APPENDIX A: FITTING FUNCTIONS FOR LICK/IDS RESOLUTION

Table A1. *$H\delta_A$ fitting function coefficients for Lick/IDS resolution*

	overall rms=0.7595							
		$\log g \leq 4.0$ and θ limits:				$\log g \geq 3.6$ and θ limits:		
Term	≤ 0.62	$0.53 - 1.1$	$0.90 - 1.4$	≥ 1.3	≤ 0.57	$0.50 - 0.90$	$0.80 - 1.2$	≥ 1.08
Const.	-8.518	-130.65	34.66	-109.6	-3.606	-117.5	-77.58	-42.73
θ	-14.45	470.6	-	18.37	17.67	521.7	389.7	46.76
[Fe/H]	-	-1.901	28.64	-	-	-12.12	28.40	-
$\log g$	-3.107	20.47	1.597	-	-	-	-1.374	-
θ^2	-	-532.5	-82.05	87.70	13.67	-810.7	-517.1	-12.21
$[Fe/H]^2$	-	-	1.342	-	-	-3.351	-	-
$\log g^2$	4.489	-	-	-	0.2102	-	-	-
$\theta[Fe/H]$	-	-	-52.72	-	-	29.00	-60.79	-
$\theta \log g$	-	-42.88	-4.600	-	-0.2977	26.00	-	-
$[Fe/H]\log g$	-	0.2101	-	-	-	-	-	-
θ^3	295.8	189.4	44.87	43.17	-	395.7	205.2	-
$[Fe/H]^3$	-	0.5299	0.5215	-	-	-0.1574	-0.2055	-
$\log g^3$	-0.7701	-	-	-	-	-	-	-
$\theta^2[Fe/H]$	-	-	22.56	-	-	-19.95	29.05	-
$\theta^2 \log g$	-11.90	22.26	2.652	-	-	-16.62	0.2721	-
$\theta[Fe/H]^2$	-	1.428	-	-	-	2.170	-1.177	-
$[Fe/H]^2 \log g$	-	-	-	-	-	0.2002	-	-
$\theta \log g^2$	1.427	-	-	-	-	-1.637	-	-
θ^4	-316.8	-	-	-91.18	-	-	-	-
θ^5	-	-	-	26.19	-	-	-	-
rms	0.9961	1.017	0.7656	0.6635	0.8367	0.4526	0.5203	1.356
N	96	346	360	41	49	277	276	33

Table A2. *$H\delta_F$ fitting function coefficients for Lick/IDS resolution*

	overall rms=0.4323							
		$\log g \leq 4.0$ and θ limits:				$\log g \geq 3.6$ and θ limits:		
Term	≤ 0.62	$0.55 - 1.2$	$0.95 - 1.5$	≥ 1.3	≤ 0.57	$0.50 - 0.90$	$0.80 - 1.2$	≥ 1.05
Const.	-16.70	-52.88	98.61	-21.04	8.228	1.411	29.46	181.7
θ	47.45	199.1	-235.1	27.83	-	7.178	-12.86	-350.3
[Fe/H]	-	-1.412	-1.182	-	-	-	-	-
$\log g$	-3.670	10.94	0.2055	-	-3.455	-	-1.879	-
θ^2	-	-228.2	180.7	-9.646	-	-	-45.21	32.35
$[Fe/H]^2$	-	0.2033	-	-	-	-	-	-
$\log g^2$	4.862	-	-	-	0.4985	-	-	-
$\theta \log g$	-10.77	-23.14	-	-	-	8.173	1.656	-
$[Fe/H]\log g$	-	-	0.1260	-	-	-	-0.4170	-
θ^3	-	80.90	-45.51	-	139.8	-	28.87	319.0
$[Fe/H]^3$	-	0.1195	0.01862	-	-	-	0.05700	-
$\log g^3$	-0.7114	-	-	-	-	0.05263	-	-
$\theta[Fe/H]\log g$	-	0.2109	-	-	-	-	-	-
$\theta^2 \log g$	7.619	12.31	-	-	-	-	-	-
$\theta \log g^2$	-	-	-	-	-	-1.457	-	-
$[Fe/H]\log g^2$	-	-	-	-	-	-0.03564	0.05493	-
θ^4	-48.93	-	-	-	-184.7	-107.8	-	-231.3
θ^5	-	-	-	-	-	88.30	-	48.20
rms	0.7487	0.5648	0.3563	0.3412	0.3793	0.2592	0.2472	0.6067
N	96	431	359	44	47	276	277	41

Table A3. CN_1 *fitting function coefficients for Lick/IDS resolution*

		log g ≤ 4.0 and θ limits:					log g ≥ 3.6 and θ limits:		
	≤ 0.61	0.50 − 1.0	0.81 − 1.4 [Fe/H]≤ −0.90	0.81 − 1.4 [Fe/H]≥ −1.0	≥ 1.25	≤ 0.66	0.55 − 0.88	0.70 − 1.1	≥ 1.05
Term									
Const.	-0.2406	2.967	-0.4414	4.661	3.741	0.03715	22.09	-0.2166	1.175
θ	1.606	-10.23	0.4259	-17.05	-4.489	-	-117.8	-	-1.576
[Fe/H]	-	-	-0.09490	-3.113	-	-	-	-0.2389	-
$\log g$	0.2802	-0.5900	-	-0.01674	-	-	-	-	-
θ^2	-4.620	10.91	-	19.48	1.305	-	216.6	-	0.4713
$[\text{Fe/H}]^2$	-	-	-	-	-	-	-	-0.2127	-
$\log g^2$	-0.1360	-	-	-	-	-0.004785	-	-	-
$\theta[\text{Fe/H}]$	-	-	0.1031	5.752	-	-	-	-	-
$\theta \log g$	-0.1040	1.374	-	-	-	-	-	-	-
$[\text{Fe/H}]\log g$	-	0.04035	-	-	-	-	-	-	-
θ^3	3.679	-3.466	-	-6.936	-	-3.082	-146.6	0.2508	-
$[\text{Fe/H}]^3$	-	-	-	-	-	-	-	0.01716	-
$\log g^3$	0.01810	-	-	-	-	-	-	-	-
$\theta^2[\text{Fe/H}]$	-	-	-	-2.488	-	-	-	0.4135	-
$\theta^2 \log g$	-	-0.8300	-	-	-	-	-	-	-
$\theta[\text{Fe/H}]^2$	-	-	-	-	-	-	-	0.3256	-
$[\text{Fe/H}]\log g^2$	-	-0.009408	-	-	-	-	-	-	-
θ^4	-	-	-	-	-	-	-	-	-
θ^5	-	-	-	-	-	5.722	25.94	-	-
rms	0.02201	0.03549	0.02278	0.05269	0.05252	0.02020	0.01212	0.01703	0.04018
N	93	236	97	346	83	71	239	333	40

overall rms=0.03277

Table A4. CN_2 *fitting function coefficients for Lick/IDS resolution*

		log g ≤ 4.0 and θ limits:					log g ≥ 3.6 and θ limits:		
	≤ 0.61	0.50 − 1.0	0.81 − 1.4 [Fe/H]≤ −0.90	0.81 − 1.4 [Fe/H]≥ −1.0	≥ 1.25	≤ 0.66	0.55 − 0.88	0.70 − 1.1	≥ 1.02
Term									
Const.	-0.3388	1.219	-0.2302	6.386	-1.740	-0.2654	1.945	-0.1719	0.3709
θ	1.632	-4.629	-	-21.77	6.724	3.538	-10.72	-	-0.3050
[Fe/H]	-	-	-0.1374	-3.428	-	-	0.009262	-0.2239	-
$\log g$	0.2773	-0.1254	-	-0.02098	-	-	-	-	-
θ^2	-3.733	5.849	0.2378	23.80	-6.140	-9.380	16.91	-	-
$[\text{Fe/H}]^2$	-	-	-	-	-	-	-	-0.1931	-
$\log g^2$	-0.1130	-	-	-	-	-	-	-	-
$\theta[\text{Fe/H}]$	-	-0.05328	0.1484	6.397	-	-	-	-	-
$\theta \log g$	-0.1495	0.1164	-	-	-	-0.2568	-	-	-
$[\text{Fe/H}]\log g$	-	0.02538	-	-	-	-	-	-	-
θ^3	2.796	2.344	-	-8.229	1.614	6.968	-8.280	0.2275	-
$[\text{Fe/H}]^3$	-	-	-	-	-	-	-	0.01723	-
$\log g^3$	0.01466	-	-	-	-	-	-	-	-
$\theta[\text{Fe/H}]\log g$	-	-0.03777	-	-	-	-	-	-	-
$\theta^2[\text{Fe/H}]$	-	0.1281	-	-2.802	-	-	-	0.3986	-
$\theta^2 \log g$	-	-	-	-	-	0.3055	-	-	-
$\theta[\text{Fe/H}]^2$	-	-	-	-	-	-	-	0.3047	-
rms	0.02091	0.03351	0.02612	0.05348	0.05093	0.01994	0.01169	0.01599	0.04848
N	94	235	97	346	82	70	239	332	49

overall rms=0.03361

Table A5. *Ca4227 fitting function coefficients for Lick/IDS resolution*

	overall rms=0.2903								
	log g ≤ 4.0 and θ limits:					log g ≥ 3.6 and θ limits:			
Term	≤ 0.80	0.70 − 1.1	1.0 − 1.5		≥ 1.3	≤ 0.80	0.70 − 1.02	0.90 − 1.5	≥ 1.21
			[Fe/H]≤ −0.90	[Fe/H]≥ −1.1					
Const.	0.001531	-39.21	-2.963	175.1	0.05879	0.2929	-48.30	567.6	5.377
θ	-	121.4	4.503	-458.0	-	-1.622	182.7	-2020	-
[Fe/H]	-	0.1557	-	-4.140	-	-0.07563	-0.7291	0.3541	-
log g	-	7.230	-	0.3511	-	-	-	-	-
θ^2	-0.3119	-123.2	-	388.9	2.130	2.263	-230.8	2643	-
[Fe/H]^2	-	-	0.2077	-	-	-	-	-	-
log g^2	-	-0.5756	-	-	-	-	-	-	-
θ[Fe/H]	0.1560	-	1.110	3.972	-	0.2197	1.155	-	-
θ log g	-	-14.70	-	-	-	-	-	-	-
θ^3	1.228	42.08	-	-106.3	-	-	98.33	-1505	-
[Fe/H]^3	-	-	-	-	-	-	-	0.02603	-
log g^3	-	-	0.01811	-	-	-	-	-	-
θ^2 log g	-	6.731	-0.09449	-	-	-	-	-	-
θ log g^2	-	0.7755	-	-	-	-	-	-	-
[Fe/H]log g^2	-0.002380	-	-	-	-	-	-	-	-
θ^4	-	-	-	-	-	-	-	316.5	-
rms	0.07414	0.1838	0.2575	0.4515	0.8520	0.07837	0.1189	0.4016	0.3401
N	151	290	59	275	44	147	309	126	16

Table A6. *G4300 fitting function coefficients for Lick/IDS resolution*

	overall rms=0.5095								
		log g ≤ 4.0 and θ limits:					log g ≥ 3.6 and θ limits:		
Term / Term	≤ 0.57	0.51 − 1.0	0.86 − 1.35		≥ 1.1	≤ 0.57	0.51 − 0.88	0.85 − 1.35	≥ 1.15
			[Fe/H]≤ −0.90	[Fe/H]≥ −1.0					
Const.	-0.4267	81.58	-30.97	-20.21	-36.95	2.494	16.56	-156.0	10.72
θ	-	-308.2	85.20	40.87	82.10	-3.582	-80.61	429.1	-4.869
[Fe/H]	-	-	29.65	-	-	-	-	14.66	-
log g	3.542	8.471	-	-	-	-0.6064	-	-	-
θ^2	-	378.4	-47.67	-8.835	40.10	-3.018	87.41	-373.1	-
[Fe/H]^2	-	-	7.211	-	-	-	1.425	-3.148	-
log g^2	-1.826	-	-	-	-	-	-	-	-
θ[Fe/H]	-	0.4260	-29.38	-	-	-	1.608	-28.18	0.7189
θ log g	-1.543	17.95	-	-	-	-	-	-	-
θ^3	-	-143.5	-	-5.548	-	-	-	106.0	-
[Fe/H]^3	-	-0.2349	-	-	-	-	-	-	-
log g^3	0.2536	0.02378	-	-	-	-	-	-	-
θ^2[Fe/H]	-	-	-	-	-	-	-	13.78	-
θ^2 log g	-	-10.24	-	-	-	-	-	-	-
θ[Fe/H]^2	-	-1.186	-7.757	-	-	-	-1.907	2.801	-
θ^4	-	-	-	-	-	-	-13.43	-	-
θ^5	-	-	-	-	1.038	-	-	-	-
rms	0.3685	0.7389	0.6699	0.5214	0.6699	0.3142	0.3558	0.3596	0.5498
N	76	228	87	310	208	48	247	210	21

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Table A7. *$H\gamma_A$ fitting function coefficients for Lick/IDS resolution*

	overall rms=0.8998							
	$\log g \leq 4.0$ and θ limits:				$\log g \geq 3.6$ and θ limits:			
Term	≤ 0.62	$0.55 - 1.1$	$0.95 - 1.5$	≥ 1.3	≤ 0.57	$0.50 - 0.90$	$0.85 - 1.4$	≥ 1.15
Const.	-8.619	-165.2	16.25	510.5	2.641	-114.3	169.5	-86.38
θ	4.613	591.9	41.44	-1118	-36.23	515.7	-341.1	101.7
[Fe/H]	-	-	3.283	-	-	-12.09	-	-
$\log g$	-7.118	23.15	-	-	-	-	-5.155	-
θ^2	-	-683.6	-120.7	780.6	126.5	-726.1	204.2	-31.43
$[\mathrm{Fe/H}]^2$	-	-	0.4371	-	-	-	-	-
$\log g^2$	5.988	-	-0.2115	-	0.2381	-	-	-
$\theta[\mathrm{Fe/H}]$	-	-	-4.794	-	-	37.59	-1.701	-
$\theta \log g$	-0.9988	-43.07	0.8417	-	-	12.63	4.445	-
$[\mathrm{Fe/H}]\log g$	-	-	0.1121	-	-	-	-0.8230	-
θ^3	184.6	247.7	55.82	-176.4	-	334.3	-37.64	-
$\log g^3$	-0.8830	-0.08934	-	-	-	-	-	-
$\theta[\mathrm{Fe/H}]\log g$	-	-	-	-	-	-0.6723	0.7128	-
$\theta^2[\mathrm{Fe/H}]$	-	-1.882	-	-	-	-27.02	-	-
$\theta^2 \log g$	-	21.52	-	-	-	-16.92	-	-
$\theta[\mathrm{Fe/H}]^2$	-	0.4996	-	-	-	-	-	-
$[\mathrm{Fe/H}]^2 \log g$	-	-0.08674	-	-	-	-	-	-
θ^4	-232.4	-	-	-	-129.2	-	-	-
rms	1.044	1.065	0.8926	1.230	0.7622	0.6486	0.6334	1.721
N	96	335	365	43	48	278	209	20

Table A8. *$H\gamma_F$ fitting function coefficients for Lick/IDS resolution*

	overall rms=0.4458							
	$\log g \leq 4.0$ and θ limits:				$\log g \geq 3.6$ and θ limits:			
Term	≤ 0.62	$0.55 - 1.2$	$1.0 - 1.5$	≥ 1.3	≤ 0.57	$0.50 - 0.90$	$0.80 - 1.2$	≥ 1.1
Const.	-9.741	-95.64	115.9	-113.6	8.960	-48.43	84.76	175.9
θ	11.27	326.7	-259.7	191.3	-7.804	251.9	-141.2	-324.5
[Fe/H]	-	-	10.41	-	-	-	-0.9678	-
$\log g$	-2.932	20.25	-0.9982	-	-3.125	-	-4.265	-
θ^2	-	-355.4	188.8	-106.4	-	-329.1	54.68	13.60
$[\mathrm{Fe/H}]^2$	-	0.1358	1.247	-	-	-	-	-
$\log g^2$	3.858	-1.265	-	-	0.4684	0.3909	-	-
$\theta[\mathrm{Fe/H}]$	-	-0.4761	-18.38	-	-	5.185	-	-
$\theta \log g$	-3.312	-35.18	-	-	-	-4.858	4.070	-
$[\mathrm{Fe/H}]\log g$	-	-	-	-	-	-0.3795	-	-
θ^3	146.8	123.5	-45.10	19.09	193.6	135.9	-	296.3
$\log g^3$	-0.5852	-	-0.01857	-	-	-	-	-
$\theta^2[\mathrm{Fe/H}]$	-	-	7.699	-	-	-4.987	-	-
$\theta^2 \log g$	-	14.85	-	-	-	-	-	-
$\theta[\mathrm{Fe/H}]^2$	-	-	-0.9964	-	-	-	-	-
$[\mathrm{Fe/H}]^2 \log g$	-	-	-	-	-	-	-0.02931	-
$\theta \log g^2$	-	1.171	0.1912	-	-	-	-	-
θ^4	-192.9	-	-	-	-250.9	-	-	-204.1
θ^5	-	-	-	-	-	-	-	40.97
rms	0.6459	0.5474	0.3890	0.4290	0.4630	0.3175	0.3215	0.3080
N	96	432	324	44	48	276	277	25

