.9543	-2.358	-3.040	-3.520	.199E+01	.2100
7.177821D+08	1.1840	4.2148	3.9410	-2.453	-3.119	-3.593	.218E+01	.1970
8.606326D+08	1.2120	4.1499	3.9318	-2.495	-3.154	-3.627	.229E+01	.1910
9.775610D+08	1.2342	4.0838	3.9208	-2.533	-3.185	-3.656	.239E+01	.1850
1.163280D+09	1.2687	3.9382	3.8930	-2.603	-3.243	-3.711	.263E+01	.1750
1.269524D+09	1.2853	3.8210	3.8679	-2.649	-3.283	-3.748	.284E+01	.1680
1.321995D+09	1.2931	3.7526	3.8527	-2.673	-3.302	-3.765	.297E+01	.1640
1.366555D+09	1.3035	3.7038	3.8431	-2.691	-3.317	-3.778	.308E+01	.1620
1.372727D+09	1.3069	3.7008	3.8432	-2.694	-3.320	-3.780	.310E+01	.1610
1.394992D+09	1.3582	3.7568	3.8700	-2.714	-3.342	-3.807	.315E+01	.1590
1.397241D+09	1.4094	3.8086	3.8958	-2.731	-3.361	-3.827	.320E+01	.1570
1.397672D+09	1.4375	3.8255	3.9070	-2.744	-3.374	-3.839	.329E+01	.1560
1.399008D+09	1.4161	3.6703	3.8629	-2.772	-3.395	-3.857	.367E+01	.1510
1.401678D+09	1.4225	3.5211	3.8272	-2.806	-3.420	-3.875	.410E+01	.1450
1.405950D+09	1.4021	3.4023	3.7924	-2.698	-3.252	-3.648	.436E+01	.1500
1.415919D+09	1.1604	3.3320	3.7144	-1.335	-1.707	-1.979	.290E+01	.3340
1.418374D+09	1.2198	3.2348	3.7049	-1.237	-1.620	-1.897	.302E+01	.3570
1.428399D+09	1.5527	2.8114	3.6823	-1.177	-1.575	-1.862	.497E+01	.3730
1.445824D+09	2.0860	2.1369	3.6470	-1.216	-1.629	-1.930	.163E+02	.3670

TABLE 35

Log m = 0.2989 X = 0.7230 Z = 0.0100

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	1.2573	4.4128	3.9967	-2.265	-2.957	-3.441	.185E+01	.2230
5.062941D+08	1.3798	4.2196	3.9790	-2.425	-3.092	-3.568	.214E+01	.2000
7.758931D+08	1.4558	4.0095	3.9455	-2.549	-3.196	-3.666	.247E+01	.1820
8.819278D+08	1.4845	3.8724	3.9184	-2.610	-3.248	-3.715	.270E+01	.1730
9.494662D+08	1.5001	3.7531	3.8925	-2.655	-3.286	-3.752	.291E+01	.1660
9.833403D+08	1.5079	3.6878	3.8781	-2.678	-3.306	-3.770	.304E+01	.1630
1.026562D+09	1.5947	3.7379	3.9123	-2.719	-3.347	-3.813	.322E+01	.1580
1.027308D+09	1.6508	3.7783	3.9364	-2.743	-3.371	-3.838	.335E+01	.1550
1.027900D+09	1.6095	3.6700	3.8990	-2.747	-3.372	-3.837	.359E+01	.1540
1.028426D+09	1.6236	3.5758	3.8790	-2.779	-3.401	-3.864	.386E+01	.1490
1.029216D+09	1.6266	3.4753	3.8547	-2.806	-3.424	-3.884	.416E+01	.1450
1.030268D+09	1.6212	3.3799	3.8295	-2.820	-3.434	-3.888	.445E+01	.1430
1.031321D+09	1.6065	3.2921	3.8038	-2.809	-3.408	-3.847	.471E+01	.1420
1.032373D+09	1.5822	3.2327	3.7829	-2.683	-3.225	-3.608	.479E+01	.1490
1.036452D+09	1.3582	3.1742	3.7123	-1.364	-1.735	-2.008	.322E+01	.3270
1.037373D+09	1.4046	3.0966	3.7045	-1.278	-1.657	-1.934	.330E+01	.3470
1.038295D+09	1.4675	3.0093	3.6984	-1.238	-1.623	-1.902	.353E+01	.3570
1.040942D+09	1.6556	2.7662	3.6846	-1.202	-1.596	-1.881	.459E+01	.3670
1.045592D+09	1.9659	2.3676	3.6625	-1.199	-1.604	-1.897	.836E+01	.3690
1.049480D+09	2.2315	2.0251	3.6433	-1.218	-1.631	-1.931	.155E+02	.3660

TABLE 36

Log m = 0.3997 X = 0.7230 Z = 0.0100

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	1.6541	4.4132	4.0708	-2.206	-2.897	-3.380	.178E+01	.2300
1.948263D+08	1.7441	4.2808	4.0602	-2.318	-2.992	-3.468	.195E+01	.2140
3.290814D+08	1.8182	4.1335	4.0419	-2.421	-3.078	-3.550	.216E+01	.2000
4.147477D+08	1.8721	3.9850	4.0182	-2.505	-3.150	-3.619	.239E+01	.1870
4.683259D+08	1.9065	3.8451	3.9918	-2.570	-3.207	-3.675	.262E+01	.1780
5.026313D+08	1.9258	3.7231	3.9662	-2.619	-3.251	-3.719	.283E+01	.1710
5.329448D+08	1.9483	3.6151	3.9448	-2.663	-3.292	-3.759	.307E+01	.1640
5.415093D+08	2.0199	3.7083	3.9860	-2.683	-3.312	-3.780	.314E+01	.1620
5.418476D+08	2.0690	3.7462	4.0078	-2.703	-3.331	-3.799	.326E+01	.1590
5.422425D+08	2.0345	3.5885	3.9597	-2.725	-3.351	-3.818	.363E+01	.1550
5.426141D+08	2.0485	3.4657	3.9325	-2.765	-3.389	-3.855	.398E+01	.1500
5.428000D+08	2.0498	3.4137	3.9198	-2.779	-3.402	-3.866	.414E+01	.1480
5.431717D+08	2.0465	3.3227	3.8962	-2.799	-3.420	-3.883	.442E+01	.1450
5.435433D+08	2.0360	3.2299	3.8704	-2.814	-3.431	-3.890	.473E+01	.1430
5.441008D+08	2.0074	3.0685	3.8230	-2.828	-3.437	-3.884	.530E+01	.1410
5.444725D+08	1.9695	2.9406	3.7815	-2.781	-3.359	-3.773	.573E+01	.1420
5.456805D+08	1.7715	2.8272	3.7036	-1.418	-1.789	-2.061	.424E+01	.3150
5.462380D+08	1.8947	2.6415	3.6880	-1.283	-1.666	-1.946	.481E+01	.3460
5.475032D+08	2.1481	2.3045	3.6671	-1.235	-1.631	-1.919	.731E+01	.3590
5.485574D+08	2.3610	2.0236	3.6501	-1.227	-1.632	-1.926	.113E+02	.3630

TABLE 37

Log m = 0.4997 X = 0.7230 Z = 0.0100

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	2.0313	4.4046	4.1379	-2.144	-2.832	-3.314	.171E+01	.2380
1.106542D+08	2.1295	4.2670	4.1281	-2.262	-2.934	-3.409	.188E+01	.2210
1.854612D+08	2.2102	4.1160	4.1105	-2.370	-3.026	-3.496	.209E+01	.2060
2.318114D+08	2.2679	3.9668	4.0876	-2.457	-3.100	-3.569	.231E+01	.1930
2.608616D+08	2.3074	3.8267	4.0625	-2.527	-3.163	-3.631	.253E+01	.1830
2.877354D+08	2.3471	3.6392	4.0255	-2.606	-3.236	-3.705	.287E+01	.1710
2.944498D+08	2.3630	3.5993	4.0195	-2.627	-3.256	-3.725	.298E+01	.1680
2.988679D+08	2.4293	3.9358	4.0597	-2.644	-3.272	-3.740	.304E+01	.1660
2.990245D+08	2.4671	3.7263	4.0773	-2.659	-3.287	-3.754	.315E+01	.1640
2.992137D+08	2.4379	3.5713	4.0313	-2.684	-3.310	-3.779	.351E+01	.1600
2.993730D+08	2.4573	3.4487	4.0055	-2.729	-3.354	-3.824	.386E+01	.1540
2.996120D+08	2.4635	3.3050	3.9711	-2.770	-3.395	-3.864	.430E+01	.1490
2.997713D+08	2.4601	3.2164	3.9481	-2.791	-3.415	-3.881	.459E+01	.1460
2.999307D+08	2.4524	3.1231	3.9228	-2.809	-3.431	-3.894	.492E+01	.1440
3.000900D+08	2.4385	3.0157	3.8925	-2.825	-3.443	-3.901	.532E+01	.1420
3.004087D+08	2.3766	2.7090	3.8004	-2.838	-3.432	-3.859	.665E+01	.1380
3.005680D+08	2.3014	2.5419	3.7398	-2.561	-3.035	-3.357	.716E+01	.1550
3.008070D+08	2.1829	2.4872	3.6965	-1.598	-1.964	-2.233	.596E+01	.2770
3.009663D+08	2.2777	2.3218	3.6788	-1.382	-1.757	-2.034	.654E+01	.3220
3.014228D+08	2.5030	2.0080	3.6567	-1.281	-1.672	-1.959	.945E+01	.3480

TABLE 38

Log m = 0.5999 X = 0.7230 Z = 0.0100

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	2.3997	4.3920	4.2018	-2.081	-2.766	-3.247	.164E+01	.2460
8.359037D+07	2.5315	4.1970	4.1860	-2.246	-2.909	-3.381	.188E+01	.2230
1.396718D+08	2.6633	3.9050	4.1460	-2.430	-3.069	-3.536	.229E+01	.1950
1.528126D+08	2.7008	3.7738	4.1226	-2.495	-3.128	-3.595	.249E+01	.1860
1.624415D+08	2.7322	3.6470	4.0987	-2.552	-3.181	-3.649	.272E+01	.1780
1.656093D+08	2.7453	3.6084	4.0923	-2.579	-3.206	-3.673	.284E+01	.1730
1.689986D+08	2.8088	3.6983	4.1307	-2.591	-3.218	-3.685	.290E+01	.1720
1.690847D+08	2.8427	3.7286	4.1467	-2.606	-3.231	-3.697	.301E+01	.1700
1.691505D+08	2.8048	3.6431	4.1159	-2.605	-3.230	-3.697	.318E+01	.1700
1.691984D+08	2.8249	3.5482	4.0972	-2.644	-3.269	-3.737	.343E+01	.1640
1.692942D+08	2.8473	3.4090	4.0680	-2.696	-3.321	-3.791	.382E+01	.1580
1.693421D+08	2.8528	3.3478	4.0541	-2.716	-3.341	-3.812	.401E+01	.1550
1.694378D+08	2.8555	3.2335	4.0262	-2.749	-3.376	-3.847	.438E+01	.1510
1.695336D+08	2.8519	3.1129	3.9951	-2.779	-3.406	-3.876	.480E+01	.1470
1.696294D+08	2.8405	2.9697	3.9565	-2.809	-3.435	-3.901	.536E+01	.1440
1.697252D+08	2.8144	2.7745	3.9011	-2.837	-3.456	-3.909	.623E+01	.1400
1.698209D+08	2.7532	2.4527	3.8054	-2.849	-3.436	-3.852	.799E+01	.1360
1.698688D+08	2.6990	2.2520	3.7417	-2.754	-3.275	-3.630	.926E+01	.1400
1.698928D+08	2.6642	2.1960	3.7190	-2.531	-2.973	-3.270	.942E+01	.1540
1.699885D+08	2.6307	2.0311	3.6694	-1.492	-1.860	-2.132	.900E+01	.2970

TABLE 39

Log m = 0.6998 X = 0.7230 Z = 0.0100

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	2.7471	4.3829	4.2614	-2.013	-2.695	-3.175	.158E+01	.2560
2.537653D+07	2.8165	4.2986	4.2577	-2.094	-2.767	-3.242	.167E+01	.2440
4.216861D+07	2.8675	4.2252	4.2521	-2.157	-2.822	-3.295	.176E+01	.2350
5.464196D+07	2.9112	4.1537	4.2451	-2.212	-2.871	-3.341	.185E+01	.2260
6.461818D+07	2.9504	4.0811	4.2368	-2.265	-2.917	-3.385	.194E+01	.2190
7.854780D+07	3.0134	3.9389	4.2170	-2.355	-2.996	-3.462	.214E+01	.2050
8.727060D+07	3.0601	3.8045	4.1950	-2.429	-3.063	-3.528	.234E+01	.1950
9.025861D+07	3.0774	3.7452	4.1846	-2.458	-3.089	-3.555	.243E+01	.1900
9.262795D+07	3.0920	3.6918	4.1749	-2.485	-3.115	-3.581	.253E+01	.1860
9.691904D+07	3.1239	3.6019	4.1604	-2.533	-3.159	-3.627	.272E+01	.1800
9.851219D+07	3.1711	3.6808	4.1919	-2.547	-3.172	-3.638	.279E+01	.1780
9.858942D+07	3.2076	3.7245	4.2119	-2.563	-3.187	-3.652	.292E+01	.1750
9.864266D+07	3.1887	3.5621	4.1666	-2.593	-3.216	-3.683	.329E+01	.1700
9.868999D+07	3.2176	3.4034	4.1342	-2.656	-3.280	-3.750	.373E+01	.1620
9.871365D+07	3.2251	3.3299	4.1177	-2.681	-3.306	-3.778	.396E+01	.1590
9.876098D+07	3.2323	3.1894	4.0843	-2.725	-3.352	-3.826	.442E+01	.1530
9.880830D+07	3.2304	3.0362	4.0456	-2.767	-3.397	-3.870	.500E+01	.1490
9.885563D+07	3.2193	2.8498	3.9962	-2.812	-3.443	-3.912	.581E+01	.1440
9.890295D+07	3.1914	2.5894	3.9241	-2.859	-3.480	-3.933	.717E+01	.1380
9.896211D+07	3.1060	2.0879	3.7774	-2.855	-3.405	-3.788	.109E+02	.1330

TABLE 40

Log m = 0.7993 X = 0.7230 Z = 0.0100

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	3.0892	4.3686	4.3185	-1.954	-2.632	-3.111	.152E+01	.2640
1.270000D+07	3.1431	4.3042	4.3159	-2.017	-2.689	-3.165	.159E+01	.2540
3.195861D+07	3.2462	4.1588	4.3053	-2.145	-2.803	-3.273	.177E+01	.2350
3.832268D+07	3.2872	4.0873	4.2977	-2.201	-2.853	-3.321	.186E+01	.2270
4.335920D+07	3.3237	4.0157	4.2889	-2.252	-2.898	-3.365	.195E+01	.2200
4.736544D+07	3.3566	3.9441	4.2792	-2.300	-2.941	-3.406	.205E+01	.2130
5.051518D+07	3.3853	3.8734	4.2687	-2.344	-2.981	-3.445	.215E+01	.2060
5.295883D+07	3.4091	3.8071	4.2581	-2.382	-3.016	-3.481	.225E+01	.2010
5.493017D+07	3.4305	3.7425	4.2473	-2.418	-3.049	-3.514	.235E+01	.1950
5.646041D+07	3.4476	3.6860	4.2375	-2.447	-3.076	-3.542	.245E+01	.1910
5.815021D+07	3.4678	3.6196	4.2259	-2.482	-3.110	-3.576	.257E+01	.1860
5.945818D+07	3.4868	3.5792	4.2205	-2.509	-3.135	-3.602	.268E+01	.1820
6.034815D+07	3.5331	3.6745	4.2559	-2.522	-3.146	-3.611	.277E+01	.1800
6.037711D+07	3.5610	3.7020	4.2698	-2.539	-3.162	-3.627	.289E+01	.1780
6.039794D+07	3.5336	3.6137	4.2409	-2.541	-3.163	-3.629	.309E+01	.1770
6.040984D+07	3.5453	3.5227	4.2210	-2.574	-3.197	-3.664	.332E+01	.1720
6.043365D+07	3.5726	3.3481	4.1842	-2.642	-3.267	-3.738	.383E+01	.1630
6.048126D+07	3.5912	3.0014	4.1022	-2.755	-3.386	-3.863	.509E+01	.1500
6.052887D+07	3.5682	2.5099	3.9736	-2.883	-3.513	-3.974	.773E+01	.1360
6.055268D+07	3.5208	2.0974	3.8586	-2.926	-3.510	-3.922	.111E+02	.1290

TABLE 41

Log m = 0.8998 X = 0.7230 Z = 0.0100

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	3.4201	4.3539	4.3724	-1.897	-2.571	-3.048	.147E+01	.2720
1.007557D+07	3.4936	4.2687	4.3695	-1.984	-2.651	-3.125	.157E+01	.2590
2.093122D+07	3.5910	4.1277	4.3586	-2.111	-2.766	-3.235	.173E+01	.2400
2.467959D+07	3.6319	4.0561	4.3509	-2.169	-2.818	-3.286	.182E+01	.2310
2.934853D+07	3.6912	3.9335	4.3351	-2.258	-2.898	-3.363	.199E+01	.2180
3.130515D+07	3.7198	3.8646	4.3250	-2.304	-2.940	-3.405	.209E+01	.2110
3.408946D+07	3.7665	3.7335	4.3039	-2.383	-3.014	-3.479	.229E+01	.2000
3.505766D+07	3.7840	3.6776	4.2943	-2.414	-3.043	-3.508	.238E+01	.1950
3.615520D+07	3.8057	3.6095	4.2827	-2.453	-3.081	-3.547	.252E+01	.1900
3.695939D+07	3.8243	3.5662	4.2765	-2.482	-3.108	-3.575	.263E+01	.1850
3.758530D+07	3.8714	3.6625	4.3124	-2.502	-3.126	-3.591	.275E+01	.1820
3.759850D+07	3.8970	3.6865	4.3248	-2.521	-3.144	-3.610	.288E+01	.1800
3.761180D+07	3.8723	3.6008	4.2972	-2.521	-3.144	-3.610	.310E+01	.1790
3.762321D+07	3.8868	3.4434	4.2615	-2.577	-3.200	-3.669	.354E+01	.1710
3.763081D+07	3.9013	3.3284	4.2363	-2.621	-3.246	-3.718	.390E+01	.1650
3.763841D+07	3.9124	3.2113	4.2098	-2.663	-3.291	-3.767	.431E+01	.1600
3.764601D+07	3.9192	3.0896	4.1811	-2.704	-3.335	-3.814	.479E+01	.1550
3.765361D+07	3.9220	2.9587	4.1491	-2.746	-3.381	-3.862	.537E+01	.1510
3.766882D+07	3.9147	2.6396	4.0675	-2.839	-3.480	-3.958	.714E+01	.1410
3.768402D+07	3.8766	2.1262	3.9296	-2.956	-3.571	-4.006	.115E+02	.1290

TABLE 42

Log m = 1.0000 X = 0.7230 Z = 0.0100

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	3.7402	4.3381	4.4235	-1.848	-2.517	-2.992	.143E+01	.2790
1.528519D+07	3.9413	4.0638	4.4052	-2.116	-2.766	-3.233	.175E+01	.2380
1.739191D+07	3.9804	3.9906	4.3966	-2.177	-2.820	-3.287	.185E+01	.2290
1.901757D+07	4.0137	3.9189	4.3870	-2.231	-2.871	-3.337	.195E+01	.2210
2.032972D+07	4.0429	3.8481	4.3766	-2.281	-2.917	-3.383	.206E+01	.2140
2.138396D+07	4.0687	3.7786	4.3657	-2.328	-2.961	-3.427	.216E+01	.2070
2.222433D+07	4.0909	3.7117	4.3545	-2.370	-3.001	-3.467	.228E+01	.2010
2.288694D+07	4.1087	3.6539	4.3445	-2.405	-3.034	-3.501	.238E+01	.1960
2.341480D+07	4.1250	3.5990	4.3349	-2.438	-3.066	-3.534	.248E+01	.1920
2.399240D+07	4.1431	3.5435	4.3255	-2.473	-3.100	-3.569	.261E+01	.1870
2.422348D+07	4.1510	3.5278	4.3236	-2.486	-3.113	-3.582	.267E+01	.1850
2.463989D+07	4.1835	3.5947	4.3484	-2.505	-3.130	-3.598	.278E+01	.1820
2.466299D+07	4.2178	3.6465	4.3700	-2.529	-3.154	-3.621	.295E+01	.1780
2.467431D+07	4.1954	3.5262	4.3343	-2.539	-3.162	-3.631	.333E+01	.1760
2.467843D+07	4.2021	3.4269	4.3111	-2.573	-3.197	-3.669	.363E+01	.1710
2.468255D+07	4.2125	3.3141	4.2855	-2.615	-3.242	-3.717	.402E+01	.1660
2.468667D+07	4.2224	3.1917	4.2574	-2.660	-3.289	-3.768	.448E+01	.1600
2.469079D+07	4.2298	3.0596	4.2262	-2.707	-3.342	-3.826	.506E+01	.1550
2.469902D+07	4.2332	2.7465	4.1488	-2.811	-3.456	-3.944	.675E+01	.1440
2.470726D+07	4.2167	2.2908	4.0308	-2.952	-3.597	-4.064	.104E+02	.1310

TABLE 43

Log m = 1.1089 X = 0.7230 Z = 0.0100

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	4.0745	4.3206	4.4754	-1.803	-2.467	-2.941	.140E+01	.2850
3.100000D+06	4.1247	4.2627	4.4735	-1.870	-2.531	-3.003	.146E+01	.2750
7.693603D+06	4.2166	4.1391	4.4656	-2.001	-2.655	-3.124	.161E+01	.2550
9.570533D+06	4.2588	4.0685	4.4585	-2.069	-2.718	-3.186	.170E+01	.2450
1.229239D+07	4.3339	3.9182	4.4397	-2.201	-2.840	-3.307	.191E+01	.2260
1.403566D+07	4.3922	3.7706	4.4174	-2.313	-2.946	-3.414	.214E+01	.2090
1.451298D+07	4.4104	3.7154	4.4081	-2.351	-2.984	-3.452	.224E+01	.2040
1.504615D+07	4.4319	3.6426	4.3953	-2.399	-3.029	-3.498	.237E+01	.1970
1.546187D+07	4.4496	3.5799	4.3840	-2.440	-3.070	-3.540	.249E+01	.1910
1.578688D+07	4.4624	3.5296	4.3747	-2.472	-3.101	-3.572	.261E+01	.1870
1.613561D+07	4.4791	3.4769	4.3657	-2.509	-3.139	-3.612	.275E+01	.1820
1.627131D+07	4.4863	3.4611	4.3635	-2.523	-3.153	-3.627	.281E+01	.1800
1.651643D+07	4.5132	3.5300	4.3875	-2.542	-3.170	-3.642	.294E+01	.1770
1.653058D+07	4.5401	3.5825	4.4073	-2.564	-3.190	-3.662	.310E+01	.1730
1.654055D+07	4.5353	3.4593	4.3593	-2.611	-3.239	-3.716	.394E+01	.1660
1.654313D+07	4.5402	3.2847	4.3329	-2.650	-3.281	-3.761	.438E+01	.1610
1.654570D+07	4.5460	3.1525	4.3013	-2.697	-3.333	-3.819	.497E+01	.1560
1.654828D+07	4.5513	2.9992	4.2643	-2.752	-3.394	-3.886	.578E+01	.1500
1.655342D+07	4.5522	2.6007	4.1649	-2.894	-3.554	-4.053	.858E+01	.1360
1.655729D+07	4.5365	2.1443	4.0469	-3.051	-3.703	-4.167	.137E+02	.1220

TABLE 44

Log m = 1.1998 X = 0.7230 Z = 0.0100

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	4.3378	4.3074	4.5152	-1.770	-2.430	-2.902	.137E+01	.2900
2.498981D+06	4.3968	4.2411	4.5134	-1.852	-2.510	-2.981	.145E+01	.2770
5.822138D+06	4.4836	4.1173	4.5042	-1.992	-2.644	-3.113	.160E+01	.2560
7.175759D+06	4.5262	4.0425	4.4961	-2.069	-2.715	-3.183	.170E+01	.2450
8.265452D+06	4.5638	3.9671	4.4867	-2.141	-2.783	-3.251	.181E+01	.2340
9.875410D+06	4.6283	3.8109	4.4637	-2.276	-2.912	-3.381	.206E+01	.2150
1.089409D+07	4.6759	3.6583	4.4375	-2.390	-3.023	-3.494	.233E+01	.1980
1.155919D+07	4.7104	3.5269	4.4133	-2.482	-3.115	-3.590	.261E+01	.1860
1.179717D+07	4.7238	3.4701	4.4024	-2.521	-3.154	-3.632	.275E+01	.1800
1.204047D+07	4.7380	3.4200	4.3935	-2.559	-3.194	-3.673	.291E+01	.1750
1.218590D+07	4.7480	3.3988	4.3906	-2.584	-3.218	-3.699	.303E+01	.1720
1.231313D+07	4.7686	3.4748	4.4148	-2.595	-3.227	-3.706	.314E+01	.1700
1.232235D+07	4.7934	3.5264	4.4339	-2.620	-3.251	-3.730	.335E+01	.1660
1.232362D+07	4.8030	3.5386	4.4394	-2.632	-3.263	-3.742	.350E+01	.1650
1.232868D+07	4.7925	3.4056	4.4035	-2.656	-3.289	-3.772	.413E+01	.1610
1.233037D+07	4.8032	3.3265	4.3864	-2.698	-3.334	-3.821	.451E+01	.1560
1.233375D+07	4.8171	3.1058	4.3347	-2.793	-3.440	-3.938	.570E+01	.1460
1.233543D+07	4.8208	2.9777	4.3036	-2.844	-3.499	-4.004	.653E+01	.1410
1.233881D+07	4.8229	2.6478	4.2216	-2.976	-3.651	-4.166	.929E+01	.1290
1.234218D+07	4.8120	2.1281	4.0890	-3.182	-3.853	-4.326	.162E+02	.1120