Table A9. *Fe4383 fitting function coefficients for Lick/IDS resolution*

| | overall rms=0.5763 | | | | | | | | |
| | log g ≤ 4.0 and θ limits: | | | | | log g ≥ 3.6 and θ limits: | | | |
Term	≤ 0.60	0.51 − 1.08	0.89 − 1.5 [Fe/H]≤ −0.75	[Fe/H]≥ −1.0	≥ 1.3	≤ 0.56	0.51 − 0.90	0.78 − 1.2	≥ 1.15
Const.	0.09371	2.612	-15.76	20.61	-1482	2.155	46.7	86.10	19.66
θ	-	-	41.47	-	3002	-	-180.9	-329.0	-10.69
[Fe/H]	-	3.017	9.974	-66.92	-	-	8.825	-35.91	1.366
$\log g$	-	0.3564	-	-	-	-	-	-	-
θ^2	54.26	-	-16.50	-135.3	-1985	-9.230	244.5	393.5	-
$[Fe/H]^2$	-	-	4.104	3.888	-	-	-	-	-
$\log g^2$	0.06629	-0.2590	-	-	-	-0.09579	-	-	-
$\theta[Fe/H]$	-	-8.167	-	122.6	-	-	-28.03	72.86	-
$\theta \log g$	-2.423	-5.823	-	-	-	-	-6.915	-	-
$[Fe/H]\log g$	-	-	-	-	-	-	-	0.6422	-
θ^3	-158.4	2.825	-	189.1	428.6	-	-113.6	-149.5	-
$[Fe/H]^3$	-	-	0.6165	-	-	-	-	-	-
$\theta[Fe/H]\log g$	-	-	-	-	-	-	0.6291	-	-
$\theta^2[Fe/H]$	-	6.929	-	-53.88	-	-	20.52	-36.74	-
$\theta^2 \log g$	-	4.176	-	-	-	-	8.979	1.154	-
$\theta[Fe/H]^2$	-	-	-	-4.571	-	-	-	-	-
$\theta \log g^2$	-	0.5940	-	-	-	-	-	-	-
$[Fe/H]^2 \log g$	-	-	-	-	-	-	0.1013	0.1002	-
θ^4	132.7	-	-	-69.83	-	-	-	-	-
rms	0.4163	0.5661	0.5867	0.7173	1.247	0.4413	0.2933	0.3272	1.396
N	91	335	89	319	44	46	277	298	21

Table A10. *Ca4455 fitting function coefficients for Lick/IDS resolution*

| | overall rms=0.1609 | | | | | | | |
| | log g ≤ 4.0 and θ limits: | | | | log g ≥ 3.6 and θ limits: | | | |
Term	≤ 0.59	0.51 − 1.08	1.0 − 1.5	≥ 1.45	≤ 0.56	0.51 − 1.0	0.9 − 1.35	≥ 1.1
Const.	-1.348	-0.4984	0.9049	-304.8	-1.380	-5.626	-4.887	2.928
θ	22.12	-	-	550.8	23.42	22.27	-	-1.105
[Fe/H]	-	-0.2166	0.7994	-	-	1.053	-7.327	-
$\log g$	-	-	-0.1796	-	-	-	-	-
θ^2	-72.41	1.830	-	-328.1	-79.02	-30.41	14.14	-
$[Fe/H]^2$	-	0.1076	-	-	-	0.3132	1.358	-
$\theta[Fe/H]$	-	0.9748	-	-	-	-2.870	17.06	-
$\theta \log g$	-	0.05891	-	-	-	-	-	-
$[Fe/H]\log g$	-	-	-0.1119	-	-	-	-	-
θ^3	65.92	-	0.8150	65.29	74.09	15.06	-7.982	-
$[Fe/H]^3$	-	-	-0.1097	-	-	0.09783	-	-
$\theta^2[Fe/H]$	-	-	-	-	-	2.846	-8.892	0.1622
$\theta[Fe/H]^2$	-	-	-0.2559	-	-	-	1.223	-
$[Fe/H]\log g^2$	-	-0.005190	-	-	-	-	-	-
$\theta^2[Fe/H]^3$	-	-	-	-	-	-0.05660	-	-
rms	0.1201	0.1528	0.2120	0.1924	0.1264	0.08551	0.1505	0.2593
N	84	338	327	13	45	348	124	29

Table A11. *Fe4531 fitting function coefficients for Lick/IDS resolution*

| | **overall rms=0.3547** | | | | | | | |
| | $\log g \leq 4.0$ and θ limits: | | | | $\log g \geq 3.6$ and θ limits: | | | |
Term	≤ 0.55	$0.45 - 1.05$	$0.9 - 1.45$	≥ 1.4	≤ 0.57	$0.51 - 0.82$	$0.80 - 1.4$	≥ 1.1
Const.	0.4513	4.351	5.830	21.46	-0.02859	-20.03	5.549	-16.80
θ	-5.204	-33.31	-	-11.27	-	82.68	-	33.73
[Fe/H]	-	-	-	-	-	-	-6.086	0.8289
$\log g$	0.08052	-	-4.839	-	-	-	-	-
θ^2	8.983	69.25	-	-	-	-111.8	-16.93	-12.78
$[\text{Fe/H}]^2$	-	-	-0.5944	-	-	0.4961	-	-
$\log g^2$	-	0.2483	0.8129	-	-	-	-	-
$\theta[\text{Fe/H}]$	-	4.095	0.7641	-	-	1.544	14.74	-
$\theta \log g$	-	-2.960	2.889	-	-	-	-	-
$[\text{Fe/H}]\log g$	-	-0.6357	-0.1143	-	-	-	-	-
θ^3	-	-	0.1559	-	-	53.90	-	-
$[\text{Fe/H}]^3$	-	-	-0.1234	-	-	-	-0.07522	-
$\log g^3$	-	-	-0.02038	-	-	-	-	-
$\theta^2[\text{Fe/H}]$	-	-1.987	-	-	0.6212	-	-7.542	-
$\theta^2 \log g$	-	1.849	-	-	-	-	-	-
$\theta[\text{Fe/H}]^2$	-	-	-	-	-	-0.4338	-0.1993	-
$\theta \log g^2$	-	-0.1154	-0.4204	-	-	-	-	-
$[\text{Fe/H}]\log g^2$	-	0.09230	-	-	-	-	-	-
θ^4	-	-74.66	-	-	5.349	-	30.90	-
θ^5	-	39.69	-	-	-	-	-16.03	-
rms	0.1441	0.3754	0.3638	1.196	0.1323	0.2005	0.1799	0.5838
N	71	312	382	25	48	149	285	29

Table A12. *C$_2$4668 fitting function coefficients for Lick/IDS resolution*

| | **overall rms=0.9130** | | | | | | | |
| | $\log g \leq 4.0$ and θ limits: | | | | $\log g \geq 3.6$ and θ limits: | | | |
	≤ 0.70	$0.60 - 0.90$	$0.75 - 1.5$	≥ 1.35	≤ 0.70	$0.50 - 0.99$	$0.95 - 1.4$	≥ 1.22
Const.	-0.7252	-82.36	403.4	-2711	1.505	9.458	-159.0	81.95
θ	22.94	356.2	-1685	4946	-	-36.24	456.2	-119.9
[Fe/H]	-	8.341	-33.00	-	-	4.512	40.83	-
θ^2	-76.73	-517.9	2571	-2981	-25.33	33.11	-412.8	44.70
$[\text{Fe/H}]^2$	-	-0.486	0.3465	-	-	-2.170	7.074	-
$\theta[\text{Fe/H}]$	-	-27.40	67.96	-	-	-22.27	-49.77	-
θ^3	0.4220	254.6	-1695	598.2	34.46	-	120.8	-
$[\text{Fe/H}]^3$	-	-	-0.2074	-	-	0.6054	-	-
$\theta^2[\text{Fe/H}]$	-	24.55	-30.47	-	-	26.28	14.26	-
$\theta[\text{Fe/H}]^2$	-	1.317	-	-	-	5.973	-5.566	-
θ^4	196.3	-	411.4	-	-	-	-	-
θ^5	-143.8	-	-	-	-	0.3696	-	-
rms	0.5583	0.5749	1.104	3.544	0.4376	0.4588	1.240	1.802
N	120	133	475	33	79	341	86	16

Table A13. *Hβ fitting function coefficients for Lick/IDS resolution*

| | **overall rms=0.3187** | | | | | | | |
| | log g ≤ 4.0 and θ limits: | | | | log g ≥ 3.6 and θ limits: | | | |
Term	≤ 0.72	0.61 − 1.15	1.0 − 1.4	≥ 1.21	≤ 0.65	0.54 − 1.0	0.8 − 1.2	≥ 1.1
Const.	-17.25	42.23	-127.9	894.3	2.270	-3.809	93.14	111.6
θ	-67.94	-92.31	343.3	-1455	-3.837	87.56	-257.9	-229.7
[Fe/H]	-	-1.308	0.3695	-	-	-0.3197	0.09015	-
log g	10.71	0.4932	1.235	-	-	-	-	-
θ^2	287.6	70.62	-299.0	-108.3	-	-157.7	251.7	152.5
$\log g^2$	-	-	-	-	-	-	-0.03086	-
θ[Fe/H]	-	3.427	-	-	-	0.4705	-	-
$\theta \log g$	-6.816	-0.7175	-1.421	-	-	-	-	-
[Fe/H]$\log g$	-	-	-0.07496	-	-	-	-	-
θ^3	-198.9	-18.08	85.82	1404	246.3	76.60	-84.89	-32.57
$\log g^3$	-0.3050	-	-	-	-	-	-	-
θ^2[Fe/H]	-	-1.719	-	-	-	-	-	-
$\theta^2 \log g$	-20.12	-	-	-	-11.10	-	-	-
[Fe/H]$^2 \log g$	-	0.03679	-	-	-	-	-	-
$\theta \log g^2$	2.895	-	-	-	0.7027	-0.04455	-	-
θ^4	-	-	-	-887.0	-273.9	-	-	-
θ^5	-	-	-	169.5	-	-	-	-
rms	0.5444	0.2666	0.2025	0.3642	0.4619	0.2175	0.2074	0.6882
N	122	371	305	103	68	341	275	28

Table A14. *Fe5015 fitting function coefficients for Lick/IDS resolution*

	overall rms=0.7671								
	log g ≤ 4.0 and θ limits:					log g ≥ 3.6 and θ limits:			
	≤ 0.57	0.50 − 0.80	0.70 − 1.5		≥ 1.35	≤ 0.53	0.43 − 0.90	0.75 − 1.2	≥ 1.1
Term			[Fe/H]≤ −1.05	[Fe/H]≥ −1.1					
Const.	-4.862	27.36	-4.981	-98.80	-371.3	1.708	-5.295	-3.471	-59.79
θ	43.48	-158.6	9.865	319.2	444.7	-	12.45	-	151.7
[Fe/H]	-	-2.283	0.7898	26.30	-	-	-9.368	-10.95	-
log g	-	-	-	-4.242	-	-	-	-	-
θ^2	-	289.6	-1.037	-311.1	-123.0	-24.80	-2.279	19.07	-115.4
[Fe/H]^2	-	0.3682	-	-	-	-	0.5202	0.4842	-
$\log g^2$	-	-	-	1.465	-	-	-	-	-
θ[Fe/H]	-	6.100	-	-49.72	-	-	28.51	28.21	-1.805
[Fe/H]$\log g$	-	-	-	0.8198	-	-	-	-	-
θ^3	-655.7	-161.7	-	100.8	-	37.85	-	-10.85	28.40
$\log g^3$	-	-	-	-0.1936	-	-	-	-	-
θ^2[Fe/H]	-	-	-	24.71	-	-	-16.96	-14.66	1.674
θ[Fe/H]^2	-	-	-0.2180	-	-	-	-	-0.1059	-
[Fe/H]$\log g^2$	-	0.01410	-	-0.1988	-	-	-	-	-
θ^4	1619	-	-	-	-	-	-	-	-
θ^5	-1144	-	-	-	-	-	-	-	-
rms	0.3397	0.5450	0.3877	1.114	2.946	0.2327	0.3343	0.2895	0.5395
N	75	101	91	410	33	36	287	324	29

Table A15. *Mg_1 fitting function coefficients for Lick/IDS resolution*

	overall rms=0.01938								
	log $g \leq 4.0$ and θ limits:					log $g \geq 3.6$ and θ limits:			
Term	≤ 0.80	$0.70 - 1.1$	$1.0 - 1.5$ [Fe/H]≤ -1.0	$1.0 - 1.5$ [Fe/H]≥ -1.1	≥ 1.28	≤ 0.80	$0.75 - 1.05$	$0.97 - 1.4$	≥ 1.22
Const.	0.2121	-0.8904	-0.01772	18.48	5.678	-0.01802	-4.043	2.757	9.444
θ	-2.571	3.054	0.2357	-49.06	-6.780	-	15.04	-11.04	-18.57
[Fe/H]	-	0.2034	0.2040	-	-	-	0.6529	-1.924	-
θ^2	12.15	-3.588	-	43.01	1.990	1.366	-18.81	12.79	12.63
[Fe/H]^2	-	-	0.1157	-	-	-	-0.05394	0.1483	-
θ[Fe/H]	-	-0.4897	0.07484	0.02345	-	-	-1.759	3.697	-
θ^3	-26.71	1.468	-	-12.38	-	-5.055	7.917	-4.406	-2.871
[Fe/H]^3	-	-0.004929	0.01571	-	-	-	0.002242	0.007456	-
θ^2[Fe/H]	-	0.2985	-	-	-	-	1.184	-1.697	-
θ[Fe/H]^2	-	-0.01449	-	-	-	-	0.07497	-0.1190	-
θ^4	27.35	-	-	-	-	6.148	-	-	-
θ^5	-10.53	-	-	-	-	-2.389	-	-	-
rms	0.006409	0.01206	0.01490	0.02727	0.05451	0.004427	0.008607	0.04041	0.02363
N	153	290	54	275	57	146	296	70	16

Table A16. *Mg_2 fitting function coefficients for Lick/IDS resolution*

	overall rms=0.02461								
	log $g \geq 4.0$ and θ limits:					log $g \geq 3.6$ and θ limits:			
Term	≤ 0.55	$0.50 - 0.90$	$0.80 - 1.5$ [Fe/H]≤ -1.2	$0.80 - 1.5$ [Fe/H]≥ -1.3	≥ 1.4	≤ 0.55	$0.50 - 0.90$	$0.8 - 1.4$	≥ 1.1
Const.	-0.001991	-0.08130	-0.03053	0.9433	-21.35	-0.000338	-1.193	31.09	-3.745
θ	-	-	-	-	40.28	0.03034	5.657	-118.3	9.272
[Fe/H]	-	-0.02795	-	-0.8181	-	-	0.1546	-1.472	0.03327
log g	-	-	-	-0.5447	-	-	-	-	-
θ^2	0.07973	1.215	-	-2.411	-24.60	-	-8.858	164.0	-6.752
[Fe/H]^2	-	-	-	-	-	-	0.004466	0.02188	-
θ[Fe/H]	-	0.06092	-	1.578	-	-	-0.4784	2.942	-
θ log g	-	-	-	0.8633	-	-	-	-	-
θ^3	-	-1.870	-	-	4.952	-	4.668	-97.69	1.619
[Fe/H]^3	-	-	-	-	-	-	-	0.008613	-
log g^3	-	-	0.002849	0.003932	-	-	-	-	-
θ^2[Fe/H]	-	-	-	-0.7015	-	-	0.4036	-1.360	-
θ^2 log g	-	-	-	-0.3159	-	-	-	-	-
[Fe/H]^2 log g	-	-	-0.003886	-	-	-	-	-	-
θ log g^2	-	-	0.01913	-0.009596	-	-	-	-	-
θ^4	-	-	0.04193	2.814	-	-	-	21.25	-
θ^5	-	0.9463	-	-1.234	-	-	-	-	-
rms	0.009697	0.01111	0.01819	0.03190	0.03718	0.007868	0.009625	0.02439	0.04220
N	71	174	70	394	24	43	275	283	29

Table A17. *Mgb fitting function coefficients for Lick/IDS resolution*

| | overall rms=0.4518 | | | | | | | | |
| | $\log g \le 4.0$ and θ limits: | | | | | $\log g \ge 3.6$ and θ limits: | | | |
Term	≤ 0.70	$0.55 - 1.15$	$0.80 - 1.4$ [Fe/H]≤ -1.0	[Fe/H]≥ -1.3	≥ 1.3	≤ 0.70	$0.56 - 0.90$	$0.8 - 1.3$	≥ 1.1
Const.	0.02641	13.92	-5.905	-5.997	-61.78	0.9490	-55.16	986.3	8.846
θ	-1.428	-30.24	5.488	-	-	-12.26	287.6	-3750	-
[Fe/H]	-	5.294	-2.518	0.5515	-	-	-2.607	-24.70	0.3885
$\log g$	-	-1.504	-	0.8190	-	-	-	-	-
θ^2	-	16.71	-	8.047	79.23	45.50	-518.5	4985	-
[Fe/H]^2	-	-	-	-	-	-	-	1.118	-
θ[Fe/H]	-	-11.67	-	-	-	-	3.794	52.82	-
[Fe/H]$\log g$	-	-1.233	1.074	-	-	-	-	-	-
θ^3	16.96	-	-	-1.920	-31.33	-64.03	339.6	-2438	-
$\log g^3$	-	-	-0.09470	-	-	-	-	-	-
θ[Fe/H]$\log g$	-	1.160	-	-	-	-	-	-	-
θ^2[Fe/H]	-	6.497	1.327	-	-	-	-	-27.02	-
$\theta^2 \log g$	-	1.559	-	-	-	-	-	-	-
θ[Fe/H]^2	-	-	-	-	-	-	-	-1.354	-
$\theta \log g^2$	-	0.2299	0.6716	-	-	-	-	-	-
[Fe/H]$\log g^2$	-	0.09024	-0.1286	-	-	-	-	-	-
θ^4	-18.96	-	-	-	-	32.58	-	-	-5.098
θ^5	-	-	-	-	-	-	-48.14	222.1	2.778
rms	0.1708	0.3883	0.3490	0.5567	1.180	0.1557	0.2602	0.4552	0.6982
N	121	398	91	376	43	80	266	279	29

Table A18. *Fe5270 fitting function coefficients for Lick/IDS resolution*

| | overall rms=0.2823 | | | | | | | |
| | $\log g \le 4.0$ and θ limits: | | | | $\log g \ge 3.6$ and θ limits: | | | |
Term	≤ 0.58	$0.50 - 1.1$	$0.95 - 1.4$	≥ 1.25	≤ 0.58	$0.50 - 1.0$	$0.90 - 1.5$	≥ 1.2
Const.	0.6305	-2.130	78.88	-28.17	-0.8042	-44.74	2.701	9.170
θ	-3.807	4.240	-228.7	39.74	8.301	214.1	-	-3.743
[Fe/H]	-	-1.751	-21.56	-	-	2.108	-8.378	0.7806
$\log g$	-	-	-	-	-	-	-1.161	-
θ^2	5.520	-	222.2	-	-27.24	-368.3	-21.89	-
[Fe/H]^2	-	0.1697	0.1589	-	-	0.3857	1.054	-
$\log g^2$	-	-	-	-	-	-	0.1941	-
θ[Fe/H]	-	4.989	41.22	-	-	-5.530	17.90	-
[Fe/H]$logg$	-	-	-	-	-	-	0.2875	-
θ^3	-	0.6208	-69.70	-	28.39	269.6	42.39	-
[Fe/H]^3	-	-	-	-	-	0.05416	-	-
θ^2[Fe/H]	-	-1.860	-18.30	-	-	5.335	-9.320	-
θ[Fe/H]^2	-	-	-	-	-	-	-0.9272	-
θ^4	-	-	-	-14.58	-	-66.94	-18.54	-
θ^5	-	-	-	5.923	-	-	-	-
rms	0.1182	0.2852	0.3500	0.6245	0.1171	0.1649	0.2150	0.5948
N	81	359	347	84	50	350	289	17

Table A19. *Fe5406 Fitting function coefficients for Lick/IDS resolution*

| | overall rms=0.1919 | | | | | | | |
| | $\log g \leq 4.0$ and θ limits: | | | | $\log g \geq 3.6$ and θ limits: | | | |
Term	≤ 0.56	$0.50-1.0$	$0.85-1.5$	≥ 1.3	≤ 0.57	$0.50-0.95$	$0.86-1.5$	≥ 1.2
Const.	1.978	-2.342	7.661	-214.3	-0.03832	-11.73	121.3	7.200
θ	-22.02	11.43	-	442.3	0.1868	50.47	-450.8	-3.420
[Fe/H]	-	-0.3169	-6.671	-	-	-	-10.19	-
θ^2	86.45	-17.79	-47.43	-294.7	-	-71.84	603.6	-
$[Fe/H]^2$	-	-	0.5201	-	-	0.3030	0.1799	-
$\theta[Fe/H]$	-	1.069	13.49	-	-	0.8196	20.54	-
θ^3	-143.4	10.24	64.21	63.94	-	34.98	-341.2	-
$[Fe/H]^3$	-	0.04657	-0.1158	-	-	0.05483	-	-
$\theta^2[Fe/H]$	-	-	-6.012	-	-	-	-9.278	-
$\theta[Fe/H]^2$	-	-	-0.7009	-	-	-	-	-
θ^4	86.78	-	-22.93	-	-	-	69.10	-
rms	0.08795	0.1838	0.2381	0.3544	0.07208	0.1012	0.1496	0.4672
N	72	237	422	43	47	316	191	17

Table A20. *Fe5709 fitting functions coefficients for Lick/IDS resolution*

| | **fe5709** overall rms=0.1403 | | | | | | | |
| | $\log g \leq 4.0$ and θ limits: | | | | $\log g \geq 3.6$ and θ limits: | | | |
Term	≤ 0.7	$0.6-1.1$	$0.9-1.5$	≥ 1.35	≤ 0.55	$0.5-0.9$	$0.8-1.15$	≥ 1.1
Const.	0.7995	-0.5274	52.03	144.8	-0.08228	-0.2153	-2.399	-111.7
θ	-10.29	-	-151.2	-236.4	0.1881	-	-	353.3
[Fe/H]	-	-0.4791	-6.283	-	-	-	-6.795	0.3350
$\log g$	-	-	-0.1664	-	-	-	-	-
θ^2	42.24	1.573	148.1	125.9	-	-	8.340	-407.5
$[Fe/H]^2$	-	-	-	-	-	0.1038	0.08944	-
$\theta[Fe/H]$	-	1.033	12.22	-	-	-0.2404	15.14	-
θ^3	-71.36	-	-47.43	-22.11	-	1.320	-4.917	205.7
$\theta^2[Fe/H]$	-	-	-5.414	-	-	0.9724	-7.726	-
$[Fe/H]^3$	-	-0.02573	-	-	-	-	-	-
θ^4	43.48	-	-	-	-	-	-	-38.55
rms	0.1127	0.1149	0.1873	0.6897	0.07273	0.07276	0.07766	0.2753
N	121	316	384	34	44	279	273	29

Table A21. *Fe5782 Fitting function coefficients for Lick/IDS resolution*

	overall rms=0.1292							
	$\log g \leq 4.0$ and θ limits:				$\log g \geq 3.6$ and θ limits:			
Term	≤ 0.8	$0.6 - 1.1$	$0.95 - 1.45$	≥ 1.3	≤ 0.7	$0.6 - 1.0$	$0.85 - 1.45$	≥ 1.15
Const.	0.9533	0.8071	78.52	34.86	0.1106	9.863	25.87	3.540
θ	-	-3.083	-217.5	-41.50	-	-34.85	-87.66	-2.080
[Fe/H]	0.03469	-0.6201	-7.018	-	0.08253	-0.3629	0.5192	-
$\log g$	-0.2452	-	-	-	-	-	-	-
θ^2	-1.493	2.992	200.6	12.25	-	39.87	105.1	-
$[Fe/H]^2$	-	-	-	-	-	-0.2777	0.1377	-
$\theta[Fe/H]$	-	1.067	13.58	-	-	-	-	0.1142
$\theta \log g$	-	-	-0.1245	-	-	-	-	-
$[Fe/H]\log g$	-	-	-0.05874	-	-	-	-	-
θ^3	-	-	-60.57	-	-	-14.18	-50.39	-
$[Fe/H]^3$	-	-0.02845	-0.1534	-	-	-	-	-
$\theta^2[Fe/H]$	-	-	-6.065	-	-	1.031	-	-
$\theta^2 \log g$	0.4356	-	-	-	-	-	-	-
$\theta[Fe/H]^2$	-	-	-0.3303	-	-	0.4606	-	-
θ^4	-	-	-	-	-	-	7.762	-
θ^5	0.2087	-	-	-	-	-	-	-
rms	0.1204	0.1051	0.1623	0.3205	0.1200	0.06783	0.09066	0.2882
N	152	318	360	45	78	330	210	21

Table A22. *NaD fitting function coefficients for Lick/IDS resolution*

	overall rms=0.4144								
	$\log g \leq 4.0$ and θ limits:					$\log g \geq 3.6$ and θ limits:			
	≤ 0.42	$0.30 - 1.1$	$1.0 - 1.5$		≥ 1.41	≤ 0.70	$0.60 - 1.1$	$0.8 - 1.4$	≥ 1.34
Term			$[Fe/H]\leq -1.0$	$[Fe/H]\geq -1.1$					
Const.	0.4280	0.6357	18.41	95.08	2997	0.4955	-2.663	18.05	48.47
θ	-	-	-31.51	-279.4	-5703	-1.464	11.14	-	-49.17
[Fe/H]	-	1.008	0.3243	-63.91	-	-	5.192	-23.95	-
$\log g$	-	0.3117	-	-	-	-	-	-	-
θ^2	-	24.91	14.59	267.6	3601	2.509	1.291	-122.4	16.13
$[Fe/H]^2$	-	-	-	-	-	-	-0.7036	0.8276	-
$\theta[Fe/H]$	-	-3.187	-	111.6	-	-	-17.23	48.76	-
$\theta \log g$	-	3.954	-	-	-	-	-	-	-
θ^3	-	-43.62	-	-81.58	-752.9	-	-35.37	165.3	-
$[Fe/H]^3$	-	0.07444	-	-	-	-	0.1304	0.2444	-
$\theta^2[Fe/H]$	-	3.263	-	-46.77	-	-	14.39	-22.66	-
$\theta^2 \log g$	-	3.015	-	-	-	-	-	-	-
$\theta[Fe/H]^2$	-	0.4547	-	-	-	-	1.467	-	-
$[Fe/H]^2 \log g$	-	-0.01753	-	-	-	-	-	-	-
$\theta \log g^2$	-	0.1607	-	-	-	-	-	-	-
θ^4	-	20.30	-	-	-	-	28.96	-57.46	-
rms	0.3178	0.3143	0.3378	0.6251	0.4608	0.1555	0.2446	0.3880	0.4164
N	34	395	55	279	21	79	357	282	10

Table A23. *TiO₁ Fitting function coefficients for Lick/IDS resolution*

	TiO1 overall rms=0.01973				
	$\log g \le 4.0$ and θ limits:			$\log g \ge 3.6$ and θ limits:	
Term	≤ 1.1	$1.0 - 1.35$	≥ 1.29	≤ 1.2	≥ 1.0
Const.	0.006982	-8.970	-6.757	0.006597	0.6690
θ	-	24.66	8.410	-	-1.272
[Fe/H]	-	0.2157	-	-	-
θ^2	-	-22.62	-2.420	-	0.6107
θ[Fe/H]	-	-0.4376	-	-	-
θ^3	-0.02762	6.931	-	-0.01359	-
θ^2[Fe/H]	-	0.2230	-	-	-
θ^4	0.02665	-	-	-	-
θ^5	-	-	-	0.01285	-
rms	0.004406	0.01611	0.05452	0.004052	0.02209
N	415	302	51	430	58

Table A24. *TiO₂ Fitting function coefficients for Lick/IDS resolution*

	TiO2 overall rms=0.04016				
	$\log g \le 4.0$ and θ limits:			$\log g \ge 3.6$ and θ limits:	
Term	≤ 1.0	$0.95 - 1.3$	≥ 1.25	≤ 1.1	≥ 1.0
Const.	0.06980	-11.90	-9.093	-0.001636	1.350
θ	-0.7732	34.23	10.68	-	-2.599
[Fe/H]	-	0.5308	-	-	-
θ^2	3.064	-32.84	-2.288	-	1.261
$[Fe/H]^2$	-	0.004631	-	-	-
θ[Fe/H]	-	-1.037	-	-	-
θ^3	-5.587	10.52	-0.3088	-0.02573	-
θ^2[Fe/H]	-	0.5213	-	0.002593	-
θ^4	4.744	-	-	0.03089	-
θ^5	-1.515	-	-	-	-
rms	0.005153	0.02222	0.09251	0.003686	0.05268
N	288	329	82	415	58

Table A25. *Hδ_A fitting function coefficient errors for Lick/IDS resolution*

| Term | $\log g \leq 4.0$ and θ limits: | | | | $\log g \geq 3.6$ and θ limits: | | | |
	≤ 0.62	$0.53-1.1$	$0.90-1.4$	≥ 1.3	≤ 0.57	$0.50-0.90$	$0.80-1.2$	≥ 1.08
Const.	0.4109	0.8141	0.4596	3.575	0.1826	1.402	5.864	2.095
θ	0.7714	2.895	-	0.8777	0.8504	6.384	18.67	3.237
$[\text{Fe/H}]$	-	0.02707	1.070	-	-	0.4698	1.419	-
$\log g$	0.4493	0.1345	0.5659	-	-	-	0.1733	-
θ^2	-	3.346	1.051	3.165	0.6001	8.653	19.54	1.234
$[\text{Fe/H}]^2$	-	-	0.03854	-	-	0.1165	-	-
$\log g^2$	0.1498	-	-	-	0.008862	-	-	-
$\theta[\text{Fe/H}]$	-	-	2.027	-	-	1.324	3.082	-
$\theta \log g$	-	0.3564	1.077	-	0.1649	0.6334	-	-
$[\text{Fe/H}]\log g$	-	0.006849	-	-	-	-	-	-
θ^3	5.128	1.275	0.6047	1.381	-	4.002	6.663	-
$[\text{Fe/H}]^3$	-	0.005733	0.01207	-	-	0.01128	0.01299	-
$\log g^3$	0.01473	-	-	-	-	-	-	-
$\theta^2[\text{Fe/H}]$	-	-	0.9538	-	-	0.9161	1.667	-
$\theta^2 \log g$	0.6737	0.2302	0.5131	-	-	0.2281	0.04021	-
$\theta[\text{Fe/H}]^2$	-	0.01722	-	-	-	0.1066	0.2128	-
$[\text{Fe/H}]^2 \log g$	-	-	-	-	-	0.02479	-	-
$\theta \log g^2$	0.08887	-	-	-	-	0.07812	-	-
θ^4	4.727	-	-	3.498	-	-	-	-
θ^5	-	-	-	1.082	-	-	-	-

Table A26. *Hδ_F fitting function coefficient errors for Lick/IDS resolution*

| Term | $\log g \leq 4.0$ and θ limits: | | | | $\log g \geq 3.6$ and θ limits: | | | |
	≤ 0.62	$0.55-1.2$	$0.95-1.5$	≥ 1.3	≤ 0.57	$0.50-0.90$	$0.80-1.2$	≥ 1.05
Const.	0.2339	0.4744	2.579	1.265	0.4869	0.2613	3.051	18.11
θ	0.4204	1.591	6.566	1.637	-	1.072	9.651	35.45
$[\text{Fe/H}]$	-	0.01503	0.01938	-	-	-	-	-
$\log g$	0.1958	0.06860	0.009272	-	0.2361	-	0.2104	-
θ^2	-	1.754	5.510	0.5250	-	-	10.18	4.272
$[\text{Fe/H}]^2$	-	0.01420	-	-	-	-	-	-
$\log g^2$	0.06635	-	-	-	0.02866	-	-	-
$\theta \log g$	0.2777	0.1627	-	-	-	0.3751	0.2338	-
$[\text{Fe/H}]\log g$	-	-	0.007452	-	-	-	0.01940	-
θ^3	-	0.6370	1.526	-	0.7854	-	3.498	32.78
$[\text{Fe/H}]^3$	-	0.004749	0.002052	-	-	-	0.002418	-
$\log g^3$	0.007855	-	-	-	-	0.001221	-	-
$\theta[\text{Fe/H}]\log g$	-	0.004552	-	-	-	-	-	-
$\theta^2 \log g$	0.3228	0.09450	-	-	-	-	-	-
$\theta \log g^2$	-	-	-	-	-	0.04619	-	-
$[\text{Fe/H}]\log g^2$	-	-	-	-	-	0.000277	0.004528	-
θ^4	1.074	-	-	-	1.337	1.675	-	24.99
θ^5	-	-	-	-	-	1.369	-	5.482

Table A27. *CN_1 fitting function coefficient errors for Lick/IDS resolution*

| | log g ≤ 4.0 and θ limits: | | | | | log g ≥ 3.6 and θ limits: | | | |
| | ≤ 0.61 | 0.50 − 1.0 | 0.81 − 1.4 | | ≥ 1.25 | ≤ 0.66 | 0.55 − 0.88 | 0.70 − 1.1 | ≥ 1.05 |
Term			[Fe/H]≤ −0.90	[Fe/H]≥ −1.0					
Const.	0.01264	0.02890	0.01080	0.05892	0.03179	0.001818	0.6049	0.000545	0.04085
θ	0.05334	0.1094	0.01084	0.1688	0.04299	-	3.188	-	0.06515
[Fe/H]	-	-	0.006484	0.02542	-	-	-	0.002908	-
$\log g$	0.01017	0.004950	-	0.000204	-	-	-	-	-
θ^2	0.1369	0.1370	-	0.1593	0.01437	-	5.933	-	0.02560
$[Fe/H]^2$	-	-	-	-	-	-	-	0.004289	-
$\log g^2$	0.003551	-	-	-	-	0.000106	-	-	-
$\theta[Fe/H]$	-	-	0.006446	0.04999	-	-	-	-	-
$\theta \log g$	0.003406	0.01364	-	-	-	-	-	-	-
$[Fe/H]\log g$	-	0.000407	-	-	-	-	-	-	-
θ^3	0.1142	0.05766	-	0.04950	-	0.01257	4.113	0.000862	-
$[Fe/H]^3$	-	-	-	-	-	-	-	0.000380	-
$\log g^3$	0.000426	-	-	-	-	-	-	-	-
$\theta^2[Fe/H]$	-	-	-	0.02429	-	-	-	0.003786	-
$\theta^2 \log g$	-	0.009136	-	-	-	-	-	-	-
$\theta[Fe/H]^2$	-	-	-	-	-	-	-	0.004666	-
$[Fe/H]\log g^2$	-	0.000116	-	-	-	-	-	-	-
θ^4	-	-	-	-	-	-	-	-	-
θ^5	-	-	-	-	-	0.02893	0.7754	-	-

Table A28. *CN_2 fitting function coefficient errors for Lick/IDS resolution*

| | log g ≤ 4.0 and θ limits: | | | | | log g ≥ 3.6 and θ limits: | | | |
| | ≤ 0.61 | 0.50 − 1.0 | 0.81 − 1.4 | | ≥ 1.25 | ≤ 0.66 | 0.55 − 0.88 | 0.70 − 1.1 | ≥ 1.02 |
Term			[Fe/H]≤ −0.90	[Fe/H]≥ −1.0					
Const.	0.01406	0.02599	0.005972	0.06595	0.4183	0.007182	0.1014	0.000616	0.004442
θ	0.05918	0.1086	-	0.1890	0.8428	0.06667	0.4230	-	0.003854
[Fe/H]	-	-	0.007200	0.02862	-	-	0.000304	0.003284	-
$\log g$	0.01138	0.001143	-	0.000230	-	-	-	-	-
θ^2	0.1522	0.1474	0.005871	0.1784	0.5613	0.1514	0.5829	-	-
$[Fe/H]^2$	-	-	-	-	-	-	-	0.004844	-
$\log g^2$	0.003986	-	-	-	-	-	-	-	-
$\theta[Fe/H]$	-	0.005399	0.007139	0.05620	-	-	-	-	-
$\theta \log g$	0.003790	0.001465	-	-	-	0.01144	-	-	-
$[Fe/H]\log g$	-	0.001190	-	-	-	-	-	-	-
θ^3	0.1273	0.06488	-	0.05545	0.1235	0.1055	0.2654	0.000977	-
$[Fe/H]^3$	-	-	-	-	-	-	-	0.000430	-
$\log g^3$	0.000479	-	-	-	-	-	-	-	-
$\theta[Fe/H]\log g$	-	0.001586	-	-	-	-	-	-	-
$\theta^2[Fe/H]$	-	0.006649	-	0.02726	-	-	-	0.004279	-
$\theta^2 \log g$	-	-	-	-	-	0.02183	-	-	-
$\theta[Fe/H]^2$	-	-	-	-	-	-	-	0.005270	-