TABLE 45

Log m = 1.2999 X = 0.7230 Z = 0.0100

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	4.6129	4.2936	4.5555	-1.740	-2.396	-2.867	.135E+01	.2940
3.100000D+05	4.6213	4.2841	4.5553	-1.753	-2.409	-2.879	.136E+01	.2920
6.300000D+05	4.6303	4.2736	4.5549	-1.767	-2.423	-2.893	.137E+01	.2900
5.518190D+06	4.7993	4.0163	4.5328	-2.075	-2.721	-3.190	.171E+01	.2440
7.826145D+06	4.9141	3.7123	4.4855	-2.358	-2.995	-3.470	.223E+01	.2030
8.619224D+06	4.9657	3.5020	4.4458	-2.522	-3.159	-3.641	.270E+01	.1810
8.841014D+06	4.9810	3.4272	4.4309	-2.576	-3.217	-3.704	.289E+01	.1740
8.996074D+06	4.9913	3.3759	4.4207	-2.615	-3.257	-3.747	.305E+01	.1690
9.199312D+06	5.0065	3.3239	4.4115	-2.666	-3.311	-3.804	.329E+01	.1630
9.307820D+06	5.0237	3.3787	4.4295	-2.685	-3.329	-3.821	.345E+01	.1600
9.317850D+06	5.0373	3.4295	4.4456	-2.696	-3.338	-3.829	.358E+01	.1580
9.320651D+06	5.0586	3.4667	4.4602	-2.727	-3.369	-3.861	.405E+01	.1530
9.323992D+06	5.0529	3.3210	4.4224	-2.766	-3.413	-3.911	.487E+01	.1480
9.325106D+06	5.0721	3.2589	4.4116	-2.827	-3.479	-3.983	.524E+01	.1430
9.326219D+06	5.0832	3.1864	4.3963	-2.878	-3.536	-4.047	.582E+01	.1380
9.327333D+06	5.0888	3.1060	4.3776	-2.921	-3.586	-4.103	.644E+01	.1330
9.329560D+06	5.0937	2.8983	4.3269	-3.018	-3.700	-4.231	.819E+01	.1250
9.330674D+06	5.0965	2.7823	4.2986	-3.076	-3.767	-4.303	.940E+01	.1200
9.331787D+06	5.0990	2.6523	4.2667	-3.144	-3.846	-4.385	.110E+02	.1150
9.334014D+06	5.1004	2.3320	4.1870	-3.309	-4.022	-4.538	.158E+02	.1030

TABLE 46

Log m = 1.3998 X = 0.7230 Z = 0.0100

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	4.8675	4.2833	4.5916	-1.712	-2.363	-2.832	.133E+01	.2990
1.270000D+06	4.9167	4.2247	4.5893	-1.797	-2.449	-2.919	.140E+01	.2850
3.458051D+06	5.0073	4.0818	4.5762	-1.986	-2.636	-3.106	.160E+01	.2570
4.885072D+06	5.0784	3.9252	4.5548	-2.167	-2.811	-3.284	.184E+01	.2310
5.841602D+06	5.1362	3.7536	4.5264	-2.341	-2.983	-3.462	.216E+01	.2060
6.028236D+06	5.1497	3.7035	4.5172	-2.386	-3.028	-3.508	.226E+01	.2000
6.534222D+06	5.1856	3.5439	4.4863	-2.521	-3.166	-3.654	.262E+01	.1820
6.622534D+06	5.1929	3.5068	4.4789	-2.555	-3.202	-3.693	.272E+01	.1780
6.809258D+06	5.2072	3.4257	4.4621	-2.621	-3.271	-3.767	.295E+01	.1700
6.972888D+06	5.2197	3.3507	4.4465	-2.683	-3.337	-3.839	.318E+01	.1620
7.105053D+06	5.2291	3.2882	4.4333	-2.738	-3.396	-3.903	.344E+01	.1550
7.275216D+06	5.2465	3.1964	4.4146	-2.822	-3.489	-4.005	.386E+01	.1460
7.359827D+06	5.2694	3.2854	4.4426	-2.854	-3.520	-4.037	.419E+01	.1420
7.362280D+06	5.2918	3.3382	4.4614	-2.899	-3.567	-4.087	.476E+01	.1370
7.365741D+06	5.2977	3.2276	4.4353	-2.962	-3.639	-4.168	.596E+01	.1300
7.366895D+06	5.3030	3.1114	4.4075	-3.029	-3.718	-4.258	.692E+01	.1240
7.368048D+06	5.3147	2.9861	4.3791	-3.126	-3.831	-4.386	.810E+01	.1170
7.369202D+06	5.3212	2.8382	4.3438	-3.221	-3.945	-4.512	.979E+01	.1090
7.372663D+06	5.3351	2.2488	4.1999	-3.608	-4.355	-4.868	.200E+02	.0850
7.373817D+06	5.3393	2.0069	4.1405	-3.763	-4.465	-4.913	.264E+02	.0750

TABLE 47

Log m = 1.5000 X = 0.7230 Z = 0.0100

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	5.1101	4.2709	4.6241	-1.695	-2.344	-2.811	.132E+01	.3010
1.194379D+06	5.1601	4.2056	4.6203	-1.798	-2.449	-2.919	.140E+01	.2850
2.712863D+06	5.2357	4.0789	4.6075	-1.980	-2.632	-3.105	.159E+01	.2580
3.894646D+06	5.3028	3.9178	4.5840	-2.185	-2.835	-3.313	.186E+01	.2280
4.980338D+06	5.3779	3.6335	4.5317	-2.492	-3.146	-3.640	.245E+01	.1870
5.107756D+06	5.3894	3.5742	4.5198	-2.554	-3.211	-3.710	.261E+01	.1790
5.421574D+06	5.4130	3.4239	4.4881	-2.699	-3.369	-3.885	.303E+01	.1630
5.508025D+06	5.4203	3.3702	4.4765	-2.751	-3.428	-3.951	.321E+01	.1570
5.586004D+06	5.4282	3.3066	4.4626	-2.807	-3.494	-4.027	.343E+01	.1510
5.715444D+06	5.4384	3.2151	4.4423	-2.902	-3.600	-4.146	.378E+01	.1420
5.818534D+06	5.4470	3.1315	4.4235	-2.987	-3.699	-4.258	.416E+01	.1340
5.889479D+06	5.4527	3.0775	4.4114	-3.047	-3.769	-4.338	.446E+01	.1280
5.956214D+06	5.4594	3.0192	4.3985	-3.118	-3.852	-4.433	.484E+01	.1230
5.993932D+06	5.4634	3.0022	4.3953	-3.152	-3.893	-4.480	.505E+01	.1200
6.044553D+06	5.5038	3.0899	4.4273	-3.370	-4.161	-4.797	.737E+01	.1030
6.045616D+06	5.5022	3.0519	4.4174	-3.380	-4.173	-4.810	.802E+01	.1020
6.046680D+06	5.5020	2.9229	4.3851	-3.450	-4.256	-4.901	.949E+01	.0970
6.047478D+06	5.5252	2.7469	4.3469	-3.769	-4.653	-5.343	.116E+02	.0820
6.048275D+06	5.5395	2.5551	4.3026	-4.075	-5.018	-5.701	.152E+02	.0690
6.050402D+06	5.5471	2.0369	4.1749	-4.635	-5.483	-5.933	.294E+02	.0480

TABLE 48

Log m = 1.6000 X = 0.7230 Z = 0.0100

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	5.3352	4.2615	4.6531	-1.679	-2.324	-2.790	.131E+01	.3030
1.077952D+06	5.3870	4.1882	4.6477	-1.805	-2.457	-2.928	.141E+01	.2840
1.833768D+06	5.4260	4.1177	4.6398	-1.917	-2.572	-3.047	.152E+01	.2670
2.460721D+06	5.4626	4.0383	4.6291	-2.037	-2.694	-3.171	.165E+01	.2500
3.472741D+06	5.5289	3.8303	4.5937	-2.327	-2.993	-3.489	.204E+01	.2110
3.642173D+06	5.5410	3.7794	4.5840	-2.395	-3.066	-3.569	.215E+01	.2020
4.068014D+06	5.5738	3.5922	4.5454	-2.637	-3.332	-3.866	.262E+01	.1740
4.187217D+06	5.5835	3.5269	4.5315	-2.721	-3.429	-3.978	.281E+01	.1650
4.293504D+06	5.5929	3.4516	4.5150	-2.820	-3.546	-4.114	.305E+01	.1560
4.441948D+06	5.6053	3.3281	4.4872	-2.982	-3.739	-4.340	.349E+01	.1410
4.571107D+06	5.6179	3.1812	4.4537	-3.182	-3.984	-4.630	.409E+01	.1250
4.730874D+06	5.6311	2.9667	4.4033	-3.490	-4.368	-5.081	.522E+01	.1040
4.824973D+06	5.6403	2.7615	4.3544	-3.803	-4.763	-5.528	.661E+01	.0870
4.843449D+06	5.6427	2.7054	4.3409	-3.898	-4.879	-5.652	.705E+01	.0830
4.868083D+06	5.6449	2.6372	4.3244	-4.014	-5.024	-5.801	.765E+01	.0780
4.912960D+06	5.6491	2.4848	4.2874	-4.286	-5.353	-6.111	.918E+01	.0670
4.936238D+06	5.6513	2.3877	4.2636	-4.472	-5.569	-6.291	.103E+02	.0610
4.963365D+06	5.6543	2.2199	4.2224	-4.799	-5.909	-6.487	.127E+02	.0510
4.970506D+06	5.6551	2.1684	4.2098	-4.905	-5.999	-6.509	.135E+02	.0480
4.983352D+06	5.6564	2.0745	4.1866	-5.095	-6.124	-6.502	.152E+02	.0430

TABLE 49

Log m = 0.0000 X = 0.6490 Z = 0.0300

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	-0.1634	4.5276	3.7449	-1.622	-2.060	-2.345	.142E+01	.2970
1.000000D+06	-0.1634	4.5276	3.7449	-1.622	-2.060	-2.345	.142E+01	.2970
4.095000D+09	-0.0513	4.4493	3.7534	-1.738	-2.163	-2.445	.159E+01	.2740
8.191000D+09	0.0696	4.3357	3.7552	-1.831	-2.238	-2.515	.181E+01	.2540
9.526106D+09	0.1355	4.2650	3.7540	-1.871	-2.267	-2.540	.196E+01	.2440
1.054031D+10	0.1987	4.1901	3.7511	-1.881	-2.266	-2.535	.212E+01	.2390
1.109201D+10	0.2369	4.1305	3.7457	-1.874	-2.252	-2.519	.224E+01	.2370
1.164419D+10	0.2794	4.0459	3.7352	-1.796	-2.160	-2.422	.237E+01	.2440
1.193741D+10	0.2919	3.9763	3.7209	-1.686	-2.045	-2.308	.241E+01	.2610
1.211488D+10	0.2903	3.9229	3.7072	-1.540	-1.899	-2.163	.237E+01	.2880
1.222411D+10	0.2937	3.8702	3.6949	-1.426	-1.789	-2.056	.236E+01	.3120
1.232552D+10	0.3215	3.7994	3.6841	-1.333	-1.702	-1.973	.243E+01	.3330
1.239999D+10	0.3638	3.7347	3.6785	-1.284	-1.659	-1.932	.257E+01	.3450
1.245596D+10	0.4049	3.6752	3.6739	-1.260	-1.637	-1.912	.274E+01	.3510
1.250275D+10	0.4451	3.6207	3.6703	-1.246	-1.626	-1.902	.292E+01	.3540
1.255259D+10	0.4969	3.5644	3.6692	-1.236	-1.618	-1.896	.316E+01	.3570
1.263087D+10	0.5893	3.4595	3.6661	-1.226	-1.611	-1.891	.368E+01	.3600
1.269899D+10	0.6856	3.3499	3.6627	-1.224	-1.612	-1.894	.436E+01	.3610
1.283523D+10	0.9650	3.0253	3.6514	-1.243	-1.638	-1.926	.739E+01	.3570
1.290929D+10	1.2275	2.7071	3.6375	-1.280	-1.680	-1.975	.126E+02	.3500