Table A29. *Ca4227 fitting function coefficient errors for Lick/IDS resolution*

| | $\log g \leq 4.0$ and θ limits: | | | | | $\log g \geq 3.6$ and θ limits: | | | |
Term	≤ 0.80	$0.70 - 1.1$	$1.0 - 1.5$ $[\text{Fe/H}] \leq -0.90$	$[\text{Fe/H}] \geq -1.1$	≥ 1.3	≤ 0.80	$0.70 - 1.02$	$0.90 - 1.5$	≥ 1.21
Const.	0.007811	1.853	0.2213	1.882	0.02432	0.01974	2.273	12.72	0.01213
θ	-	5.697	0.1924	4.635	-	0.07992	8.044	44.70	-
$[\text{Fe/H}]$	-	0.003071	-	0.08826	-	0.07441	0.04939	0.009785	-
$\log g$	-	0.2633	-	0.004894	-	-	-	-	-
θ^2	0.08571	5.838	-	3.779	0.01085	0.01472	9.446	58.40	-
$[\text{Fe/H}]^2$	-	-	0.01898	-	-	-	-	-	-
$\log g^2$	-	0.02327	-	-	-	-	-	-	-
$\theta[\text{Fe/H}]$	0.009522	-	0.06606	0.07755	-	0.02724	0.05716	-	-
$\theta \log g$	-	0.5319	-	-	-	-	-	-	-
θ^3	0.1010	1.999	-	1.019	-	-	3.681	33.63	-
$[\text{Fe/H}]^3$	-	-	-	-	-	-	-	0.003761	-
$\log g^3$	-	-	0.001578	-	-	-	-	-	-
$\theta^2 \log g$	-	0.2783	0.02822	-	-	-	-	-	-
$\theta \log g^2$	-	0.02647	-	-	-	-	-	-	-
$[\text{Fe/H}]\log g^2$	0.000535	-	-	-	-	-	-	-	-
θ^4	-	-	-	-	-	-	-	7.197	-

Table A30. *G4300 fitting function coefficient errors for Lick/IDS resolution*

| | $\log g \leq 4.0$ and θ limits: | | | | | $\log g \geq 3.6$ and θ limits: | | | |
Term Term	≤ 0.57	$0.51 - 1.0$	$0.86 - 1.35$ $[\text{Fe/H}] \leq -0.90$	$[\text{Fe/H}] \geq -1.0$	≥ 1.1	≤ 0.57	$0.51 - 0.88$	$0.85 - 1.35$	≥ 1.15
Const.	0.2061	0.9092	1.209	2.540	1.660	0.1660	1.197	3.557	0.2014
θ	-	3.434	1.776	7.159	3.013	0.4826	4.595	10.32	0.1568
$[\text{Fe/H}]$	-	-	1.300	-	-	-	-	0.7518	-
$\log g$	0.2540	0.1451	-	-	-	0.02989	-	-	-
θ^2	-	4.265	0.8219	6.672	1.441	0.6259	4.886	9.910	-
$[\text{Fe/H}]^2$	-	-	0.3791	-	-	-	0.06537	0.1723	-
$\log g^2$	0.09891	-	-	-	-	-	-	-	-
$\theta[\text{Fe/H}]$	-	0.01695	1.274	-	-	-	0.01956	1.454	0.03581
$\theta \log g$	0.01521	0.3956	-	-	-	-	-	-	-
θ^3	-	1.772	-	2.056	-	-	-	3.149	-
$[\text{Fe/H}]^3$	-	0.006342	-	-	-	-	-	-	-
$\log g^3$	0.01223	0.000674	-	-	-	-	-	-	-
$\theta^2[\text{Fe/H}]$	-	-	-	-	-	-	-	0.7084	-
$\theta^2 \log g$	-	0.2616	-	-	-	-	-	-	-
$\theta[\text{Fe/H}]^2$	-	0.02137	0.3712	-	-	-	0.08105	0.1851	-
θ^4	-	-	-	-	-	-	1.577	-	-
θ^5	-	-	-	-	0.04906	-	-	-	-

Table A31. *Hγ_A fitting function coefficient errors for Lick/IDS resolution*

Term	log $g \leq 4.0$ and θ limits:				log $g \geq 3.6$ and θ limits:			
	≤ 0.62	$0.55 - 1.1$	$0.95 - 1.5$	≥ 1.3	≤ 0.57	$0.50 - 0.90$	$0.85 - 1.4$	≥ 1.15
Const.	0.3125	0.9004	3.450	21.10	0.2124	1.182	4.689	2.895
θ	0.6230	3.139	8.737	41.38	1.630	5.207	12.98	4.290
[Fe/H]	-	-	0.1947	-	-	0.4033		-
log g	0.2679	0.1412	-	-	-	-	0.3974	-
θ^2	-	3.606	7.301	26.89	3.362	7.356	12.34	1.574
[Fe/H]^2	-	-	0.009386	-	-	-	-	-
log g^2	0.09378	-	0.005749	-	0.002927	-	-	-
θ[Fe/H]	-	-	0.1551	-	-	1.146	0.1457	-
θ log g	0.08800	0.3582	0.02214	-	-	0.1568	0.4306	-
[Fe/H]log g	-	-	0.01492	-	-	-	0.03113	-
θ^3	3.194	1.378	2.016	5.785	-	3.394	3.908	-
log g^3	0.01119	0.000678	-	-	-	-	-	-
θ[Fe/H]log g	-	-	-	-	-	0.03987	0.03676	-
θ^2[Fe/H]	-	0.01654	-	-	-	0.7977	-	-
θ^2 log g	-	0.2239	-	-	-	0.2047	-	-
θ[Fe/H]^2	-	0.009732	-	-	-	-	-	-
[Fe/H]^2 log g	-	0.002377	-	-	-	-	-	-
θ^4	3.714	-	-	-	3.710	-	-	-

Table A32. *Hγ_F fitting function coefficient errors for Lick/IDS resolution*

Term	log $g \leq 4.0$ and θ limits:				log $g \geq 3.6$ and θ limits:			
	≤ 0.62	$0.55 - 1.2$	$1.0 - 1.5$	≥ 1.3	≤ 0.57	$0.50 - 0.90$	$0.80 - 1.2$	≥ 1.1
Const.	0.1768	0.4595	3.651	13.19	0.4014	0.6277	0.5916	28.22
θ	0.3423	1.443	8.885	25.93	0.5116	2.713	0.6845	52.79
[Fe/H]	-	-	0.6632	-	-	-	0.009860	-
log g	0.1529	0.1180	0.03593	-	0.2067	-	0.1792	-
θ^2	-	1.514	7.168	16.90	-	3.853	0.4277	4.099
[Fe/H]^2	-	0.003250	0.07521	-	-	-	-	-
log g^2	0.05332	0.01271	-	-	0.02504	0.006378	-	-
θ[Fe/H]	-	0.007348	1.104	-	-	0.1930	-	-
θ log g	0.04812	0.2277	-	-	-	0.07352	0.1993	-
[Fe/H]log g	-	-	-	-	-	0.01656	-	-
θ^3	1.744	0.5313	1.914	3.644	3.632	1.798	-	49.29
log g^3	0.006313	-	0.003276	-	-	-	-	-
θ^2[Fe/H]	-	-	0.4605	-	-	0.1380	-	-
θ^2 log g	-	0.1068	-	-	-	-	-	-
θ[Fe/H]^2	-	-	0.06805	-	-	-	-	-
[Fe/H]^2 log g	-	-	-	-	-	-	0.001323	-
θ log g^2	-	0.01457	0.01855	-	-	-	-	-
θ^4	2.020	-	-	-	4.544	-	-	36.02
θ^5	-	-	-	-	-	-	-	7.685

Table A33. *Fe4383 fitting function coefficient errors for Lick/IDS resolution*

| Term | log g ≤ 4.0 and θ limits: | | | | | log g ≥ 3.6 and θ limits: | | | |
| | ≤ 0.60 | 0.51 − 1.08 | 0.89 − 1.5 | | ≥ 1.3 | ≤ 0.56 | 0.51 − 0.90 | 0.78 − 1.2 | ≥ 1.15 |
			[Fe/H]≤ −0.75	[Fe/H]≥ −1.0					
Const.	0.09644	0.09594	1.333	0.6135	27.16	0.07635	1.869	4.672	0.2385
θ	-	-	2.290	-	53.73	-	8.203	14.70	0.1864
[Fe/H]	-	0.2299	0.7434	1.437	-	-	0.6310	1.362	0.05966
$\log g$	-	0.1456	-	-	-	-	-	-	-
θ^2	3.675	-	1.068	2.705	35.19	0.1115	11.44	15.32	-
$[Fe/H]^2$	-	-	0.4594	0.4861	-	-	-	-	-
$\log g^2$	0.006179	0.03536	-	-	-	0.004528	-	-	-
$\theta[Fe/H]$	-	0.5861	-	2.543	-	-	1.770	2.904	-
$\theta \log g$	0.07296	0.1617	-	-	-	-	0.2537	-	-
$[Fe/H]\log g$	-	-	-	-	-	-	-	0.03365	-
θ^3	11.88	0.1428	-	3.049	7.627	-	5.181	5.265	-
$[Fe/H]^3$	-	-	0.08957	-	-	-	-	-	-
$\theta[Fe/H]\log g$	-	-	-	-	-	-	0.05265	-	-
$\theta^2[Fe/H]$	-	0.3612	-	1.115	-	-	1.212	1.570	-
$\theta^2 \log g$	-	0.1141	-	-	-	-	0.3179	0.03309	-
$\theta[Fe/H]^2$	-	-	-	0.4452	-	-	-	-	-
$\theta \log g^2$	-	0.04204	-	-	-	-	-	-	-
$[Fe/H]^2 \log g$	-	-	-	-	-	-	0.002890	0.003032	-
θ^4	10.63	-	-	0.9575	-	-	-	-	-

Table A34. *Ca4455 fitting function coefficient errors for Lick/IDS resolution*

| Term | log g ≤ 4.0 and θ limits: | | | | log g ≥ 3.6 and θ limits: | | | |
	≤ 0.59	0.51 − 1.08	1.0 − 1.5	≥ 1.45	≤ 0.56	0.51 − 1.0	0.9 − 1.35	≥ 1.1
Const.	0.1091	0.008425	0.02176	39.01	0.1751	0.4803	0.1557	0.08103
θ	0.9165	-	-	72.03	1.534	1.980	-	0.06601
[Fe/H]	-	0.01993	0.01894	-	-	0.1648	0.6194	-
$\log g$	-	-	0.005486	-	-	-	-	-
θ^2	2.435	0.009026	-	44.19	4.242	2.670	0.4144	-
$[Fe/H]^2$	-	0.003753	-	-	-	0.01151	0.1419	-
$\theta[Fe/H]$	-	0.01915	-	-	-	0.4504	1.154	-
$\theta \log g$	-	0.003241	-	-	-	-	-	-
$[Fe/H]\log g$	-	-	0.005635	-	-	-	-	-
θ^3	2.062	-	0.007358	9.006	3.737	1.180	0.2568	-
$[Fe/H]^3$	-	-	0.004647	-	-	0.01123	-	-
$\theta^2[Fe/H]$	-	-	-	-	-	0.3020	0.5418	0.01283
$\theta[Fe/H]^2$	-	-	0.01395	-	-	-	0.1453	-
$[Fe/H]\log g^2$	-	0.000677	-	-	-	-	-	-
$\theta^2[Fe/H]^3$	-	-	-	-	-	0.01409	-	-

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Table A35. *Fe4531 fitting function coefficient errors for Lick/IDS resolution*

| Term | $\log g \leq 4.0$ and θ limits: | | | | $\log g \geq 3.6$ and θ limits: | | | |
	≤ 0.55	$0.45 - 1.05$	$0.9 - 1.45$	≥ 1.4	≤ 0.57	$0.51 - 0.82$	$0.80 - 1.4$	≥ 1.1
Const.	0.07974	0.9811	0.05521	0.2403	0.01082	2.737	0.3016	1.030
θ	0.4264	4.598	-	0.1622	-	12.37	-	1.530
$[\mathrm{Fe/H}]$	-	-	-	-	-	-	0.4845	0.03959
$\log g$	0.01042	-	0.1967	-	-	-	-	-
θ^2	0.5584	6.311	-	-	-	18.43	0.9808	0.5570
$[\mathrm{Fe/H}]^2$	-	-	0.02407	-	-	0.06807	-	-
$\log g^2$	-	0.01489	0.06998	-	-	-	-	-
$\theta[\mathrm{Fe/H}]$	-	0.09303	0.01690	-	-	0.02661	0.9797	-
$\theta \log g$	-	0.1349	0.1552	-	-	-	-	-
$[\mathrm{Fe/H}]\log g$	-	0.03115	0.005590	-	-	-	-	-
θ^3	-	-	0.02923	-	-	9.063	-	-
$[\mathrm{Fe/H}]^3$	-	-	0.008057	-	-	-	0.009976	-
$\log g^3$	-	-	0.004606	-	-	-	-	-
$\theta^2[\mathrm{Fe/H}]$	-	0.06705	-	-	0.08502	-	0.4909	-
$\theta^2 \log g$	-	0.1470	-	-	-	-	-	-
$\theta[\mathrm{Fe/H}]^2$	-	-	-	-	-	0.08489	0.02936	-
$\theta \log g^2$	-	0.01837	0.04678	-	-	-	-	-
$[\mathrm{Fe/H}]\log g^2$	-	0.006233	-	-	-	-	-	-
θ^4	-	5.632	-	-	0.2347	-	1.379	-
θ^5	-	2.931	-	-	-	-	0.7024	-

Table A36. *$C_2 4668$ fitting function coefficient errors for Lick/IDS resolution*

| Term | $\log g \leq 4.0$ and θ limits: | | | | $\log g \geq 3.6$ and θ limits: | | | |
	≤ 0.70	$0.60 - 0.90$	$0.75 - 1.5$	≥ 1.35	≤ 0.70	$0.50 - 0.99$	$0.95 - 1.4$	≥ 1.22
Const.	1.570	8.484	6.126	40.54	0.04650	0.9096	12.08	3.699
θ	21.57	33.71	22.91	78.17	-	3.136	31.74	5.028
$[\mathrm{Fe/H}]$	-	1.182	0.4954	-	-	0.4825	2.523	-
θ^2	112.5	44.34	31.67	50.00	0.6437	2.827	27.62	1.693
$[\mathrm{Fe/H}]^2$	-	0.1366	0.03369	-	-	0.09285	0.5254	-
$\theta[\mathrm{Fe/H}]$	-	3.152	0.9907	-	-	1.299	4.456	-
θ^3	279.8	19.32	19.19	10.60	0.8678	-	7.959	-
$[\mathrm{Fe/H}]^3$	-	-	0.01134	-	-	0.01422	-	-
$\theta^2[\mathrm{Fe/H}]$	-	2.097	0.4847	-	-	0.8604	1.990	-
$\theta[\mathrm{Fe/H}]^2$	-	0.1772	-	-	-	0.1233	0.5171	-
θ^4	333.6	-	4.302	-	-	-	-	-
θ^5	153.2	-	-	-	-	0.6371	-	-

Table A37. *Hβ fitting function coefficient errors for Lick/IDS resolution*

Term	$\log g \leq 4.0$ and θ limits:				$\log g \geq 3.6$ and θ limits:			
	≤ 0.65	$0.61-1.15$	$0.95-1.4$	≥ 1.21	≤ 0.65	$0.54-1.0$	$0.8-1.2$	≥ 1.1
Const.	0.3733	0.4191	3.861	14.14	0.07246	0.5957	2.142	4.282
θ	1.457	1.460	9.895	23.86	0.3209	2.395	6.717	9.256
[Fe/H]	-	0.09768	0.009752	-	-	0.02435	0.003979	-
$\log g$	0.1330	0.01919	0.07268	-	-	-	-	-
θ^2	1.718	1.693	8.447	1.264	-	3.150	6.981	6.595
$\log g^2$	-	-	-	-	-	-	0.001213	-
θ[Fe/H]	-	0.2307	-	-	-	0.03004	-	-
$\theta \log g$	0.4847	0.02147	0.06432	-	-	-	-	-
[Fe/H]$\log g$	-	-	0.005193	-	-	-	-	-
θ^3	0.8542	0.6448	2.398	23.53	2.288	1.364	2.402	1.550
$\log g^3$	0.002728	-	-	-	-	-	-	-
θ^2[Fe/H]	-	0.1311	-	-	-	-	-	-
$\theta^2 \log g$	0.3048	-	-	-	0.2872	-	-	-
[Fe/H]$^2 \log g$	-	0.001216	-	-	-	-	-	-
$\theta \log g^2$	0.03884	-	-	-	0.01855	0.001220	-	-
θ^4	-	-	-	15.63	2.0823	-	-	-
θ^5	-	-	-	3.127	-	-	-	-

Table A38. *Fe5015 fitting function coefficient errors for Lick/IDS resolution*

Term	$\log g \leq 4.0$ and θ limits:					$\log g \geq 3.6$ and θ limits:			
	≤ 0.57	$0.50-0.80$	$0.70-1.5$ [Fe/H]≤ -1.05	$0.70-1.5$ [Fe/H]≥ -1.1	≥ 1.35	≤ 0.53	$0.43-0.90$	$0.75-1.2$	≥ 1.1
Const.	0.3744	4.055	0.6428	0.6073	2.045	0.05369	0.1659	0.1370	8.310
θ	2.805	18.96	1.267	1.725	2.601	-	0.4913	-	17.98
[Fe/H]	-	0.1916	0.1334	0.4285	-	-	0.4412	1.094	-
$\log g$	-	-	-	0.03656	-	-	-	-	-
θ^2	-	29.25	0.6252	1.605	0.8207	1.266	0.3544	0.4670	12.82
[Fe/H]^2	-	0.02130	-	-	-	-	0.01153	0.1426	-
$\log g^2$	-	-	-	0.02004	-	-	-	-	-
θ[Fe/H]	-	0.2369	-	0.8507	-	-	1.258	2.324	0.4723
[Fe/H]$\log g$	-	-	-	0.04170	-	-	-	-	-
θ^3	45.51	14.89	-	0.4875	-	2.246	-	0.3265	3.011
$\log g^3$	-	-	-	0.003173	-	-	-	-	-
θ^2[Fe/H]	-	-	-	0.4155	-	-	0.8695	1.236	0.3413
θ[Fe/H]^2	-	-	0.03595	-	-	-	-	0.1645	-
[Fe/H]$\log g^2$	-	0.003526	-	0.008732	-	-	-	-	-
θ^4	123.4	-	-	-	-	-	-	-	-
θ^5	97.45	-	-	-	-	-	-	-	-

Table A39. *Mg$_1$ fitting function coefficient errors for Lick/IDS resolution*

Term	$\log g \leq 4.0$ and θ limits:					$\log g \geq 3.6$ and θ limits:			
	≤ 0.80	$0.70 - 1.1$	$1.0 - 1.5$ [Fe/H]≤ -1.0	$1.0 - 1.5$ [Fe/H]≥ -1.1	≥ 1.28	≤ 0.80	$0.75 - 1.05$	$0.97 - 1.4$	≥ 1.22
Const.	0.007973	0.03599	0.01376	0.05148	0.01238	0.001221	0.1181	0.2254	0.2879
θ	0.09958	0.1216	0.009379	0.1270	0.01644	-	0.4064	0.5991	0.5783
[Fe/H]	-	0.009380	0.01857	-	-	-	0.02175	0.04236	-
θ^2	0.4715	0.1361	-	0.1037	0.005419	0.05964	0.4648	0.5283	0.3840
[Fe/H]^2	-	-	0.01054	-	-	-	0.002242	0.008023	-
θ[Fe/H]	-	0.02036	0.005596	0.000202	-	-	0.04973	0.07584	-
θ^3	1.060	0.05040	-	0.02799	-	0.2422	0.1767	0.1546	0.0843
[Fe/H]^3	-	0.000121	0.001915	-	-	-	0.000166	0.000684	-
θ^2[Fe/H]	-	0.01095	-	-	-	-	0.02849	0.03397	-
θ[Fe/H]^2	-	0.000381	-	-	-	-	0.002423	0.006591	-
θ^4	1.136	-	-	-	-	0.3525	-	-	-
θ^5	0.4664	-	-	-	-	0.1755	-	-	-

Table A40. *Mg$_2$ fitting function coefficient errors for Lick/IDS resolution*

Term	$\log g \leq 4.0$ and θ limits:					$\log g \geq 3.6$ and θ limits:			
	≤ 0.55	$0.50 - 0.90$	$0.80 - 1.5$ [Fe/H]≤ -1.2	$0.80 - 1.5$ [Fe/H]≥ -1.3	≥ 1.4	≤ 0.55	$0.50 - 0.90$	$0.8 - 1.4$	≥ 1.1
Const.	0.000216	0.004118	0.000804	0.005250	0.5956	0.000436	0.02258	0.2554	0.1082
θ	-	-	-	-	1.142	0.001087	0.09653	1.012	0.2343
[Fe/H]	-	0.000783	-	0.006757	-	-	0.007522	0.007475	0.000643
$\log g$	-	-	-	0.004382	-	-	-	-	-
θ^2	0.001135	0.04279	-	0.01364	0.7275	-	0.1355	1.491	0.1673
[Fe/H]^2	-	-	-	-	-	-	0.000143	0.000457	-
θ[Fe/H]	-	0.001042	-	0.01299	-	-	0.02104	0.01522	-
$\theta \log g$	-	-	-	0.008773	-	-	-	-	-
θ^3	-	0.06010	-	-	0.1540	-	0.06262	0.9673	0.03933
[Fe/H]^3	-	-	-	-	-	-	-	0.000172	-
$\log g^3$	-	-	0.000036	0.000038	-	-	-	-	-
θ^2[Fe/H]	-	-	-	0.006161	-	-	0.01434	0.007726	-
$\theta^2 \log g$	-	-	-	0.004144	-	-	-	-	-
[Fe/H]$^2 \log g$	-	-	0.000039	-	-	-	-	-	-
$\theta \log g^2$	-	-	0.000174	0.000241	-	-	-	-	-
θ^4	-	-	0.000369	0.01468	-	-	-	0.2331	-
θ^5	-	0.02275	-	0.006425	-	-	-	-	-

Table A41. *Mgb fitting function coefficient errors for Lick/IDS resolution*

| Term | $\log g \leq 4.0$ and θ limits: | | | | | $\log g \geq 3.6$ and θ limits: | | | |
	≤ 0.70	$0.55-1.15$	$0.80-1.4$ $[\text{Fe/H}]\leq -1.0$	$[\text{Fe/H}]\geq -1.3$	≥ 1.3	≤ 0.70	$0.56-0.90$	$0.8-1.3$	≥ 1.1
Const.	0.04590	0.09467	0.2201	0.02902	0.2017	0.2757	8.406	11.25	0.04457
θ	0.2275	0.1717	0.2098	-	-	2.881	43.45	43.14	-
$[\text{Fe/H}]$	-	0.1464	0.1007	0.005048	-	-	0.03675	0.6082	0.02156
$\log g$	-	0.01306	-	0.002256	-	-	-	-	-
θ^2	-	0.08714	-	0.07418	0.2668	10.65	79.28	58.45	-
$[\text{Fe/H}]^2$	-	-	-	-	-	-	-	0.06727	-
$\theta[\text{Fe/H}]$	-	0.3034	-	-	-	-	0.04577	1.246	-
$[\text{Fe/H}]\log g$	-	0.02611	0.03042	-	-	-	-	-	-
θ^3	1.163	-	-	0.04570	0.1175	16.67	53.88	29.51	-
$\log g^3$	-	-	0.002275	-	-	-	-	-	-
$\theta[\text{Fe/H}]\log g$	-	0.02303	-	-	-	-	-	-	-
$\theta^2[\text{Fe/H}]$	-	0.1528	0.07253	-	-	-	-	0.6348	-
$\theta^2 \log g$	-	0.01113	-	-	-	-	-	-	-
$\theta[\text{Fe/H}]^2$	-	-	-	-	-	-	-	0.07567	-
$\theta \log g^2$	-	0.002674	0.01056	-	-	-	-	-	-
$[\text{Fe/H}]\log g^2$	-	0.003004	0.006214	-	-	-	-	-	-
θ^4	1.226	-	-	-	-	9.389	-	-	0.06125
θ^5	-	-	-	-	-	-	9.761	2.953	0.03313

Table A42. *Fe5270 fitting function coefficient errors for Lick/IDS resolution*

| Term | $\log g \leq 4.0$ and θ limits: | | | | $\log g \geq 3.6$ and θ limits: | | | |
	≤ 0.58	$0.50-1.1$	$0.95-1.4$	≥ 1.25	≤ 0.58	$0.50-1.0$	$0.90-1.5$	≥ 1.2
Const.	0.04265	0.03341	2.333	1.394	0.1782	2.992	0.5153	0.08345
θ	0.2291	0.06307	6.077	1.575	1.533	16.30	-	0.06119
$[\text{Fe/H}]$	-	0.09430	0.4821	-	-	0.1721	0.2353	0.01915
$\log g$	-	-	-	-	-	-	0.2212	-
θ^2	0.2897	-	5.252	-	4.148	32.81	0.9282	-
$[\text{Fe/H}]^2$	-	0.003638	0.004127	-	-	0.01322	0.05475	-
$\log g^2$	-	-	-	-	-	-	0.02645	-
$\theta[\text{Fe/H}]$	-	0.2344	0.8770	-	-	0.4578	0.4297	-
$[\text{Fe/H}]logg$	-	-	-	-	-	-	0.01432	-
θ^3	-	0.03086	1.506	-	3.563	28.96	1.138	-
$[\text{Fe/H}]^3$	-	-	-	-	-	0.005183	-	-
$\theta^2[\text{Fe/H}]$	-	0.1417	0.3958	-	-	0.2974	0.2000	-
$\theta[\text{Fe/H}]^2$	-	-	-	-	-	-	0.06167	-
θ^4	-	-	-	0.4676	-	9.471	0.3881	-
θ^5	-	-	-	0.1837	-	-	-	-

Table A43. *Fe5406 Fitting function coefficient errors for Lick/IDS resolution*

| Term | $\log g \leq 4.0$ and θ limits: | | | | $\log g \geq 3.6$ and θ limits: | | | |
	≤ 0.56	$0.50 - 1.0$	$0.85 - 1.5$	≥ 1.3	≤ 0.57	$0.50 - 0.95$	$0.86 - 1.5$	≥ 1.2
Const.	0.2542	0.2856	0.09900	5.119	0.01165	0.4656	6.156	0.04523
θ	3.201	1.167	-	10.11	0.02842	1.950	22.26	0.03181
[Fe/H]	-	0.01577	0.1174	-	-	-	0.2308	-
θ^2	14.52	1.553	0.4591	6.619	-	2.675	29.89	-
$[Fe/H]^2$	-	-	0.02438	-	-	0.008829	0.005555	-
$\theta[Fe/H]$	-	0.01917	0.2117	-	-	0.007206	0.4306	-
θ^3	28.09	0.6751	0.5274	1.434	-	1.204	17.66	-
$[Fe/H]^3$	-	0.001202	0.003002	-	-	0.003417	-	-
$\theta^2[Fe/H]$	-	-	0.09649	-	-	-	0.1968	-
$\theta[Fe/H]^2$	-	-	0.01981	-	-	-	-	-
θ^4	19.58	-	0.1682	-	-	-	3.869	-

Table A44. *Fe5709 fitting functions coefficient errors for Lick/IDS resolution*

| Term | $\log g \leq 4.0$ and θ limits: | | | | $\log g \geq 3.6$ and θ limits: | | | |
	≤ 0.7	$0.6 - 1.1$	$0.9 - 1.5$	≥ 1.35	≤ 0.55	$0.5 - 0.9$	$0.8 - 1.15$	≥ 1.1
Const.	0.2165	0.009937	1.140	14.04	0.01919	0.009399	0.1246	26.15
θ	2.315	-	2.924	27.11	0.04845	-	-	74.72
[Fe/H]	-	0.02604	0.2544	-	-	-	0.6532	0.02199
$\log g$	-	-	0.003371	-	-	-	-	-
θ^2	8.818	0.01166	2.477	17.38	-	-	0.4189	79.20
$[Fe/H]^2$	-	-	-	-	-	0.005548	0.006182	-
$\theta[Fe/H]$	-	0.02816	0.4467	-	-	0.06287	1.405	-
θ^3	14.22	-	0.6935	3.694	-	0.01864	0.2918	36.90
$\theta^2[Fe/H]$	-	-	0.1951	-	-	0.07600	0.7532	-
$[Fe/H]^3$	-	0.001675	-	-	-	-	-	-
θ^4	8.213	-	-	-	-	-	-	6.374

Table A45. *Fe5782 Fitting function coefficient errors for Lick/IDS resolution*

| Term | $\log g \leq 4.0$ and θ limits: | | | | $\log g \geq 3.6$ and θ limits: | | | |
	≤ 0.8	$0.6-1.1$	$0.95-1.45$	≥ 1.3	≤ 0.7	$0.6-1.0$	$0.85-1.45$	≥ 1.15
Const.	0.03460	0.09778	1.609	0.5773	0.004067	1.326	9.727	0.04555
θ	-	0.2243	4.113	0.7577	-	4.977	36.05	0.03307
[Fe/H]	0.005826	0.02326	0.3287	-	0.007481	0.04148	0.01047	-
$\log g$	0.009651	-	-	-	-	-	-	-
θ^2	0.1027	0.1267	3.483	0.2468	-	6.178	49.66	-
$[\text{Fe/H}]^2$	-	-	-	-	-	0.04938	0.006948	-
$\theta[\text{Fe/H}]$	-	0.02512	0.5400	-	-	-	-	0.01007
$\theta \log g$	-	-	0.003153	-	-	-	-	-
$[\text{Fe/H}]\log g$	-	-	0.006255	-	-	-	-	-
θ^3	-	-	0.9774	-	-	2.537	30.13	-
$[\text{Fe/H}]^3$	-	0.001474	0.004122	-	-	-	-	-
θ^4	-	-	-	-	-	-	6.791	-
$\theta^2[\text{Fe/H}]$	-	-	0.2251	-	-	0.05722	-	-
$\theta^2 \log g$	0.02503	-	-	-	-	-	-	-
$\theta[\text{Fe/H}]^2$	-	-	0.01109	-	-	0.05846	-	-
θ^5	0.09420	-	-	-	-	-	-	-

Table A46. *NaD fitting function coefficient errors for Lick/IDS resolution*

| Term | $\log g \leq 4.0$ and θ limits: | | | | | $\log g \geq 3.6$ and θ limits: | | | |
	≤ 0.42	$0.30-1.1$	$1.0-1.5$ $[\text{Fe/H}]\leq -1.0$	$1.0-1.5$ $[\text{Fe/H}]\geq -1.1$	≥ 1.41	≤ 0.70	$0.60-1.1$	$0.8-1.4$	≥ 1.34
Const.	0.008525	0.1296	1.041	2.640	29.02	0.05654	8.333	0.3552	1.665
θ	-	-	1.787	6.491	54.44	0.2736	40.37	-	2.135
[Fe/H]	-	0.1040	0.02016	1.097	-	-	0.2479	0.3158	-
$\log g$	-	0.06054	-	-	-	-	-	-	-
θ^2	-	1.140	0.7663	5.287	33.93	0.3053	72.67	2.018	0.6797
$[\text{Fe/H}]^2$	-	-	-	-	-	-	0.07016	0.02333	-
$\theta[\text{Fe/H}]$	-	0.2764	-	1.846	-	-	0.5806	0.6187	-
$\theta \log g$	-	0.1709	-	-	-	-	-	-	-
θ^3	-	1.718	-	1.426	7.025	-	57.60	2.576	-
$[\text{Fe/H}]^3$	-	0.006491	-	-	-	-	0.007989	0.008514	-
$\theta^2[\text{Fe/H}]$	-	0.1778	-	0.7715	-	-	0.3490	0.2991	-
$\theta^2 \log g$	-	0.1131	-	-	-	-	-	-	-
$\theta[\text{Fe/H}]^2$	-	0.02336	-	-	-	-	0.07796	-	-
$[\text{Fe/H}]^2 \log g$	-	0.002855	-	-	-	-	-	-	-
$\theta \log g^2$	-	0.004353	-	-	-	-	-	-	-
θ^4	-	0.7024	-	-	-	-	16.97	0.9156	-

Table A47. *TiO₁ Fitting function coefficient errors for Lick/IDS resolution*

| Term | log $g \leq 4.0$ and θ limits: | | | log $g \geq 3.6$ and θ limits: | |
	≤ 1.1	$1.0 - 1.35$	≥ 1.29	≤ 1.2	≥ 1.0
Const.	0.000196	0.1889	0.01903	0.000214	0.007917
θ	-	0.4910	0.02560	-	0.01223
[Fe/H]	-	0.02551	-	-	-
θ^2	-	0.4240	0.008548	-	0.004611
θ[Fe/H]	-	0.04502	-	-	-
θ^3	0.001635	0.1217	-	0.000836	-
θ^2[Fe/H]	-	0.01983	-	-	-
θ^4	0.001471	-	-	-	-
θ^5	-	-	-	0.000655	-