TABLE 50

Log m = 0.0212 X = 0.6490 Z = 0.0300

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	-0.0631	4.4971	3.7571	-1.702	-2.149	-2.439	.149E+01	.2840
1.000000D+06	-0.0631	4.4971	3.7571	-1.702	-2.149	-2.439	.149E+01	.2840
3.648743D+09	0.0515	4.4090	3.7637	-1.824	-2.258	-2.544	.168E+01	.2610
7.731649D+09	0.2048	4.2471	3.7616	-1.938	-2.347	-2.626	.200E+01	.2370
8.577261D+09	0.2641	4.1774	3.7590	-1.948	-2.344	-2.617	.215E+01	.2310
9.214434D+09	0.3165	4.1027	3.7534	-1.933	-2.315	-2.584	.231E+01	.2290
9.660380D+09	0.3538	4.0263	3.7436	-1.868	-2.237	-2.502	.244E+01	.2340
9.943254D+09	0.3670	3.9571	3.7296	-1.746	-2.106	-2.368	.248E+01	.2510
1.011292D+10	0.3544	3.8943	3.7108	-1.579	-1.937	-2.200	.243E+01	.2800
1.024606D+10	0.3537	3.8280	3.6940	-1.398	-1.763	-2.031	.237E+01	.3190
1.032590D+10	0.3822	3.7614	3.6845	-1.313	-1.684	-1.956	.244E+01	.3380
1.038647D+10	0.4237	3.6981	3.6790	-1.270	-1.646	-1.920	.259E+01	.3480
1.043270D+10	0.4611	3.6410	3.6741	-1.248	-1.628	-1.903	.275E+01	.3540
1.048338D+10	0.5156	3.5790	3.6722	-1.232	-1.614	-1.891	.298E+01	.3580
1.056117D+10	0.6107	3.4683	3.6684	-1.217	-1.604	-1.883	.348E+01	.3620
1.062502D+10	0.7052	3.3591	3.6646	-1.213	-1.602	-1.884	.410E+01	.3630
1.072158D+10	0.8962	3.1391	3.6574	-1.221	-1.614	-1.900	.583E+01	.3620
1.075472D+10	0.9836	3.0350	3.6532	-1.230	-1.625	-1.913	.690E+01	.3600
1.080683D+10	1.1627	2.8189	3.6440	-1.252	-1.651	-1.943	.989E+01	.3560
1.082558D+10	1.2464	2.7166	3.6393	-1.264	-1.665	-1.959	.117E+02	.3530

TABLE 51

Log m = 0.0492 X = 0.6490 Z = 0.0300

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	0.0694	4.4553	3.7728	-1.818	-2.281	-2.580	.159E+01	.2670
1.000000D+06	0.0695	4.4552	3.7728	-1.818	-2.282	-2.580	.159E+01	.2670
1.957939D+09	0.1409	4.3949	3.7755	-1.900	-2.356	-2.653	.172E+01	.2520
3.210410D+09	0.1856	4.3448	3.7742	-1.943	-2.391	-2.686	.181E+01	.2440
4.400846D+09	0.2241	4.2883	3.7697	-1.953	-2.386	-2.675	.188E+01	.2400
5.364288D+09	0.2510	4.2351	3.7631	-1.925	-2.341	-2.623	.193E+01	.2400
6.255086D+09	0.2717	4.1833	3.7553	-1.862	-2.260	-2.534	.194E+01	.2460
6.667128D+09	0.3568	4.1331	3.7641	-1.999	-2.402	-2.680	.221E+01	.2240
6.681168D+09	0.4084	4.1025	3.7693	-2.099	-2.510	-2.793	.242E+01	.2110
6.691443D+09	0.4187	4.0657	3.7627	-2.039	-2.435	-2.710	.247E+01	.2150
6.980195D+09	0.4366	3.9913	3.7485	-1.918	-2.293	-2.560	.252E+01	.2270
7.216146D+09	0.4369	3.9377	3.7352	-1.789	-2.152	-2.415	.253E+01	.2450
7.370925D+09	0.4097	3.8875	3.7159	-1.590	-1.949	-2.213	.242E+01	.2790
7.490952D+09	0.3921	3.8330	3.6978	-1.405	-1.765	-2.028	.240E+01	.3120
7.565831D+09	0.4048	3.7756	3.6867	-1.308	-1.678	-1.947	.239E+01	.3390
7.623551D+09	0.4346	3.7250	3.6815	-1.265	-1.642	-1.915	.249E+01	.3500
7.685249D+09	0.4800	3.6645	3.6777	-1.232	-1.612	-1.886	.266E+01	.3580
7.784490D+09	0.5734	3.5508	3.6726	-1.207	-1.592	-1.871	.308E+01	.3640
7.958384D+09	0.8175	3.2703	3.6635	-1.199	-1.591	-1.875	.470E+01	.3670
8.038757D+09	0.9982	3.0569	3.6553	-1.215	-1.610	-1.898	.661E+01	.3640

TABLE 52

Log m = 0.0719 X = 0.6490 Z = 0.0300

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	0.1761	4.4185	3.7846	-1.919	-2.401	-2.711	.168E+01	.2530
1.000000D+06	0.1762	4.4184	3.7846	-1.919	-2.401	-2.710	.168E+01	.2530
1.896523D+09	0.2534	4.3478	3.7862	-2.005	-2.480	-2.789	.182E+01	.2390
3.131961D+09	0.3015	4.2850	3.7825	-2.029	-2.487	-2.789	.192E+01	.2330
4.003425D+09	0.3336	4.2302	3.7769	-2.017	-2.457	-2.751	.198E+01	.2310
4.713943D+09	0.3528	4.1777	3.7686	-1.976	-2.395	-2.680	.201E+01	.2330
5.360121D+09	0.3669	4.1257	3.7591	-1.908	-2.309	-2.584	.202E+01	.2390
5.578196D+09	0.3805	4.1061	3.7576	-1.904	-2.301	-2.575	.206E+01	.2380
5.719047D+09	0.4475	4.0757	3.7667	-2.046	-2.454	-2.735	.230E+01	.2180
5.732687D+09	0.5214	4.0357	3.7752	-2.200	-2.626	-2.919	.261E+01	.1980
5.736191D+09	0.5138	4.0179	3.7688	-2.136	-2.547	-2.831	.261E+01	.2040
5.766091D+09	0.5307	3.9622	3.7592	-2.049	-2.439	-2.713	.266E+01	.2110
5.975395D+09	0.5054	3.8821	3.7328	-1.758	-2.121	-2.384	.258E+01	.2490
6.132390D+09	0.4441	3.8223	3.7025	-1.445	-1.809	-2.076	.236E+01	.3090
6.227088D+09	0.4510	3.7612	3.6890	-1.308	-1.681	-1.951	.237E+01	.3400
6.293812D+09	0.4851	3.7020	3.6827	-1.250	-1.629	-1.903	.249E+01	.3540
6.346755D+09	0.5247	3.6475	3.6789	-1.223	-1.605	-1.880	.264E+01	.3610
6.398833D+09	0.5728	3.5892	3.6764	-1.204	-1.589	-1.866	.284E+01	.3650
6.578872D+09	0.8096	3.3135	3.6667	-1.186	-1.578	-1.861	.423E+01	.3700
6.662904D+09	0.9908	3.0999	3.6586	-1.198	-1.594	-1.880	.591E+01	.3680

TABLE 53

Log m = 0.0969 X = 0.6490 Z = 0.0300

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	0.2931	4.3819	3.7984	-2.040	-2.559	-2.894	.177E+01	.2390
1.000000D+06	0.2933	4.3818	3.7984	-2.040	-2.560	-2.895	.177E+01	.2390
1.771433D+09	0.3750	4.2927	3.7966	-2.121	-2.624	-2.953	.194E+01	.2250
2.626096D+09	0.4136	4.2347	3.7917	-2.131	-2.615	-2.935	.202E+01	.2210
3.308616D+09	0.4405	4.1802	3.7848	-2.113	-2.575	-2.882	.208E+01	.2200
3.911937D+09	0.4589	4.1213	3.7747	-2.063	-2.498	-2.792	.212E+01	.2220
4.458459D+09	0.4704	4.0667	3.7639	-1.976	-2.385	-2.665	.212E+01	.2290
4.764871D+09	0.5428	4.0163	3.7694	-2.103	-2.521	-2.808	.238E+01	.2110
4.779511D+09	0.6348	3.9775	3.7827	-2.306	-2.757	-3.065	.277E+01	.1880
4.783542D+09	0.6266	3.9441	3.7723	-2.216	-2.640	-2.933	.279E+01	.1950
4.810693D+09	0.6384	3.8886	3.7614	-2.112	-2.510	-2.788	.283E+01	.2030
4.892147D+09	0.6136	3.8331	3.7413	-1.875	-2.242	-2.507	.277E+01	.2310
5.000752D+09	0.5228	3.7824	3.7059	-1.449	-1.813	-2.080	.243E+01	.3080
5.063207D+09	0.5189	3.7293	3.6917	-1.300	-1.674	-1.945	.239E+01	.3420
5.118341D+09	0.5548	3.6671	3.6851	-1.237	-1.617	-1.892	.251E+01	.3570
5.160397D+09	0.5941	3.6117	3.6811	-1.209	-1.593	-1.869	.267E+01	.3640
5.197373D+09	0.6347	3.5596	3.6782	-1.194	-1.580	-1.858	.285E+01	.3680
5.232727D+09	0.6779	3.5064	3.6757	-1.184	-1.572	-1.851	.306E+01	.3700
5.292270D+09	0.7641	3.4039	3.6717	-1.176	-1.567	-1.849	.353E+01	.3730
5.421953D+09	1.0423	3.0764	3.6593	-1.186	-1.583	-1.870	.582E+01	.3710

TABLE 54

Log m = 0.1239 X = 0.6490 Z = 0.0300

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	0.4167	4.3424	3.8127	-2.165	-2.730	-3.101	.187E+01	.2260
1.000000D+06	0.4168	4.3423	3.8127	-2.165	-2.730	-3.102	.187E+01	.2260
1.107823D+09	0.4756	4.2732	3.8101	-2.224	-2.776	-3.142	.199E+01	.2160
1.849616D+09	0.5136	4.2141	3.8048	-2.241	-2.772	-3.127	.208E+01	.2110
2.387386D+09	0.5412	4.1619	3.7987	-2.237	-2.746	-3.087	.215E+01	.2090
2.857482D+09	0.5624	4.1086	3.7907	-2.205	-2.687	-3.010	.220E+01	.2090
3.304812D+09	0.5760	4.0513	3.7797	-2.136	-2.585	-2.888	.223E+01	.2130
3.656689D+09	0.5838	4.0000	3.7689	-2.064	-2.487	-2.776	.224E+01	.2180
3.922778D+09	0.6775	3.9477	3.7792	-2.245	-2.691	-2.997	.259E+01	.1960
3.929007D+09	0.7559	3.9138	3.7904	-2.430	-2.916	-3.251	.294E+01	.1770
3.932782D+09	0.7444	3.8745	3.7776	-2.305	-2.749	-3.055	.297E+01	.1850
3.947086D+09	0.7512	3.8152	3.7645	-2.195	-2.606	-2.893	.302E+01	.1930
4.010661D+09	0.6864	3.7542	3.7331	-1.783	-2.147	-2.411	.279E+01	.2450
4.083256D+09	0.5952	3.6928	3.6949	-1.315	-1.687	-1.958	.242E+01	.3390
4.115904D+09	0.6246	3.6336	3.6875	-1.243	-1.622	-1.897	.255E+01	.3560
4.143810D+09	0.6632	3.5773	3.6830	-1.209	-1.593	-1.869	.273E+01	.3640
4.171057D+09	0.7108	3.5158	3.6796	-1.187	-1.574	-1.853	.293E+01	.3700
4.194709D+09	0.7527	3.4634	3.6769	-1.176	-1.566	-1.846	.313E+01	.3720
4.262586D+09	0.8918	3.2972	3.6702	-1.165	-1.559	-1.842	.395E+01	.3760
4.353030D+09	1.1550	2.9809	3.6569	-1.180	-1.580	-1.868	.640E+01	.3730

TABLE 55

Log m = 0.1492 X = 0.6490 Z = 0.0300

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	0.5307	4.3088	3.8264	-2.268	-2.877	-3.288	.195E+01	.2160
1.000000D+05	0.5306	4.3088	3.8264	-2.268	-2.877	-3.288	.195E+01	.2160
6.892438D+08	0.5721	4.2523	3.8227	-2.333	-2.921	-3.321	.211E+01	.2040
1.292569D+09	0.6097	4.1924	3.8171	-2.352	-2.939	-3.340	.215E+01	.2030
1.845297D+09	0.6427	4.1285	3.8094	-2.352	-2.911	-3.293	.224E+01	.1990
2.264332D+09	0.6661	4.0731	3.8014	-2.317	-2.842	-3.198	.229E+01	.1990
2.585127D+09	0.6797	4.0216	3.7919	-2.269	-2.762	-3.096	.233E+01	.2010
2.882706D+09	0.6884	3.9682	3.7807	-2.193	-2.650	-2.961	.235E+01	.2060
3.159705D+09	0.7030	3.9152	3.7711	-2.137	-2.569	-2.866	.240E+01	.2090
3.246050D+09	0.8586	3.8626	3.7969	-2.522	-3.041	-3.404	.304E+01	.1690
3.251035D+09	0.8550	3.7949	3.7790	-2.373	-2.832	-3.150	.315E+01	.1780
3.266034D+09	0.8505	3.7371	3.7635	-2.225	-2.642	-2.932	.318E+01	.1900
3.334601D+09	0.6672	3.6732	3.7017	-1.365	-1.734	-2.004	.241E+01	.3270
3.354657D+09	0.6860	3.6080	3.6901	-1.249	-1.628	-1.902	.246E+01	.3550
3.371469D+09	0.7310	3.5404	3.6844	-1.201	-1.586	-1.863	.262E+01	.3660
3.385532D+09	0.7736	3.4865	3.6816	-1.181	-1.569	-1.848	.280E+01	.3710
3.402324D+09	0.8214	3.4262	3.6785	-1.169	-1.560	-1.840	.305E+01	.3740
3.455734D+09	0.9546	3.2611	3.6705	-1.161	-1.556	-1.839	.401E+01	.3770
3.506571D+09	1.1354	3.0448	3.6616	-1.165	-1.565	-1.852	.553E+01	.3760
3.526211D+09	1.2200	2.9410	3.6568	-1.173	-1.574	-1.863	.648E+01	.3750

TABLE 56

Log m = 0.1761 X = 0.6490 Z = 0.0300

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	0.6477	4.2826	3.8424	-2.349	-2.997	-3.446	.201E+01	.2090
7.315169D+08	0.7015	4.2055	3.8366	-2.404	-3.036	-3.476	.214E+01	.2000
1.109602D+09	0.7291	4.1548	3.8309	-2.426	-3.043	-3.474	.222E+01	.1960
1.421444D+09	0.7531	4.1032	3.8239	-2.446	-3.053	-3.478	.230E+01	.1920
1.700034D+09	0.7728	4.0498	3.8155	-2.447	-3.033	-3.443	.237E+01	.1890
2.010201D+09	0.7924	3.9891	3.8053	-2.415	-2.969	-3.354	.243E+01	.1900
2.243836D+09	0.8028	3.9370	3.7948	-2.351	-2.862	-3.214	.247E+01	.1920
2.460470D+09	0.8095	3.8848	3.7834	-2.273	-2.748	-3.073	.249E+01	.1970
2.641805D+09	0.8241	3.8409	3.7761	-2.227	-2.679	-2.990	.254E+01	.1990
2.671773D+09	0.8397	3.8325	3.7779	-2.260	-2.718	-3.033	.261E+01	.1950
2.703868D+09	0.9878	3.7949	3.8055	-2.638	-3.198	-3.598	.327E+01	.1600
2.705654D+09	0.9582	3.7675	3.7913	-2.517	-3.030	-3.388	.325E+01	.1680
2.708829D+09	0.9721	3.7100	3.7804	-2.447	-2.925	-3.257	.335E+01	.1710
2.731054D+09	0.9370	3.6298	3.7515	-2.108	-2.502	-2.782	.328E+01	.2000
2.762804D+09	0.7577	3.5979	3.6988	-1.329	-1.701	-1.972	.242E+01	.3350
2.769154D+09	0.7751	3.5523	3.6917	-1.254	-1.632	-1.906	.243E+01	.3530
2.775504D+09	0.8137	3.4922	3.6864	-1.209	-1.594	-1.871	.252E+01	.3640
2.781853D+09	0.8629	3.4255	3.6819	-1.184	-1.572	-1.851	.267E+01	.3700
2.794553D+09	0.9700	3.2895	3.6747	-1.161	-1.555	-1.838	.311E+01	.3770
2.871361D+09	1.4253	2.7295	3.6486	-1.184	-1.588	-1.881	.852E+01	.3730

TABLE 57

Log m = 0.1987 X = 0.6490 Z = 0.0300

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	0.7454	4.2706	3.8582	-2.382	-3.048	-3.515	.204E+01	.2060
4.080036D+08	0.7796	4.2195	3.8540	-2.422	-3.080	-3.543	.212E+01	.2000
7.781022D+08	0.8124	4.1621	3.8478	-2.458	-3.106	-3.564	.222E+01	.1950
1.076095D+09	0.8391	4.1055	3.8404	-2.485	-3.121	-3.572	.230E+01	.1900
1.323384D+09	0.8607	4.0508	3.8321	-2.499	-3.119	-3.560	.239E+01	.1860
1.773760D+09	0.8951	3.9274	3.8099	-2.478	-3.050	-3.452	.254E+01	.1830
1.956105D+09	0.9034	3.8737	3.7985	-2.421	-2.955	-3.327	.258E+01	.1850
2.124594D+09	0.9093	3.8197	3.7865	-2.346	-2.841	-3.182	.261E+01	.1890
2.239001D+09	0.9210	3.7852	3.7808	-2.313	-2.790	-3.118	.266E+01	.1900
2.288015D+09	0.9678	3.7694	3.7885	-2.432	-2.938	-3.290	.286E+01	.1790
2.297559D+09	1.0897	3.7520	3.8146	-2.713	-3.303	-3.733	.339E+01	.1550
2.299474D+09	1.0595	3.6977	3.7935	-2.585	-3.118	-3.496	.343E+01	.1620
2.301894D+09	1.0671	3.6455	3.7824	-2.508	-3.004	-3.351	.351E+01	.1660
2.311574D+09	1.0470	3.5813	3.7613	-2.294	-2.724	-3.024	.351E+01	.1820
2.337387D+09	0.8318	3.5422	3.6977	-1.315	-1.688	-1.960	.244E+01	.3390
2.342432D+09	0.8637	3.4786	3.6898	-1.234	-1.615	-1.891	.247E+01	.3580
2.349270D+09	0.9498	3.3595	3.6815	-1.182	-1.571	-1.850	.271E+01	.3710
2.352231D+09	0.9934	3.3037	3.6785	-1.170	-1.561	-1.842	.287E+01	.3740
2.391240D+09	1.4953	2.6756	3.6469	-1.175	-1.582	-1.875	.753E+01	.3750
2.401587D+09	1.5739	2.5708	3.6404	-1.186	-1.594	-1.890	.952E+01	.3730

TABLE 58

Log m = 0.2504 X = 0.6490 Z = 0.0300

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	0.9646	4.2753	3.9013	-2.363	-3.035	-3.507	.200E+01	.2090
3.492354D+08	1.0098	4.2036	3.8946	-2.420	-3.081	-3.549	.212E+01	.2010
5.993373D+08	1.0424	4.1378	3.8863	-2.464	-3.117	-3.582	.222E+01	.1940
8.066033D+08	1.0705	4.0688	3.8761	-2.506	-3.150	-3.612	.233E+01	.1880
9.739940D+08	1.0935	4.0006	3.8648	-2.541	-3.179	-3.640	.244E+01	.1830
1.223712D+09	1.1239	3.8672	3.8390	-2.592	-3.215	-3.668	.266E+01	.1740
1.389487D+09	1.1377	3.7585	3.8153	-2.591	-3.189	-3.623	.283E+01	.1710
1.475386D+09	1.1416	3.7039	3.8026	-2.553	-3.123	-3.532	.289E+01	.1720
1.571020D+09	1.1550	3.6509	3.7927	-2.521	-3.066	-3.453	.298E+01	.1720
1.607746D+09	1.3245	3.6953	3.8462	-2.763	-3.376	-3.829	.350E+01	.1510
1.608934D+09	1.2808	3.5950	3.8102	-2.730	-3.324	-3.759	.372E+01	.1520
1.610435D+09	1.2893	3.5102	3.7912	-2.670	-3.225	-3.623	.390E+01	.1530
1.613436D+09	1.2737	3.4404	3.7698	-2.528	-3.022	-3.367	.398E+01	.1620
1.627412D+09	1.0331	3.3768	3.6938	-1.295	-1.671	-1.944	.262E+01	.3430
1.629897D+09	1.0906	3.2861	3.6855	-1.224	-1.608	-1.886	.274E+01	.3600
1.632133D+09	1.1633	3.1875	3.6790	-1.195	-1.584	-1.864	.297E+01	.3680
1.635558D+09	1.2837	3.0303	3.6698	-1.178	-1.573	-1.857	.351E+01	.3730
1.640392D+09	1.4534	2.8168	3.6588	-1.175	-1.575	-1.863	.465E+01	.3740
1.648277D+09	1.7346	2.4520	3.6379	-1.186	-1.595	-1.891	.808E+01	.3730
1.657395D+09	2.0633	2.0192	3.6119	-1.226	-1.645	-1.950	.176E+02	.3650

TABLE 59

Log m = 0.2989 X = 0.6490 Z = 0.0300

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	1.1671	4.2767	3.9401	-2.338	-3.012	-3.484	.196E+01	.2120
2.047000D+08	1.2063	4.2157	3.9347	-2.387	-3.052	-3.521	.206E+01	.2050
3.977681D+08	1.2432	4.1457	3.9264	-2.437	-3.093	-3.559	.216E+01	.1980
6.787569D+08	1.3001	4.0017	3.9046	-2.521	-3.161	-3.624	.239E+01	.1850
7.820327D+08	1.3205	3.9295	3.8917	-2.555	-3.189	-3.650	.251E+01	.1800
9.337284D+08	1.3461	3.7902	3.8633	-2.609	-3.233	-3.690	.275E+01	.1720
9.892954D+08	1.3533	3.7258	3.8489	-2.630	-3.250	-3.706	.286E+01	.1680
1.034830D+09	1.3580	3.6675	3.8356	-2.645	-3.261	-3.714	.296E+01	.1660
1.131579D+09	1.3763	3.5551	3.8120	-2.664	-3.266	-3.707	.321E+01	.1610
1.153972D+09	1.5088	3.6523	3.8695	-2.744	-3.359	-3.815	.341E+01	.1530
1.154252D+09	1.5372	3.6642	3.8795	-2.758	-3.374	-3.830	.352E+01	.1510
1.155083D+09	1.4961	3.5397	3.8381	-2.760	-3.369	-3.821	.381E+01	.1490
1.155914D+09	1.5036	3.4395	3.8150	-2.779	-3.381	-3.826	.411E+01	.1460
1.157160D+09	1.4955	3.3504	3.7906	-2.744	-3.322	-3.741	.434E+01	.1470
1.158822D+09	1.4701	3.2868	3.7684	-2.381	-2.800	-3.099	.457E+01	.1560
1.165469D+09	1.2257	3.2205	3.6907	-1.308	-1.684	-1.957	.289E+01	.3400
1.167120D+09	1.3140	3.0878	3.6796	-1.228	-1.613	-1.892	.312E+01	.3600
1.171512D+09	1.6201	2.6796	3.6541	-1.194	-1.592	-1.881	.494E+01	.3700
1.175787D+09	1.9318	2.2757	3.6310	-1.199	-1.610	-1.907	.911E+01	.3700
1.178085D+09	2.1018	2.0475	3.6165	-1.215	-1.631	-1.934	.134E+02	.3670

TABLE 60

Log m = 0.3997 X = 0.6490 Z = 0.0300

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	1.5815	4.2708	4.0170	-2.286	-2.962	-3.435	.189E+01	.2190
2.088480D+08	1.6675	4.1306	4.0035	-2.392	-3.049	-3.516	.209E+01	.2040
3.535213D+08	1.7325	3.9791	3.9818	-2.483	-3.124	-3.588	.232E+01	.1900
4.056160D+08	1.7574	3.9027	3.9690	-2.523	-3.158	-3.621	.244E+01	.1840
4.798954D+08	1.7892	3.7587	3.9409	-2.583	-3.209	-3.670	.268E+01	.1750
5.463973D+08	1.8118	3.5788	3.9016	-2.644	-3.263	-3.722	.301E+01	.1650
5.725693D+08	1.8270	3.5046	3.8869	-2.671	-3.287	-3.745	.319E+01	.1610
5.851973D+08	1.9043	3.5773	3.9244	-2.701	-3.318	-3.778	.328E+01	.1580
5.858481D+08	1.9810	3.6282	3.9563	-2.736	-3.354	-3.815	.346E+01	.1540
5.860792D+08	1.9313	3.5621	3.9273	-2.723	-3.340	-3.800	.359E+01	.1550
5.862640D+08	1.9421	3.4795	3.9094	-2.749	-3.364	-3.822	.383E+01	.1510
5.866337D+08	1.9522	3.3662	3.8836	-2.779	-3.390	-3.846	.417E+01	.1470
5.875580D+08	1.9310	3.1494	3.8241	-2.828	-3.412	-3.842	.537E+01	.1320
5.881126D+08	1.8958	3.0202	3.7830	-2.790	-3.376	-3.800	.529E+01	.1420
5.884823D+08	1.8557	2.9483	3.7550	-2.669	-3.202	-3.574	.541E+01	.1490
5.888520D+08	1.7931	2.9217	3.7327	-2.372	-2.818	-3.126	.515E+01	.1730
5.897763D+08	1.6179	2.9224	3.6890	-1.473	-1.842	-2.113	.381E+01	.3030
5.901460D+08	1.6686	2.8226	3.6768	-1.336	-1.713	-1.989	.392E+01	.3340
5.905157D+08	1.7462	2.7012	3.6658	-1.278	-1.661	-1.942	.430E+01	.3470
5.927718D+08	2.2438	2.0280	3.6219	-1.233	-1.640	-1.936	.104E+02	.3620