Table A48. *TiO₂ Fitting function coefficient errors for Lick/IDS resolution*

| Term | log $g \leq 4.0$ and θ limits: | | | log $g \geq 3.6$ and θ limits: | |
	≤ 1.0	$0.95 - 1.3$	≥ 1.25	≤ 1.1	≥ 1.0
Const.	0.006342	0.1348	0.1575	0.000241	0.007648
θ	0.06798	0.3584	0.3184	-	0.01179
[Fe/H]	-	0.01883	-	-	-
θ^2	0.2713	0.3163	0.2129	-	0.004437
[Fe/H]^2	-	0.000146	-	-	-
θ[Fe/H]	-	0.03432	-	-	-
θ^3	0.5083	0.09273	0.04706	0.001989	-
θ^2[Fe/H]	-	0.01554	-	0.000177	-
θ^4	0.4501	-	-	0.001893	-
θ^5	0.1516	-	-	-	-
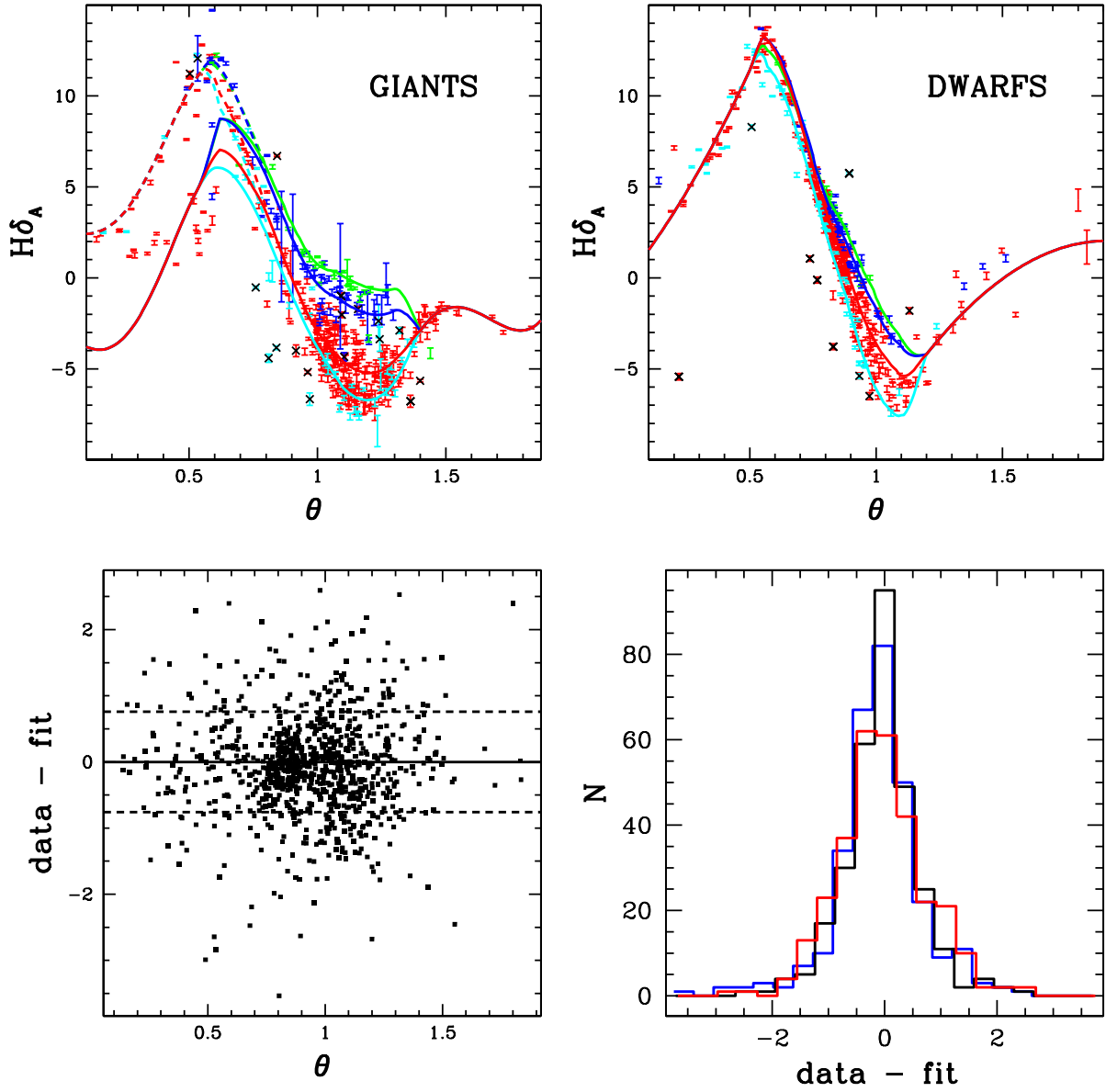
Figure A1. H$_\delta$A, same as Fig. 3. Dashed-lines for additional log g-value (log g = 3.3) cover the data points in strong log g-dependent regions.
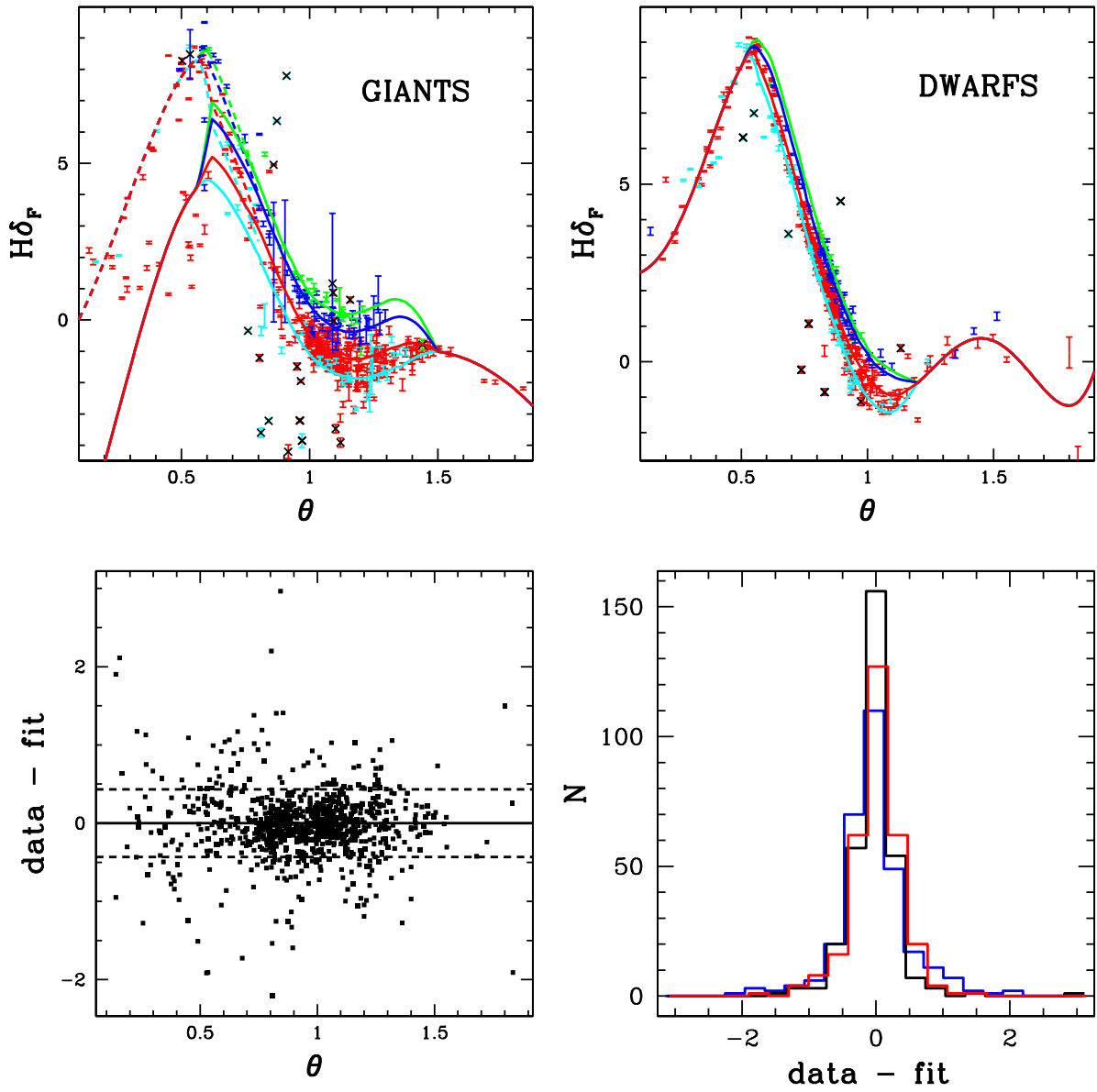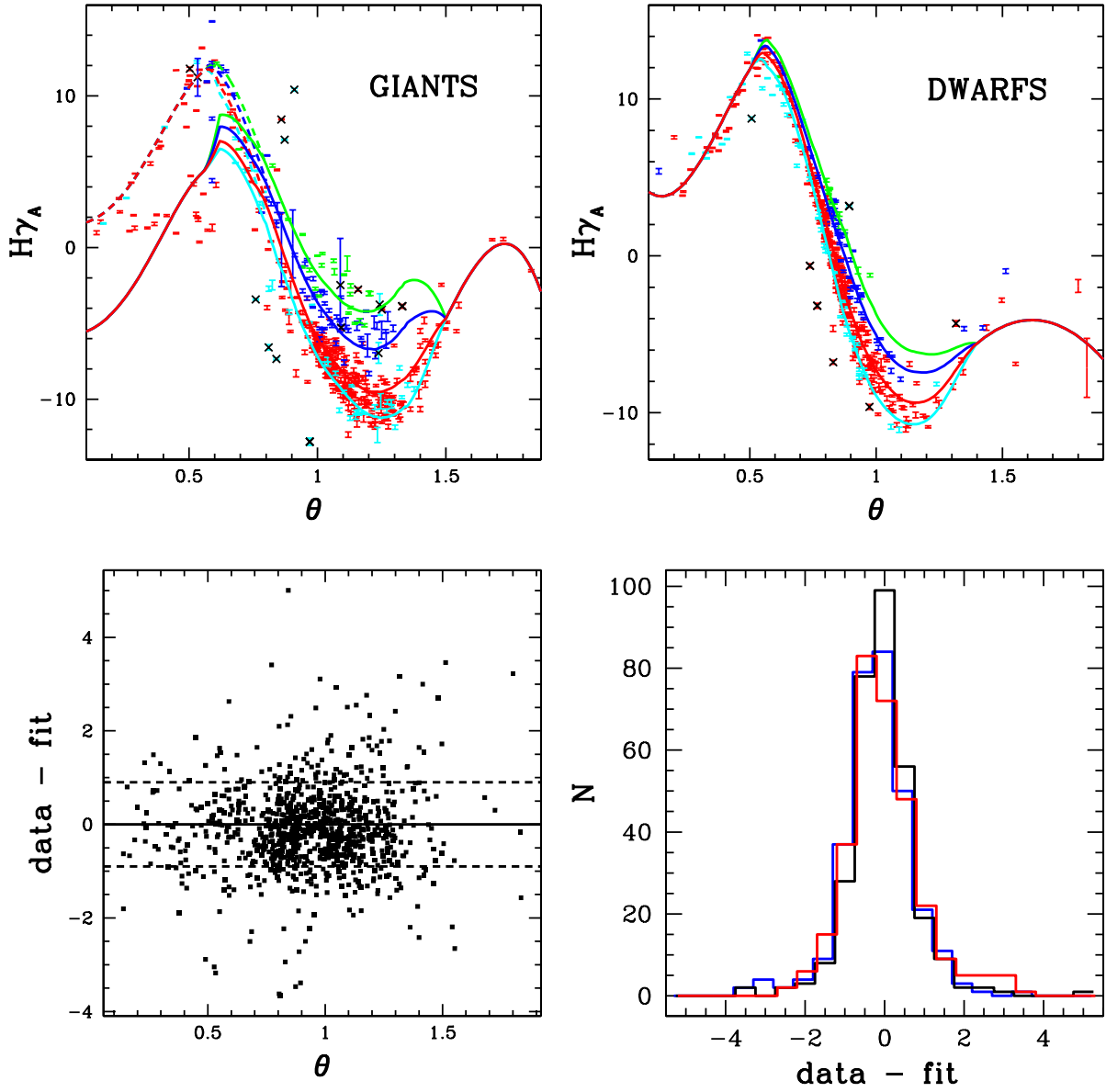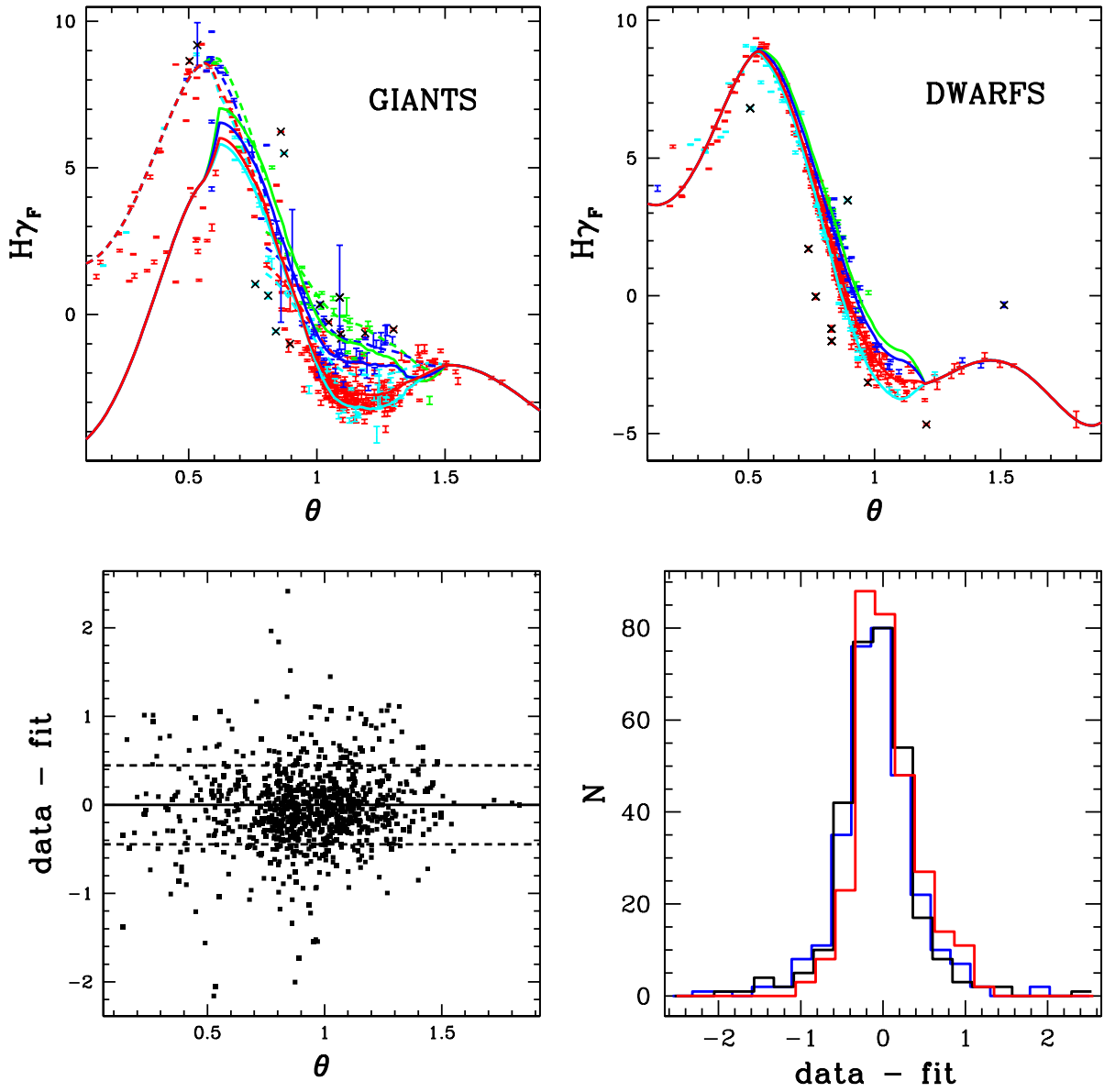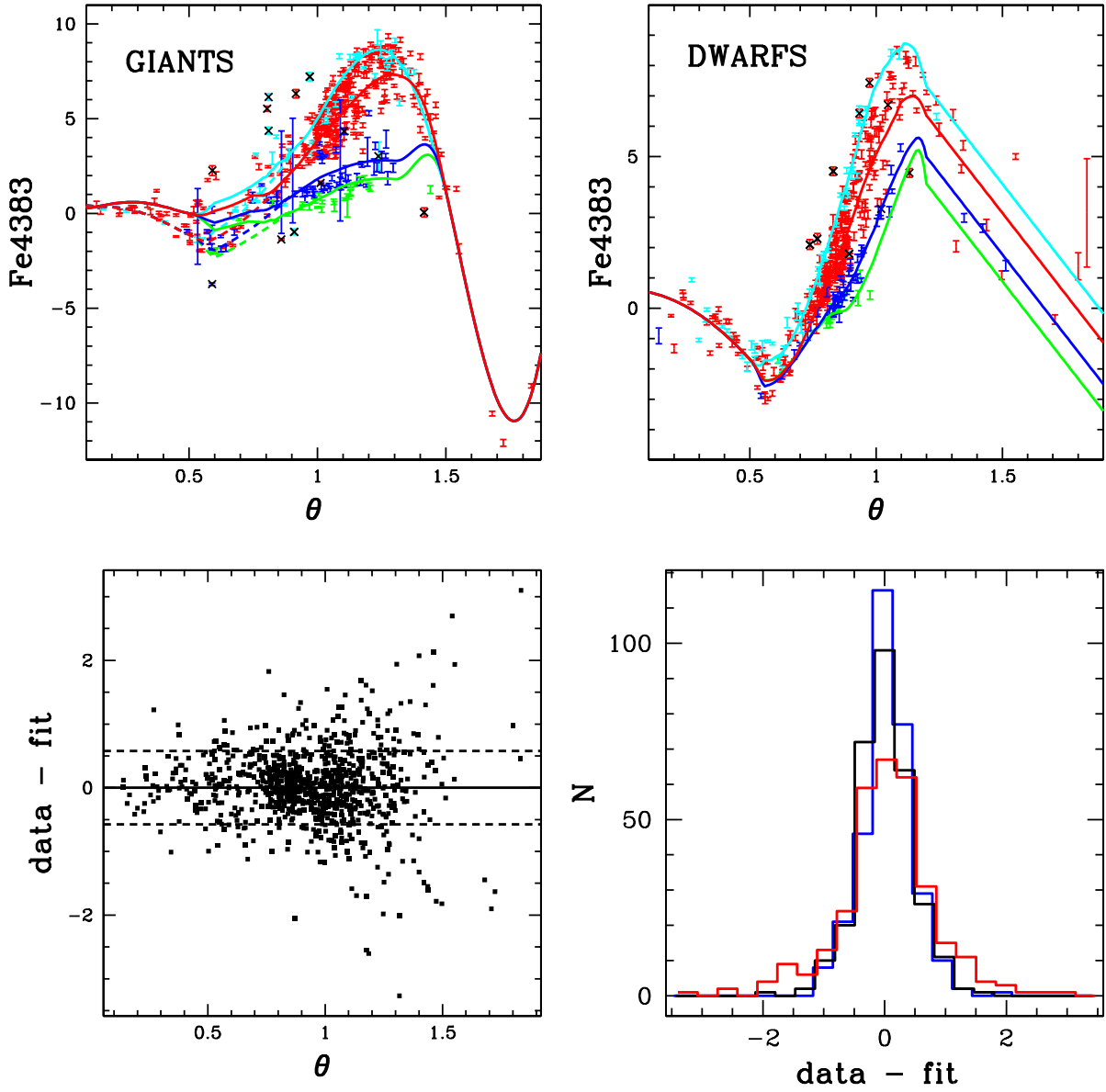
Figure A2. H$_\delta$F, same as Fig. 3. Dashed-lines for additional log *g*-value (log *g* = 3.3) cover the data points in strong log *g*-dependent regions.
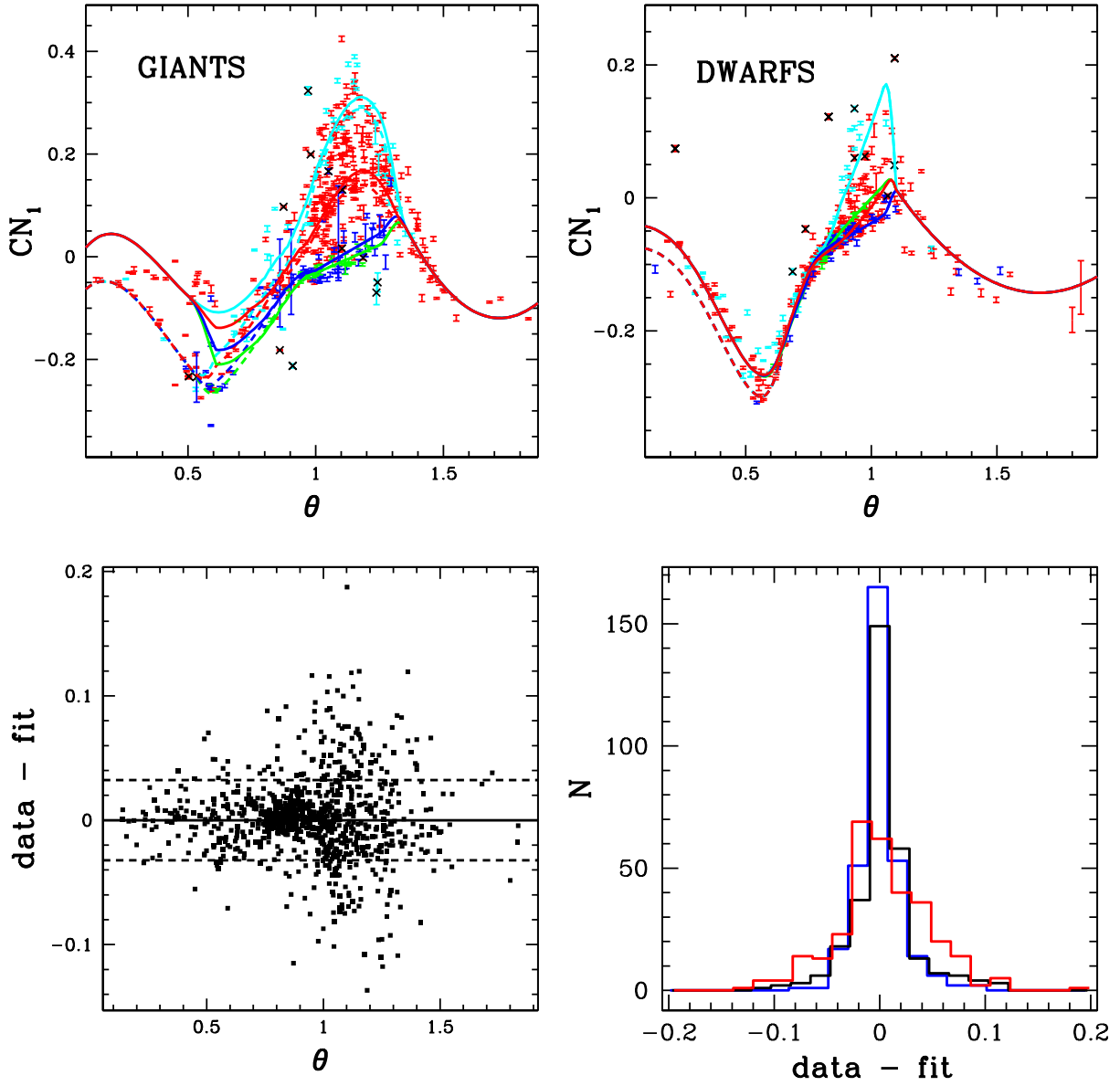
Figure A3. CN_1, same as Fig. 3. Dashed-lines for additional $\log g$-value ($\log g = 3.3$) cover the data points in strong $\log g$-dependent regions.
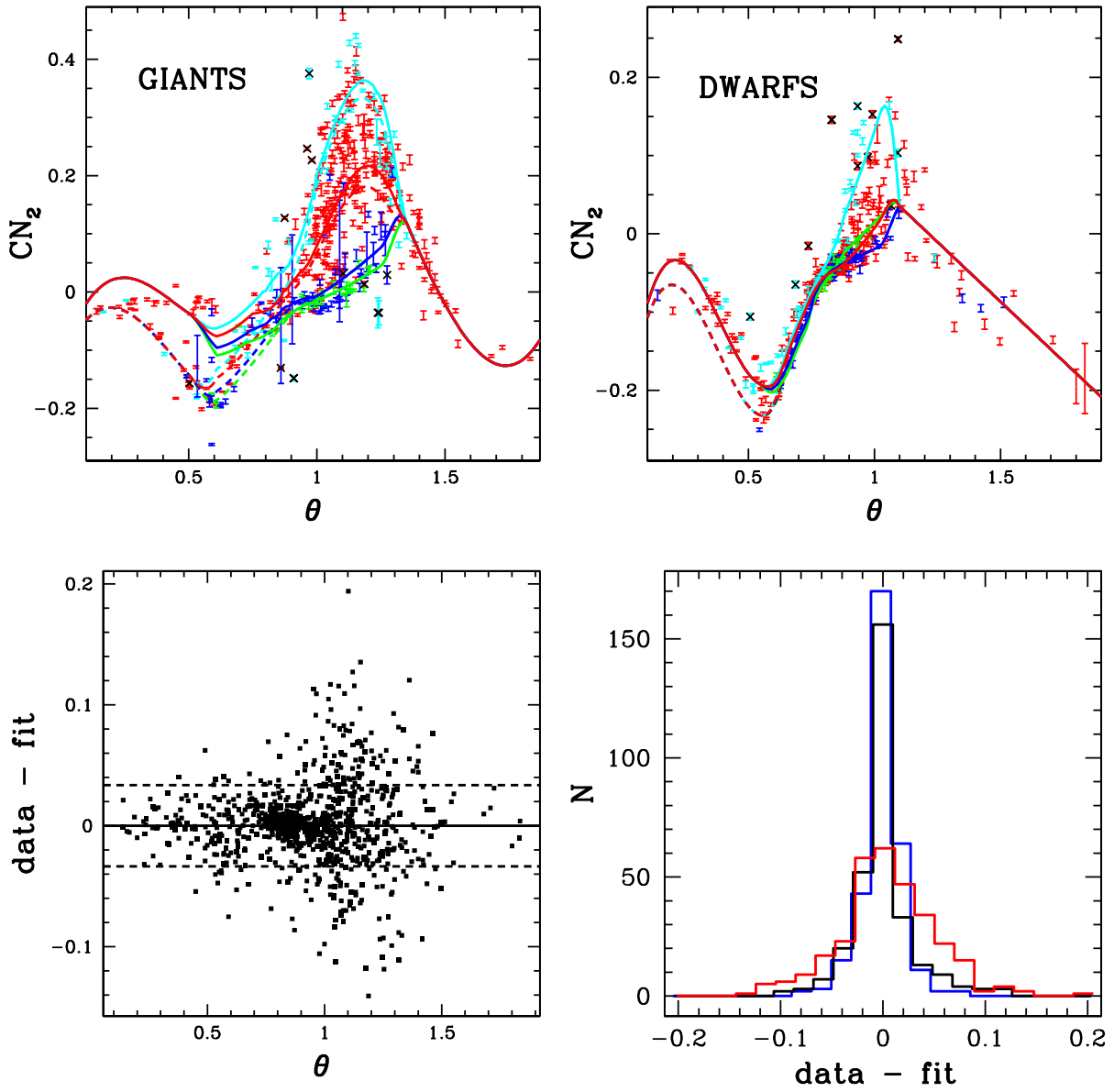
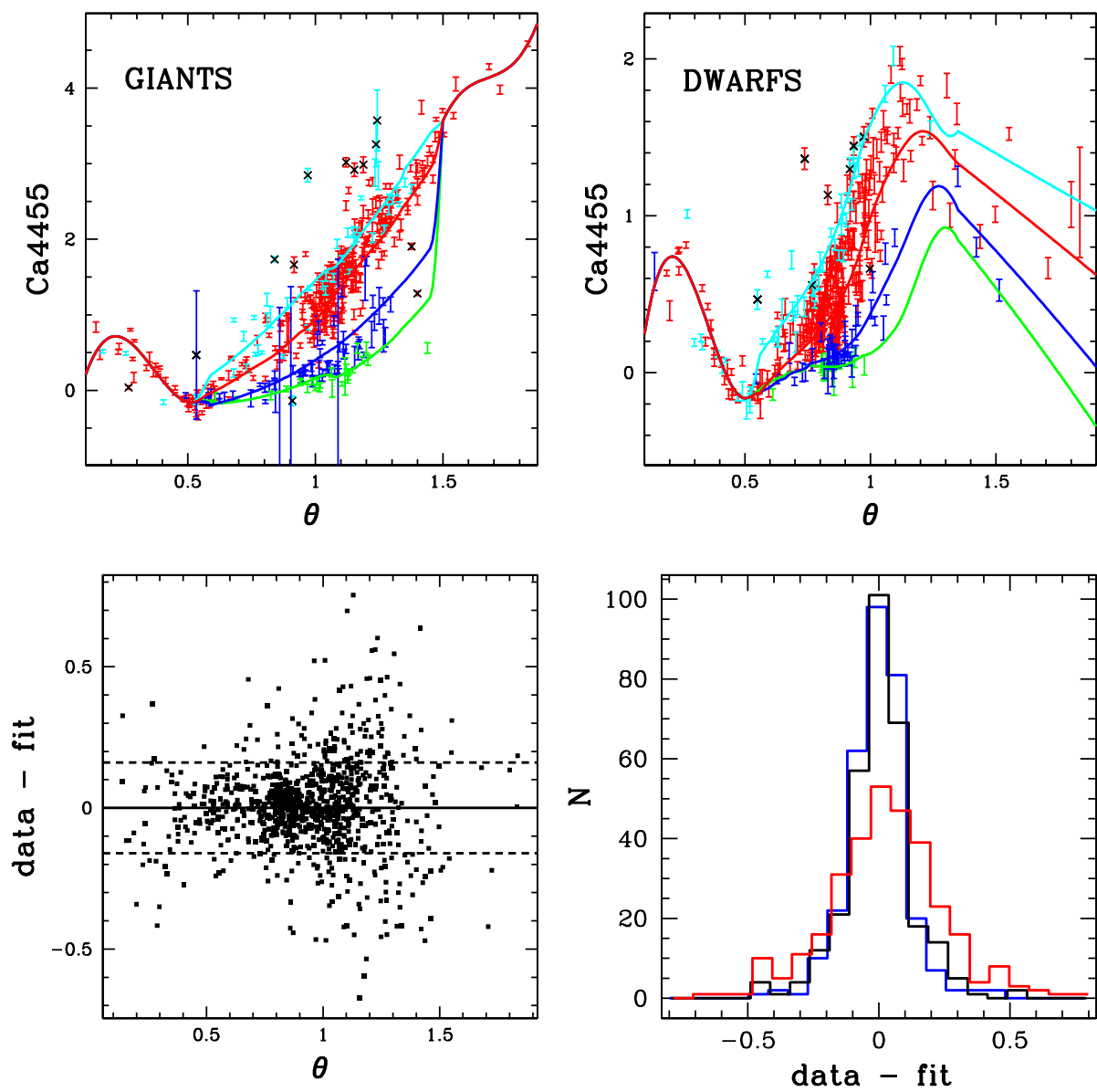**Figure A4.** CN_2, same as Fig. 3. Dashed-lines for additional $\log g$-value cover ($\log g = 3.3$) the data points in strong $\log g$-dependent regions.
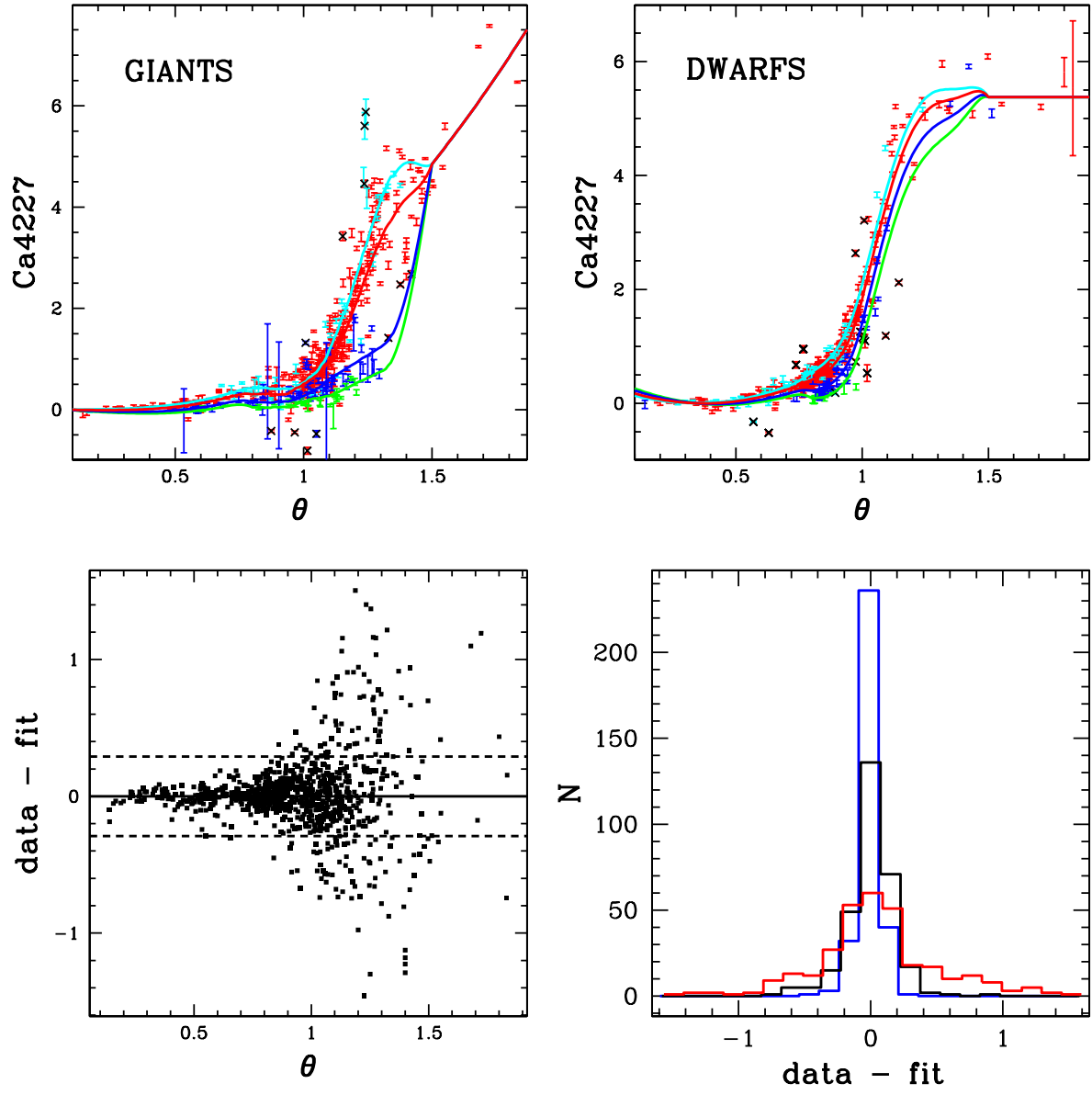
Figure A5. Ca4227, same as Fig. 3.
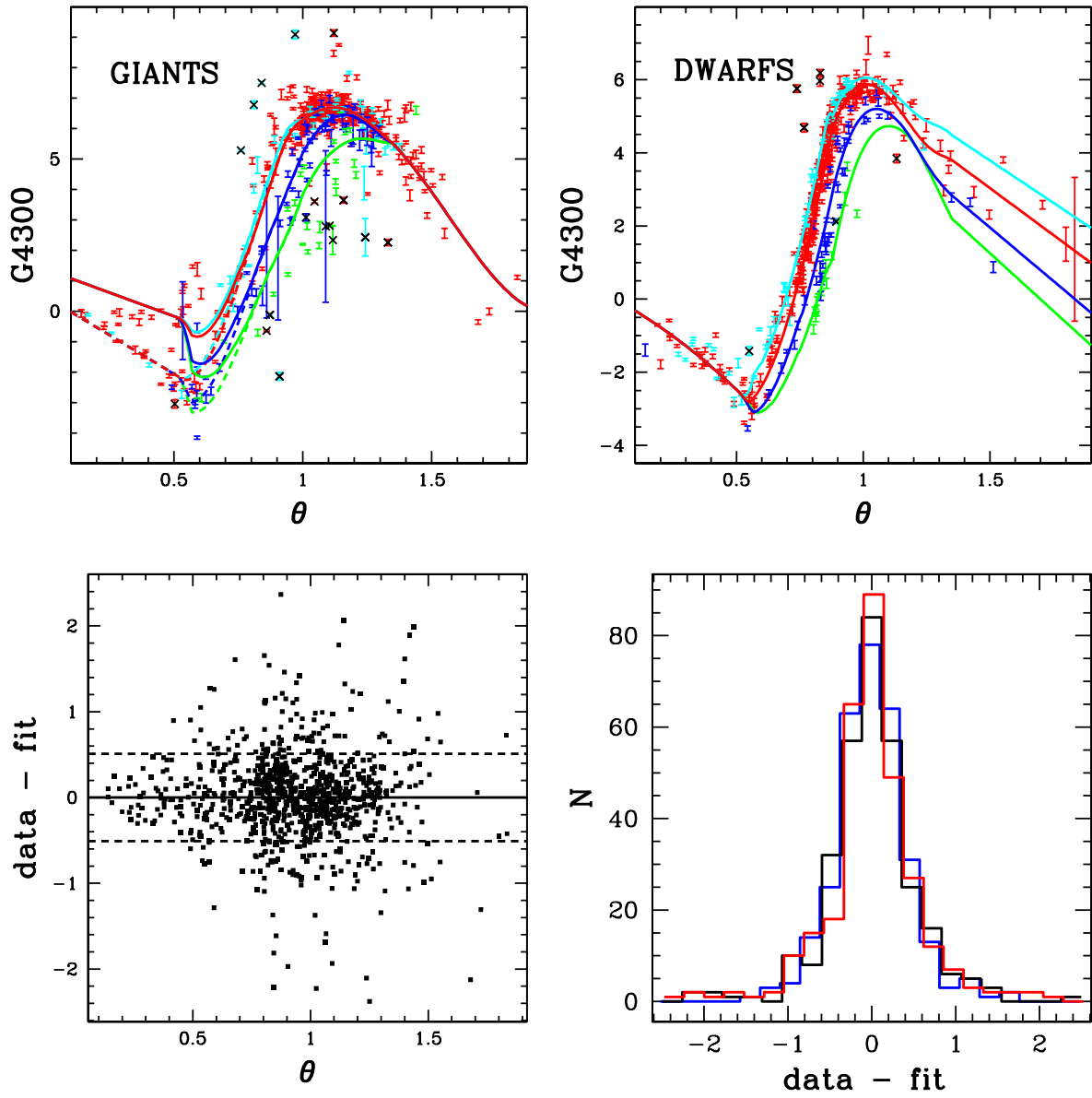
Figure A6. G4300, same as Fig. 3. Dashed-lines for additional $\log g$-value ($\log g = 3.3$) cover the data points in strong $\log g$-dependent regions.