TABLE 61

Log m = 0.4997 X = 0.6490 Z = 0.0300

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	1.9812	4.2616	4.0897	-2.228	-2.905	-3.378	.182E+01	.2260
5.110000D+07	2.0207	4.2046	4.0853	-2.275	-2.945	-3.416	.189E+01	.2190
1.509083D+08	2.1090	4.0531	4.0695	-2.386	-3.037	-3.503	.211E+01	.2040
2.143061D+08	2.1736	3.9017	4.0478	-2.475	-3.113	-3.576	.233E+01	.1900
2.682075D+08	2.2345	3.6832	4.0084	-2.575	-3.201	-3.664	.270E+01	.1750
2.878192D+08	2.2561	3.5662	3.9845	-2.620	-3.243	-3.706	.292E+01	.1690
2.975689D+08	2.2678	3.5064	3.9725	-2.643	-3.264	-3.727	.305E+01	.1650
3.015368D+08	2.2770	3.4875	3.9701	-2.654	-3.274	-3.737	.311E+01	.1640
3.077093D+08	2.3437	3.5580	4.0044	-2.678	-3.299	-3.763	.319E+01	.1610
3.080474D+08	2.4098	3.6087	4.0336	-2.705	-3.325	-3.789	.333E+01	.1580
3.081581D+08	2.3637	3.5525	4.0080	-2.693	-3.313	-3.776	.346E+01	.1580
3.082351D+08	2.3769	3.4705	3.9908	-2.721	-3.339	-3.803	.369E+01	.1540
3.083890D+08	2.3947	3.3517	3.9656	-2.761	-3.378	-3.841	.406E+01	.1490
3.086200D+08	2.3985	3.2166	3.9327	-2.794	-3.410	-3.869	.450E+01	.1450
3.087739D+08	2.3934	3.1359	3.9113	-2.810	-3.423	-3.880	.478E+01	.1430
3.089279D+08	2.3823	3.0511	3.8873	-2.821	-3.431	-3.883	.509E+01	.1410
3.091588D+08	2.3537	2.9041	3.8434	-2.830	-3.432	-3.872	.565E+01	.1390
3.093128D+08	2.3204	2.7775	3.8034	-2.827	-3.419	-3.845	.617E+01	.1380
3.094668D+08	2.2642	2.6208	3.7502	-2.778	-3.335	-3.726	.683E+01	.1410
3.096207D+08	2.1711	2.5465	3.7083	-2.347	-2.775	-3.070	.661E+01	.1730

TABLE 62

Log m = 0.5999 X = 0.6490 Z = 0.0300

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	2.3646	4.2560	4.1591	-2.164	-2.843	-3.317	.174E+01	.2350
4.243465D+07	2.4274	4.1686	4.1529	-2.238	-2.906	-3.376	.185E+01	.2240
9.308909D+07	2.5214	4.0139	4.1377	-2.352	-3.002	-3.467	.206E+01	.2070
1.103650D+08	2.5589	3.9364	4.1277	-2.403	-3.045	-3.509	.218E+01	.2000
1.344050D+08	2.6182	3.7839	4.1044	-2.488	-3.121	-3.584	.242E+01	.1880
1.492214D+08	2.6579	3.6459	4.0799	-2.553	-3.179	-3.643	.265E+01	.1780
1.543286D+08	2.6722	3.5859	4.0684	-2.579	-3.203	-3.667	.277E+01	.1740
1.632598D+08	2.7039	3.4821	4.0504	-2.627	-3.250	-3.715	.300E+01	.1670
1.666069D+08	2.7774	3.5686	4.0904	-2.653	-3.274	-3.739	.310E+01	.1640
1.667152D+08	2.8228	3.6060	4.1111	-2.674	-3.295	-3.758	.323E+01	.1620
1.668024D+08	2.7952	3.4576	4.0671	-2.695	-3.315	-3.780	.361E+01	.1580
1.669292D+08	2.8256	3.2441	4.0213	-2.770	-3.391	-3.858	.428E+01	.1480
1.669926D+08	2.8266	3.1565	3.9997	-2.795	-3.416	-3.882	.459E+01	.1450
1.670560D+08	2.8243	3.0722	3.9780	-2.814	-3.435	-3.899	.490E+01	.1420
1.671195D+08	2.8176	2.9848	3.9545	-2.831	-3.450	-3.911	.524E+01	.1400
1.671829D+08	2.8052	2.8871	3.9270	-2.845	-3.461	-3.916	.565E+01	.1390
1.672463D+08	2.7865	2.7727	3.8937	-2.856	-3.466	-3.912	.616E+01	.1370
1.672780D+08	2.7722	2.7089	3.8742	-2.858	-3.464	-3.904	.646E+01	.1360
1.674048D+08	2.6706	2.3144	3.7502	-2.827	-3.378	-3.762	.866E+01	.1350
1.674365D+08	2.6280	2.2001	3.7109	-2.725	-3.222	-3.559	.935E+01	.1400

TABLE 63

Log m = 0.6998 X = 0.6490 Z = 0.0300

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	2.7381	4.2476	4.2254	-2.101	-2.781	-3.257	.167E+01	.2430
2.219971D+07	2.7999	4.1683	4.2210	-2.173	-2.844	-3.316	.177E+01	.2330
5.017200D+07	2.8951	4.0192	4.2075	-2.291	-2.945	-3.411	.196E+01	.2160
6.561049D+07	2.9594	3.8889	4.1910	-2.380	-3.022	-3.486	.215E+01	.2030
7.666454D+07	3.0160	3.7464	4.1695	-2.462	-3.096	-3.560	.237E+01	.1910
8.050045D+07	3.0367	3.6812	4.1584	-2.495	-3.125	-3.589	.248E+01	.1860
8.352342D+07	3.0541	3.6217	4.1479	-2.525	-3.153	-3.617	.259E+01	.1820
8.590409D+07	3.0686	3.5706	4.1387	-2.550	-3.177	-3.642	.268E+01	.1780
8.852714D+07	3.0866	3.5170	4.1298	-2.577	-3.203	-3.668	.280E+01	.1740
9.138847D+07	3.1467	3.5702	4.1581	-2.607	-3.232	-3.697	.293E+01	.1700
9.149190D+07	3.1980	3.6213	4.1838	-2.630	-3.254	-3.719	.304E+01	.1670
9.152940D+07	3.1673	3.5403	4.1558	-2.633	-3.255	-3.720	.329E+01	.1660
9.155316D+07	3.1884	3.4314	4.1339	-2.677	-3.299	-3.766	.360E+01	.1600
9.157693D+07	3.2053	3.3339	4.1137	-2.715	-3.337	-3.806	.390E+01	.1550
9.160069D+07	3.2146	3.2459	4.0940	-2.745	-3.369	-3.839	.419E+01	.1510
9.164821D+07	3.2195	3.0804	4.0539	-2.794	-3.420	-3.890	.480E+01	.1450
9.169574D+07	3.2096	2.8976	4.0057	-2.837	-3.463	-3.931	.556E+01	.1400
9.174326D+07	3.1798	2.6625	3.9395	-2.875	-3.494	-3.948	.670E+01	.1360
9.179079D+07	3.1074	2.2950	3.8295	-2.882	-3.461	-3.867	.897E+01	.1320
9.181455D+07	3.0456	2.0380	3.7498	-2.843	-3.372	-3.737	.111E+02	.1320

TABLE 64

Log m = 0.7993 X = 0.6490 Z = 0.0300

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	3.0959	4.2388	4.2877	-2.041	-2.722	-3.199	.160E+01	.2520
1.204429D+07	3.1571	4.1666	4.2850	-2.111	-2.785	-3.259	.169E+01	.2410
2.721619D+07	3.2487	4.0358	4.2752	-2.226	-2.886	-3.355	.186E+01	.2250
3.320383D+07	3.2912	3.9619	4.2673	-2.284	-2.937	-3.404	.196E+01	.2170
4.163196D+07	3.3618	3.8147	4.2482	-2.385	-3.026	-3.492	.218E+01	.2020
4.677244D+07	3.4138	3.6766	4.2267	-2.468	-3.101	-3.566	.241E+01	.1900
4.858365D+07	3.4347	3.6135	4.2161	-2.503	-3.135	-3.601	.252E+01	.1850
4.995808D+07	3.4513	3.5598	4.2068	-2.532	-3.162	-3.629	.262E+01	.1810
5.140299D+07	3.4709	3.5027	4.1974	-2.564	-3.192	-3.659	.275E+01	.1760
5.196630D+07	3.4799	3.4848	4.1952	-2.577	-3.205	-3.673	.281E+01	.1740
5.306280D+07	3.5322	3.5586	4.2267	-2.600	-3.228	-3.695	.291E+01	.1720
5.311403D+07	3.5751	3.6047	4.2490	-2.623	-3.251	-3.718	.307E+01	.1680
5.313318D+07	3.5463	3.5012	4.2159	-2.630	-3.255	-3.723	.332E+01	.1660
5.314850D+07	3.5694	3.3654	4.1877	-2.686	-3.312	-3.783	.373E+01	.1590
5.316382D+07	3.5867	3.2373	4.1601	-2.736	-3.363	-3.837	.415E+01	.1530
5.317915D+07	3.5955	3.1139	4.1314	-2.779	-3.408	-3.885	.461E+01	.1480
5.319447D+07	3.5979	2.9886	4.1007	-2.818	-3.450	-3.927	.512E+01	.1430
5.320979D+07	3.5943	2.8536	4.0660	-2.854	-3.488	-3.964	.574E+01	.1390
5.322511D+07	3.5835	2.6986	4.0246	-2.893	-3.527	-3.997	.654E+01	.1350
5.325576D+07	3.5262	2.2603	3.9007	-2.953	-3.555	-3.979	.950E+01	.1270

TABLE 65

Log m = 0.8998 X = 0.6490 Z = 0.0300

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	3.4468	4.2288	4.3478	-1.985	-2.667	-3.146	.155E+01	.2590
6.300000D+06	3.4995	4.1671	4.3456	-2.049	-2.725	-3.202	.162E+01	.2500
1.668036D+07	3.6013	4.0222	4.3348	-2.184	-2.847	-3.318	.181E+01	.2310
2.299212D+07	3.6817	3.8756	4.3182	-2.302	-2.952	-3.421	.201E+01	.2140
2.686199D+07	3.7422	3.7344	4.2981	-2.401	-3.043	-3.511	.223E+01	.1990
2.821985D+07	3.7671	3.6665	4.2873	-2.444	-3.083	-3.551	.235E+01	.1930
2.927411D+07	3.7865	3.6065	4.2772	-2.481	-3.117	-3.586	.246E+01	.1880
3.012440D+07	3.8039	3.5531	4.2682	-2.513	-3.147	-3.617	.256E+01	.1840
3.105926D+07	3.8241	3.4951	4.2587	-2.549	-3.183	-3.654	.270E+01	.1790
3.157797D+07	3.8379	3.4729	4.2566	-2.569	-3.202	-3.674	.278E+01	.1760
3.210351D+07	3.8797	3.5491	4.2861	-2.588	-3.220	-3.691	.287E+01	.1740
3.213455D+07	3.9210	3.5999	4.3092	-2.614	-3.245	-3.716	.304E+01	.1700
3.214339D+07	3.8927	3.5483	4.2892	-2.603	-3.233	-3.704	.319E+01	.1700
3.215222D+07	3.9058	3.4097	4.2578	-2.656	-3.286	-3.760	.359E+01	.1630
3.216106D+07	3.9237	3.2569	4.2241	-2.718	-3.350	-3.829	.411E+01	.1550
3.216989D+07	3.9354	3.0982	4.1873	-2.777	-3.413	-3.896	.473E+01	.1480
3.217873D+07	3.9390	2.9286	4.1458	-2.833	-3.474	-3.960	.550E+01	.1420
3.218757D+07	3.9329	2.7342	4.0957	-2.890	-3.535	-4.018	.654E+01	.1360
3.219640D+07	3.9147	2.4926	4.0307	-2.952	-3.594	-4.063	.812E+01	.1300
3.220524D+07	3.8735	2.1488	3.9345	-3.009	-3.620	-4.047	.111E+02	.1230

TABLE 66

Log m = 1.0000 X = 0.6490 Z = 0.0300

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	3.7789	4.2186	4.4033	-1.934	-2.615	-3.096	.150E+01	.2670
7.740628D+06	3.8893	4.0823	4.3968	-2.081	-2.752	-3.229	.167E+01	.2450
1.058100D+07	3.9364	4.0099	4.3904	-2.151	-2.816	-3.291	.176E+01	.2350
1.283628D+07	3.9789	3.9364	4.3827	-2.217	-2.877	-3.351	.187E+01	.2260
1.462986D+07	4.0170	3.8603	4.3732	-2.282	-2.935	-3.408	.198E+01	.2170
1.600773D+07	4.0504	3.7870	4.3632	-2.340	-2.990	-3.462	.209E+01	.2080
1.711085D+07	4.0786	3.7150	4.3523	-2.393	-3.039	-3.512	.221E+01	.2010
1.799002D+07	4.1031	3.6454	4.3410	-2.442	-3.085	-3.558	.234E+01	.1940
1.868433D+07	4.1232	3.5822	4.3302	-2.483	-3.124	-3.598	.246E+01	.1880
1.924298D+07	4.1401	3.5262	4.3204	-2.521	-3.161	-3.636	.257E+01	.1830
1.984954D+07	4.1611	3.4625	4.3098	-2.564	-3.204	-3.681	.273E+01	.1770
2.018677D+07	4.1739	3.4391	4.3071	-2.586	-3.225	-3.703	.282E+01	.1740
2.054059D+07	4.2111	3.5131	4.3349	-2.607	-3.246	-3.724	.293E+01	.1720
2.056050D+07	4.2512	3.5656	4.3581	-2.637	-3.277	-3.755	.312E+01	.1680
2.056944D+07	4.2299	3.4567	4.3255	-2.649	-3.286	-3.766	.350E+01	.1650
2.057782D+07	4.2300	3.3948	4.3101	-2.668	-3.306	-3.787	.370E+01	.1620
2.057659D+07	4.2428	3.2433	4.2754	-2.731	-3.372	-3.858	.425E+01	.1540
2.058135D+07	4.2540	3.0752	4.2362	-2.799	-3.445	-3.937	.497E+01	.1470
2.059089D+07	4.2543	2.6697	4.1349	-2.941	-3.599	-4.094	.725E+01	.1320
2.059565D+07	4.2377	2.3916	4.0612	-3.022	-3.676	-4.151	.943E+01	.1250

TABLE 67

Log m = 1.1089 X = 0.6490 Z = 0.0300

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	4.1230	4.2066	4.4591	-1.889	-2.569	-3.052	.146E+01	.2730
2.970843D+06	4.1821	4.1374	4.4565	-1.972	-2.648	-3.130	.155E+01	.2610
7.153702D+06	4.2838	3.9885	4.4447	-2.135	-2.803	-3.282	.174E+01	.2370
9.781769D+06	4.3642	3.8336	4.4261	-2.284	-2.942	-3.421	.198E+01	.2160
1.143109D+07	4.4242	3.6791	4.4025	-2.414	-3.067	-3.546	.225E+01	.1990
1.278474D+07	4.4838	3.4804	4.3677	-2.563	-3.213	-3.698	.266E+01	.1790
1.316722D+07	4.5017	3.4146	4.3557	-2.612	-3.262	-3.750	.283E+01	.1720
1.358527D+07	4.5251	3.3623	4.3485	-2.665	-3.316	-3.808	.305E+01	.1660
1.372616D+07	4.5447	3.4124	4.3659	-2.677	-3.328	-3.819	.313E+01	.1640
1.374802D+07	4.5615	3.4681	4.3841	-2.682	-3.333	-3.824	.318E+01	.1630
1.375416D+07	4.5914	3.5000	4.3995	-2.716	-3.367	-3.859	.350E+01	.1590
1.376145D+07	4.5842	3.2505	4.3353	-2.795	-3.450	-3.951	.452E+01	.1490
1.376388D+07	4.5895	3.1127	4.3022	-2.853	-3.514	-4.022	.518E+01	.1420
1.376632D+07	4.5930	2.9466	4.2616	-2.922	-3.591	-4.105	.612E+01	.1350
1.376875D+07	4.5938	2.7482	4.2122	-3.002	-3.681	-4.198	.748E+01	.1280
1.377118D+07	4.5881	2.5046	4.1498	-3.095	-3.778	-4.284	.958E+01	.1200
1.377239D+07	4.5825	2.3673	4.1141	-3.143	-3.822	-4.312	.110E+02	.1160
1.377361D+07	4.5729	2.2094	4.0722	-3.192	-3.858	-4.322	.130E+02	.1110
1.377482D+07	4.5582	2.0190	4.0209	-3.240	-3.877	-4.306	.158E+02	.1070
1.377604D+07	4.5394	1.7904	3.9591	-3.274	-3.861	-4.252	.200E+02	.1010

TABLE 68

Log m = 1.1998 X = 0.6490 Z = 0.0300

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	4.3903	4.1974	4.5009	-1.856	-2.535	-3.019	.144E+01	.2780
1.750000D+06	4.4378	4.1411	4.4987	-1.929	-2.606	-3.090	.150E+01	.2670
4.973954D+06	4.5388	3.9921	4.4867	-2.106	-2.777	-3.260	.171E+01	.2420
7.008970D+06	4.6174	3.8341	4.4668	-2.272	-2.937	-3.421	.195E+01	.2180
8.299086D+06	4.6774	3.6731	4.4416	-2.421	-3.081	-3.568	.224E+01	.1980
8.764765D+06	4.7030	3.5903	4.4273	-2.491	-3.151	-3.641	.241E+01	.1890
9.047613D+06	4.7174	3.5361	4.4173	-2.537	-3.196	-3.689	.253E+01	.1830
9.362924D+06	4.7358	3.4619	4.4034	-2.596	-3.257	-3.753	.271E+01	.1760
9.615184D+06	4.7500	3.4032	4.3922	-2.644	-3.305	-3.804	.286E+01	.1700
9.886827D+06	4.7664	3.3381	4.3801	-2.699	-3.364	-3.868	.307E+01	.1630
1.003450D+07	4.7770	3.3103	4.3758	-2.730	-3.396	-3.903	.320E+01	.1600
1.020242D+07	4.8055	3.3884	4.4024	-2.753	-3.419	-3.926	.336E+01	.1570
1.021081D+07	4.8377	3.4406	4.4235	-2.792	-3.460	-3.968	.363E+01	.1520
1.021576D+07	4.8399	3.3493	4.4012	-2.834	-3.503	-4.016	.436E+01	.1460
1.021756D+07	4.8474	3.2437	4.3767	-2.891	-3.566	-4.086	.492E+01	.1400
1.021936D+07	4.8542	3.1115	4.3454	-2.959	-3.642	-4.171	.570E+01	.1330
1.022116D+07	4.8590	2.9554	4.3075	-3.037	-3.731	-4.268	.675E+01	.1260
1.022296D+07	4.8614	2.7701	4.2618	-3.126	-3.833	-4.376	.826E+01	.1180
1.022477D+07	4.8599	2.5444	4.2050	-3.232	-3.948	-4.480	.106E+02	.1100
1.022657D+07	4.8523	2.2531	4.1303	-3.356	-4.056	-4.540	.145E+02	.1010

TABLE 69

Log m = 1.2999 X = 0.6490 Z = 0.0300

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	4.6681	4.1869	4.5426	-1.828	-2.506	-2.993	.141E+01	.2820
1.270000D+06	4.7131	4.1324	4.5403	-1.905	-2.583	-3.071	.148E+01	.2710
3.703718D+06	4.8082	3.9822	4.5265	-2.099	-2.774	-3.262	.169E+01	.2430
4.585132D+06	4.8511	3.8988	4.5164	-2.200	-2.874	-3.364	.183E+01	.2290
5.270495D+06	4.8852	3.8174	4.5045	-2.291	-2.963	-3.456	.197E+01	.2170
5.831018D+06	4.9172	3.7286	4.4903	-2.385	-3.056	-3.552	.213E+01	.2040
6.642894D+06	4.9697	3.5472	4.4581	-2.562	-3.236	-3.741	.252E+01	.1820
7.067409D+06	4.9992	3.4129	4.4319	-2.683	-3.365	-3.880	.287E+01	.1670
7.285818D+06	5.0151	3.3312	4.4155	-2.759	-3.445	-3.968	.312E+01	.1590
7.450204D+06	5.0263	3.2707	4.4032	-2.816	-3.507	-4.037	.333E+01	.1530
7.607849D+06	5.0382	3.2152	4.3922	-2.874	-3.570	-4.107	.356E+01	.1460
7.680392D+06	5.0442	3.1945	4.3886	-2.902	-3.601	-4.141	.370E+01	.1430
7.692254D+06	5.0470	3.1830	4.3864	-2.916	-3.616	-4.158	.376E+01	.1420
7.789799D+06	5.0724	3.2681	4.4140	-2.948	-3.652	-4.198	.398E+01	.1390
7.794573D+06	5.1057	3.3267	4.4370	-3.018	-3.733	-4.289	.455E+01	.1320
7.796987D+06	5.0999	3.2734	4.4222	-3.027	-3.742	-4.298	.511E+01	.1300
7.798195D+06	5.1159	3.2005	4.4080	-3.110	-3.836	-4.405	.561E+01	.1230
7.801213D+06	5.1307	2.9192	4.3414	-3.296	-4.051	-4.641	.798E+01	.1080
7.803628D+06	5.1373	2.5879	4.2602	-3.496	-4.269	-4.840	.118E+02	.0940
7.806042D+06	5.1361	2.1098	4.1404	-3.744	-4.443	-4.879	.207E+02	.0780

TABLE 70

Log m = 1.3998 X = 0.6490 Z = 0.0300

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	4.9230	4.1787	4.5793	-1.803	-2.479	-2.967	.139E+01	.2860
1.223215D+06	4.9776	4.1088	4.5755	-1.910	-2.591	-3.082	.149E+01	.2700
3.050339D+06	5.0678	3.9520	4.5589	-2.132	-2.815	-3.312	.173E+01	.2390
4.229066D+06	5.1398	3.7705	4.5315	-2.365	-3.053	-3.562	.206E+01	.2080
4.997155D+06	5.1929	3.5698	4.4946	-2.603	-3.306	-3.836	.251E+01	.1800
5.144405D+06	5.2036	3.5177	4.4842	-2.662	-3.370	-3.907	.264E+01	.1730
5.400662D+06	5.2245	3.4065	4.4617	-2.787	-3.508	-4.061	.295E+01	.1600
5.602397D+06	5.2396	3.3102	4.4413	-2.893	-3.627	-4.195	.326E+01	.1490
5.771197D+06	5.2526	3.2173	4.4214	-2.994	-3.741	-4.324	.360E+01	.1400
5.859454D+06	5.2592	3.1654	4.4101	-3.060	-3.814	-4.405	.383E+01	.1340
5.922159D+06	5.2666	3.1099	4.3980	-3.110	-3.875	-4.476	.406E+01	.1290
6.014263D+06	5.2753	3.0469	4.3845	-3.188	-3.965	-4.576	.439E+01	.1230
6.115267D+06	5.2860	2.9980	4.3749	-3.268	-4.058	-4.680	.480E+01	.1160
6.178576D+06	5.3141	3.0841	4.4035	-3.376	-4.194	-4.844	.540E+01	.1090
6.179662D+06	5.3341	3.0984	4.4121	-3.489	-4.337	-5.013	.617E+01	.1020
6.183522D+06	5.3485	2.8558	4.3550	-3.725	-4.610	-5.289	.925E+01	.0870
6.184487D+06	5.3536	2.7031	4.3181	-3.858	-4.753	-5.399	.112E+02	.0800
6.185452D+06	5.3591	2.5191	4.2735	-4.016	-4.898	-5.469	.141E+02	.0720
6.186417D+06	5.3629	2.3039	4.2206	-4.181	-5.000	-5.465	.183E+02	.0630
6.187382D+06	5.3636	2.0392	4.1546	-4.321	-5.007	-5.381	.252E+02	.0550

TABLE 71

Log m = 1.5000 X = 0.6490 Z = 0.0300

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	5.1646	4.1674	4.6119	-1.790	-2.467	-2.958	.138E+01	.2880
1.093043D+06	5.2178	4.0894	4.6057	-1.919	-2.604	-3.101	.149E+01	.2690
1.871884D+06	5.2605	4.0098	4.5965	-2.046	-2.738	-3.243	.162E+01	.2510
2.783310D+06	5.3163	3.8699	4.5755	-2.263	-2.971	-3.495	.187E+01	.2230
3.346426D+06	5.3552	3.7367	4.5519	-2.462	-3.190	-3.738	.214E+01	.1990
3.705892D+06	5.3820	3.6170	4.5286	-2.635	-3.385	-3.959	.242E+01	.1800
3.858074D+06	5.3926	3.5588	4.5167	-2.717	-3.479	-4.066	.258E+01	.1720
4.127760D+06	5.4148	3.4239	4.4886	-2.906	-3.697	-4.316	.297E+01	.1540
4.241747D+06	5.4247	3.3530	4.4733	-3.003	-3.811	-4.447	.320E+01	.1450
4.489544D+06	5.4446	3.1710	4.4328	-3.255	-4.110	-4.792	.390E+01	.1250
4.547085D+06	5.4509	3.1057	4.4180	-3.349	-4.224	-4.924	.419E+01	.1180
4.678207D+06	5.4620	2.9681	4.3864	-3.546	-4.462	-5.186	.489E+01	.1050
4.738540D+06	5.4671	2.8936	4.3691	-3.653	-4.590	-5.319	.532E+01	.0990
4.837571D+06	5.4745	2.7732	4.3408	-3.835	-4.801	-5.518	.614E+01	.0890
4.874940D+06	5.4773	2.7226	4.3289	-3.945	-4.915	-5.597	.684E+01	.0810
4.922951D+06	5.4833	2.6131	4.3030	-4.087	-5.075	-5.722	.746E+01	.0760
4.950594D+06	5.4871	2.5506	4.2883	-4.193	-5.182	-5.787	.809E+01	.0720
5.014785D+06	5.4958	2.4433	4.2637	-4.448	-5.425	-5.940	.974E+01	.0620
5.037358D+06	5.5098	2.3896	4.2537	-4.762	-5.736	-6.183	.119E+02	.0520
5.038592D+06	5.5218	2.2488	4.2215	-5.154	-6.022	-6.364	.155E+02	.0420