Figure A7. $H_\gamma A$, same as Fig. 3. Dashed-lines for additional $\log g$-value ($\log g = 3.3$) cover the data points in strong $\log g$-dependent regions.
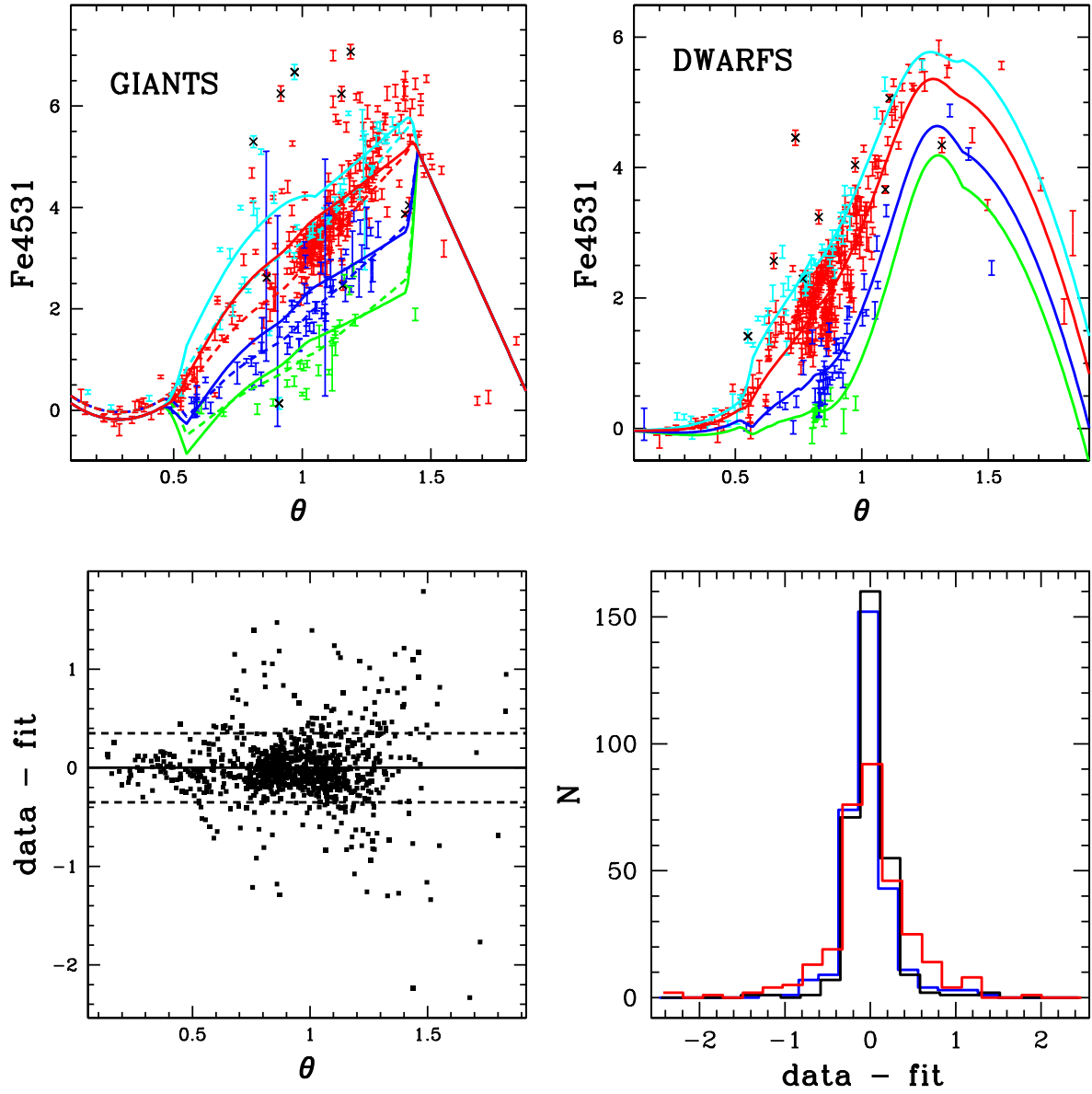
Figure A8. HγF, same as Fig. 3. Dashed-lines for additional log g-value (log $g = 3.3$ for $\theta < 0.8$ and log $g = 0.0$ for $\theta > 0.8$) cover the data points in strong log g-dependent regions.