TABLE 72

Log m = 1.6000 X = 0.6490 Z = 0.0300

Age	Log L	Log g	Log Te	LogK2	LogK3	LogK4	Alpha	Beta
0.000000D+00	5.3870	4.1531	4.6389	-1.792	-2.474	-2.973	.138E+01	.2880
6.300000D+05	5.4207	4.0958	4.6330	-1.901	-2.597	-3.108	.147E+01	.2720
1.333222D+06	5.4609	4.0066	4.6208	-2.067	-2.786	-3.318	.162E+01	.2500
1.633356D+06	5.4800	3.9552	4.6127	-2.163	-2.897	-3.444	.171E+01	.2380
2.265981D+06	5.5208	3.8065	4.5857	-2.436	-3.217	-3.811	.201E+01	.2060
2.586279D+06	5.5436	3.6972	4.5641	-2.636	-3.455	-4.089	.227E+01	.1860
2.766538D+06	5.5553	3.6224	4.5483	-2.774	-3.623	-4.288	.246E+01	.1730
2.934322D+06	5.5704	3.5180	4.5260	-2.968	-3.861	-4.571	.277E+01	.1550
3.150259D+06	5.5864	3.3751	4.4943	-3.232	-4.190	-4.965	.324E+01	.1360
3.324863D+06	5.6006	3.2157	4.4580	-3.526	-4.559	-5.400	.388E+01	.1160
3.376159D+06	5.6049	3.1586	4.4448	-3.632	-4.692	-5.552	.413E+01	.1100
3.469072D+06	5.6121	3.0470	4.4187	-3.845	-4.959	-5.846	.469E+01	.0980
3.568860D+06	5.6204	2.8861	4.3805	-4.157	-5.345	-6.218	.563E+01	.0830
3.613967D+06	5.6237	2.7990	4.3596	-4.910	-6.183	-6.792	.835E+01	.0570
3.629538D+06	5.6254	2.7474	4.3471	-4.431	-5.666	-6.462	.660E+01	.0720
3.649510D+06	5.6276	2.6854	4.3321	-4.557	-5.808	-6.557	.708E+01	.0680
3.682007D+06	5.6301	2.5774	4.3058	-4.778	-6.020	-6.660	.802E+01	.0600
3.725337D+06	5.6333	2.3990	4.2620	-5.151	-6.331	-6.768	.986E+01	.0500
3.763002D+06	5.6371	2.1502	4.2007	-5.433	-6.696	-7.020	.969E+01	.0490
3.780553D+06	5.6382	2.0306	4.1711	-5.747	-6.295	-6.433	.151E+02	.0330

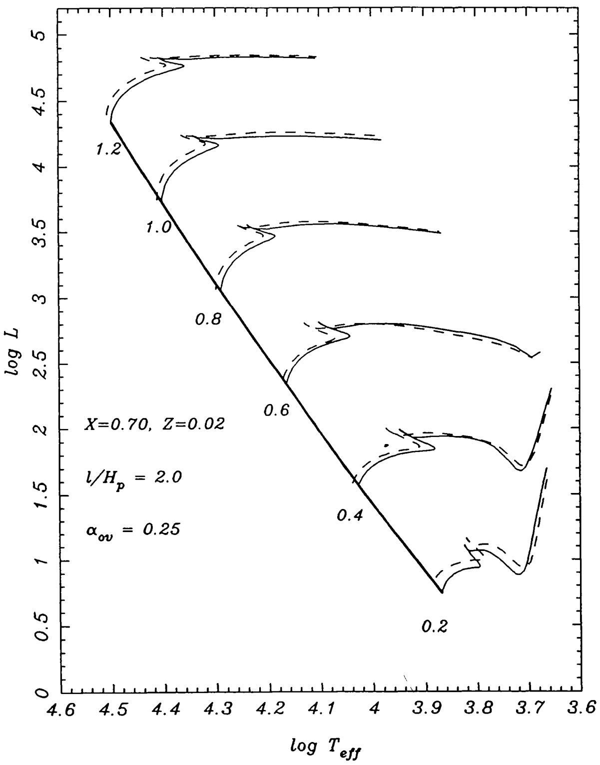

FIGURE 1a. The HR diagram for some selected models using OPAL opacities (full) and LAOL (dashed). Labels indicate log M. Note that LAOL mixture M1 (Weiss *et al.* 1990) is different from that OPAL (Anders & Grevesse 1989). We have preserved values of α, α_{ov}, X and Z to make comparison easier.

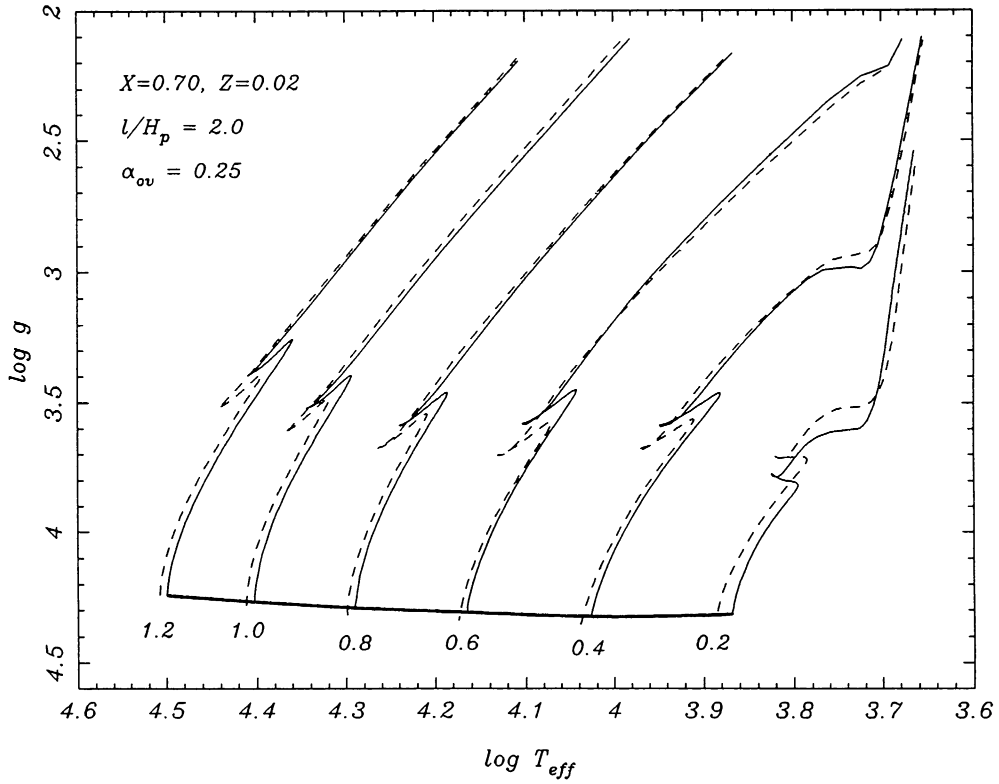

FIGURE 1b. Log $T_{\rm eff}$ - log g diagram for some selected models using OPAL opacities (full) and LAOL (dashed). See remarks in Figure 1a.

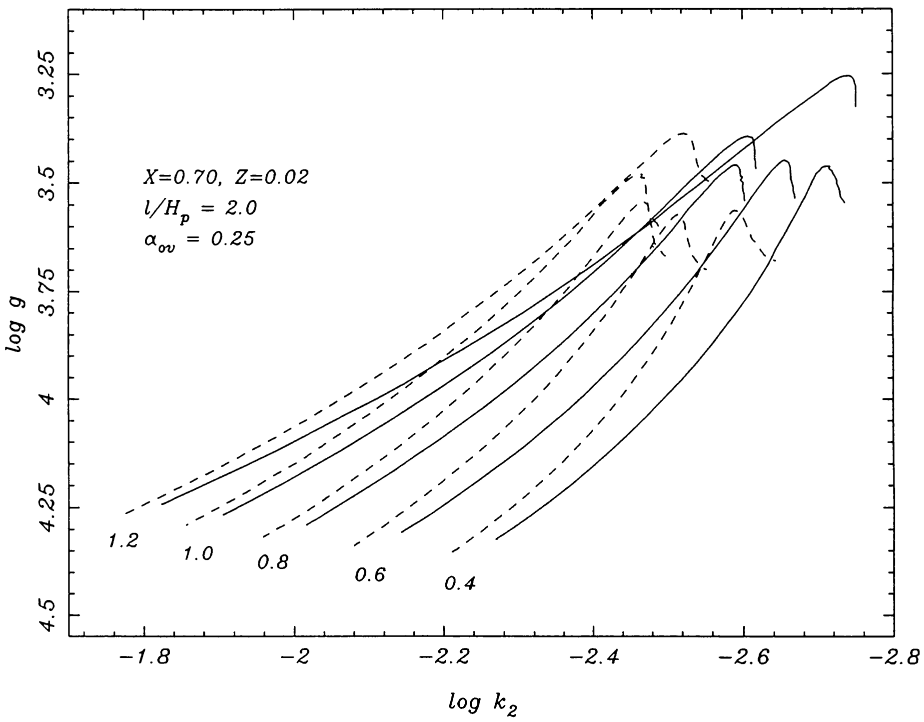

FIGURE 2. Log k_2 - log g diagram for some selected models up to X_c = 0.001. See remarks in Figure 1a.

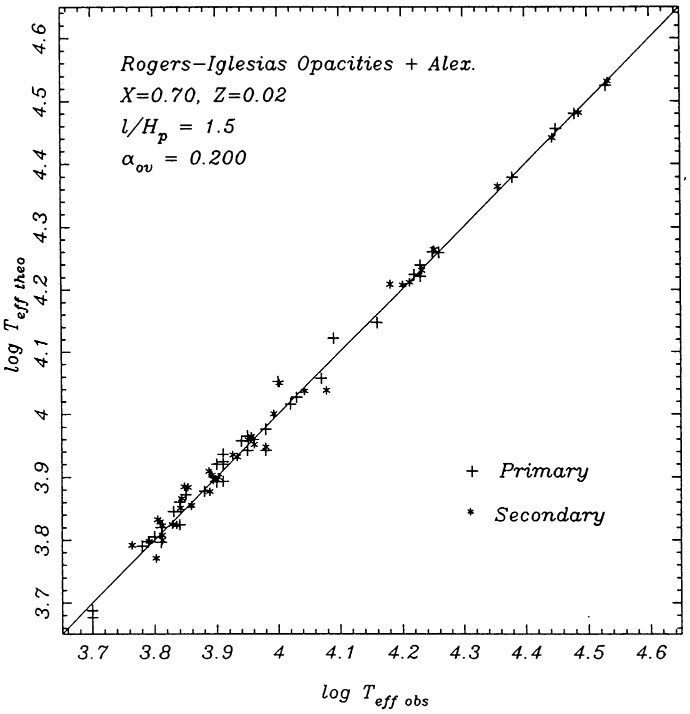

FIGURE 3. Comparison between observed and theoretical effective temperatures for accurate binary stars data from Andersen 1991. Only MASSES between 1 and 25 $M_{\odot}$ have been considered.

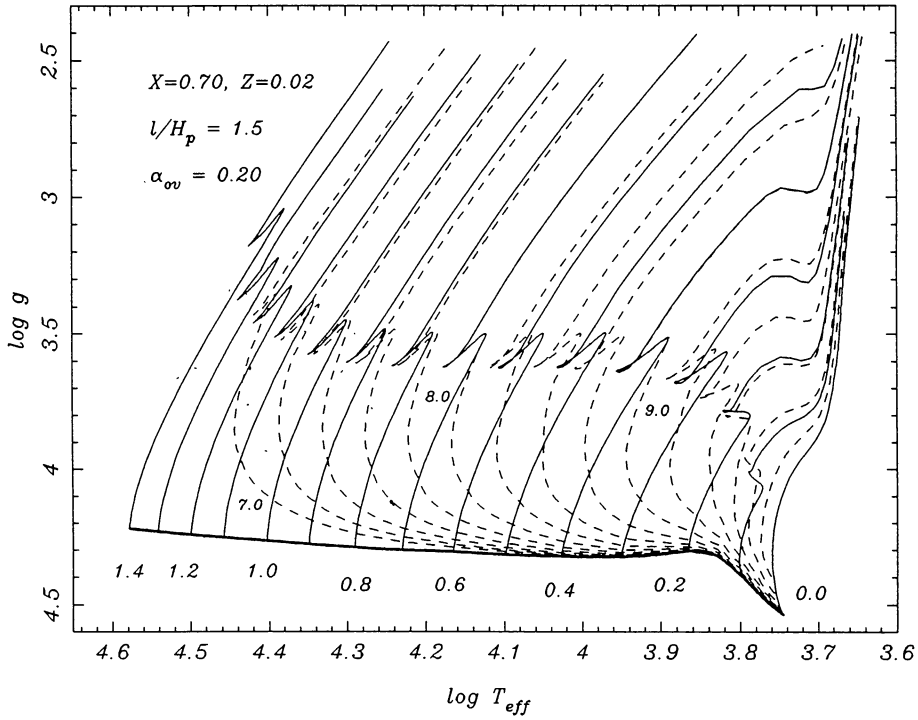

FIGURE 4. Log T_{eff} - log g diagram for some selected masses. Numbers below the tracks indicate log M. Dashed lines denote isochrones (see text). Case (Y, Z, α, α_{ov}) = (0.280, 0.02, 1.5, 0.2).