Figure A9. Fe4383, same as Fig. 3. Dashed-lines for additional log g-value (log g = 3.3) cover the data points in strong log g-dependent regions.

Figure A10. Ca4455, same as Fig. 3 for Ca4455

Figure A11. Fe4531, same as Fig. 3. Fixed log g-values of 1.5 (solid lines) and 3.3 (dashed lines) are used for showing the fitting functions of this index.
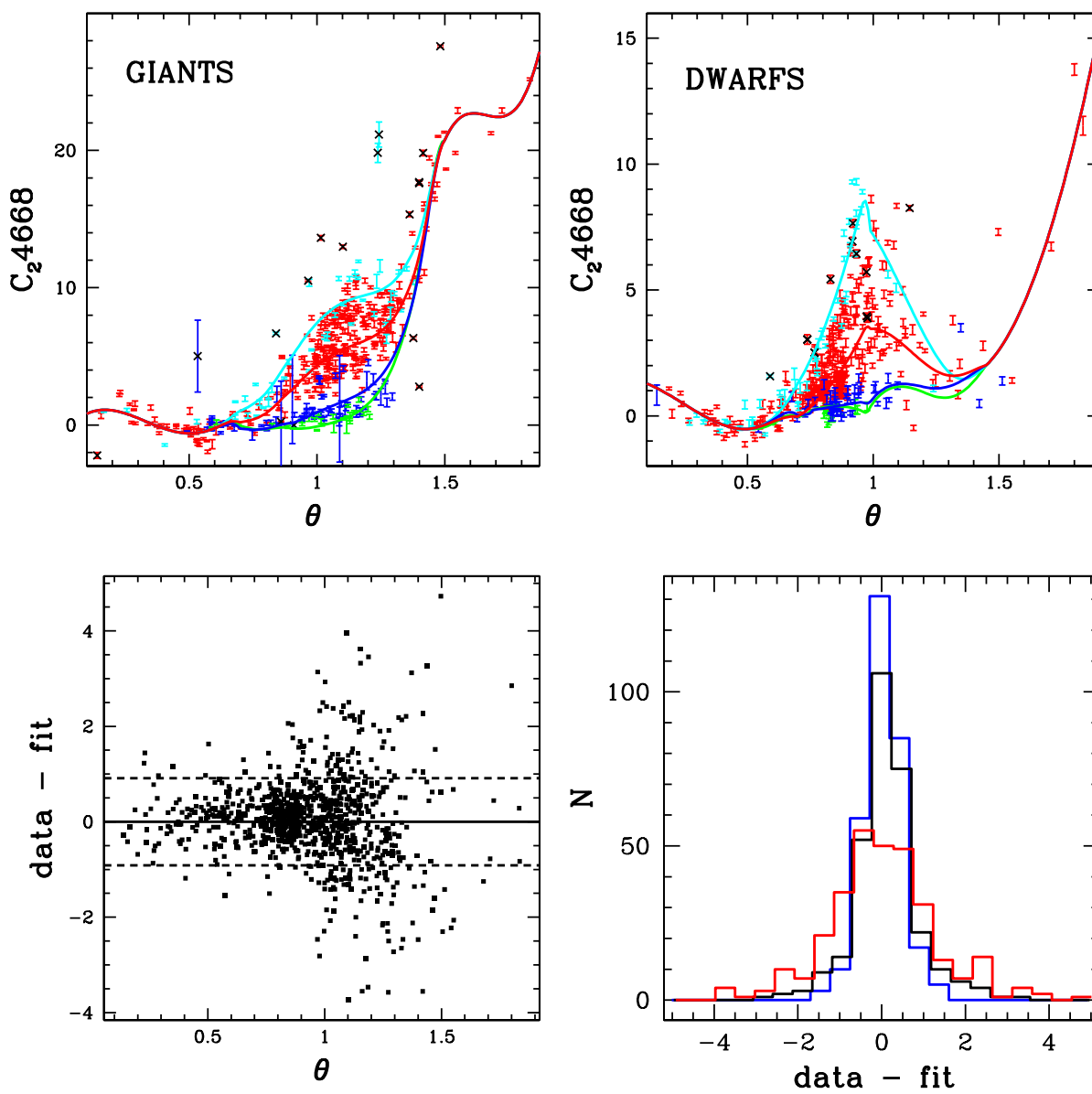
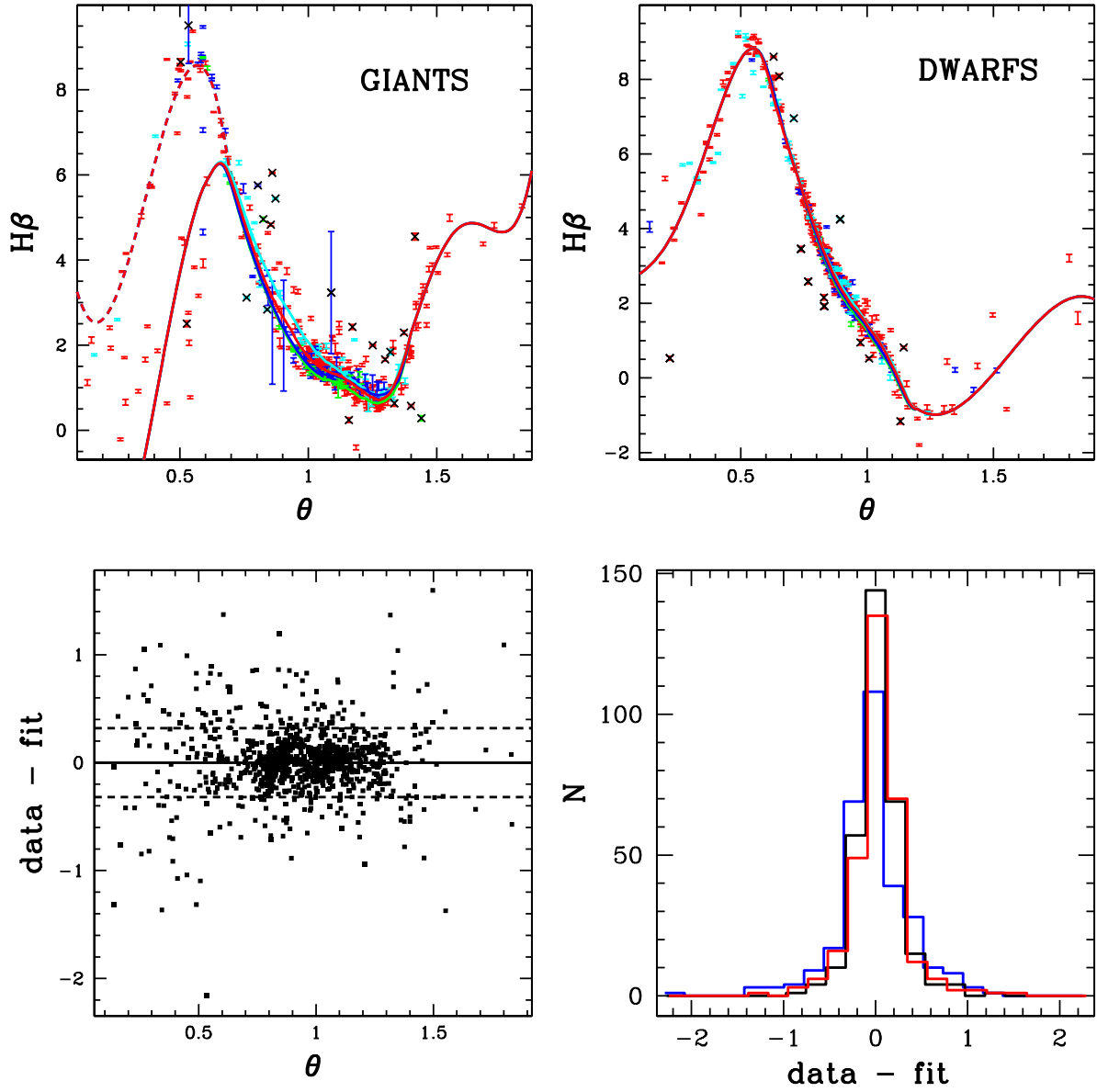**Figure A12.** $C_2 4668$, same as Fig. 3.

Figure A13. Hβ, same as Fig. 3. Dashed-lines for additional log *g*-value (log *g* = 3.3) cover the data points in strong log *g*-dependent regions.

Figure A14. Fe5015, same as Fig. 3. Dashed-lines for additional $\log g$-value ($\log g = 3.3$) cover the data points in strong $\log g$-dependent regions.

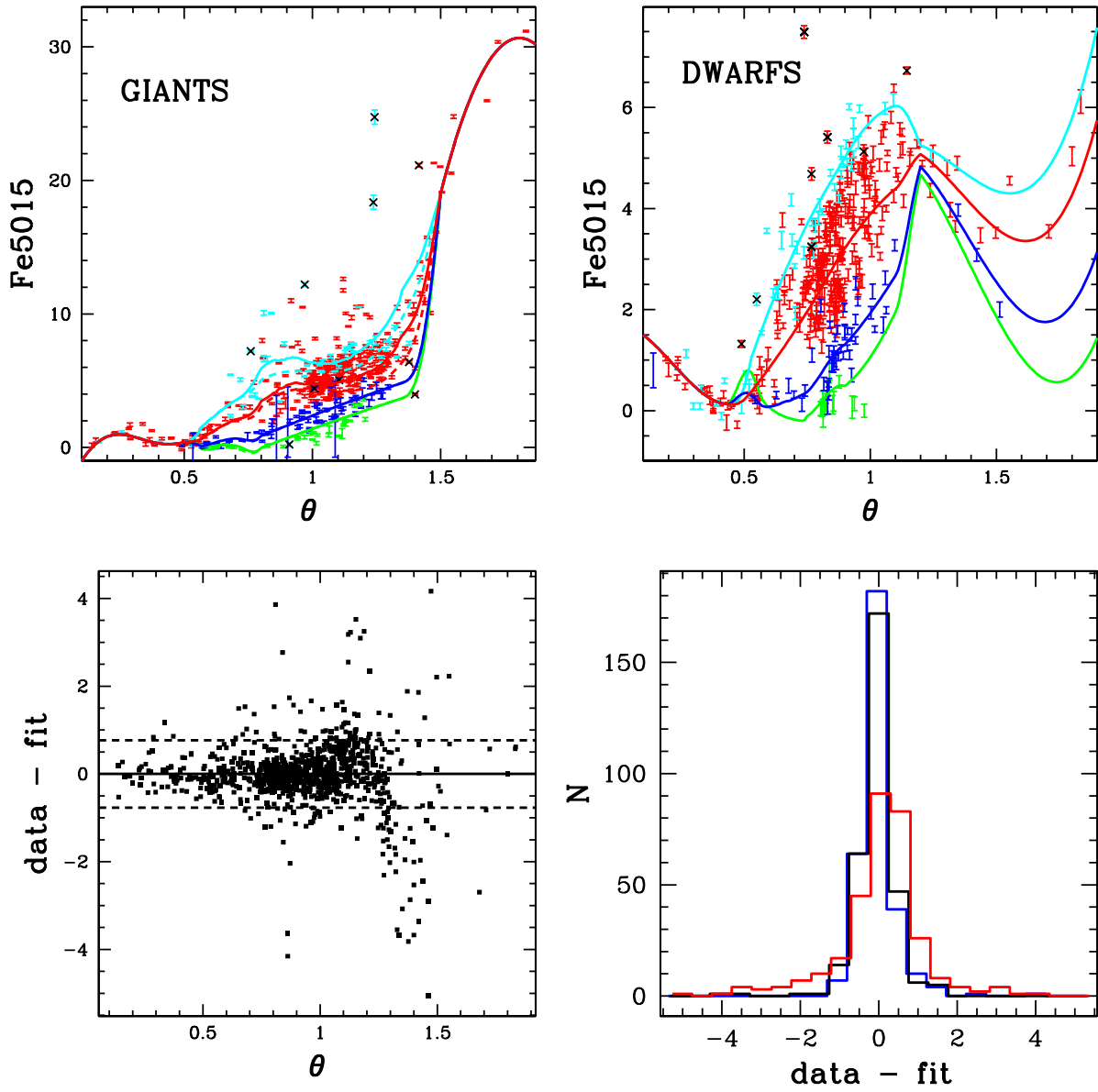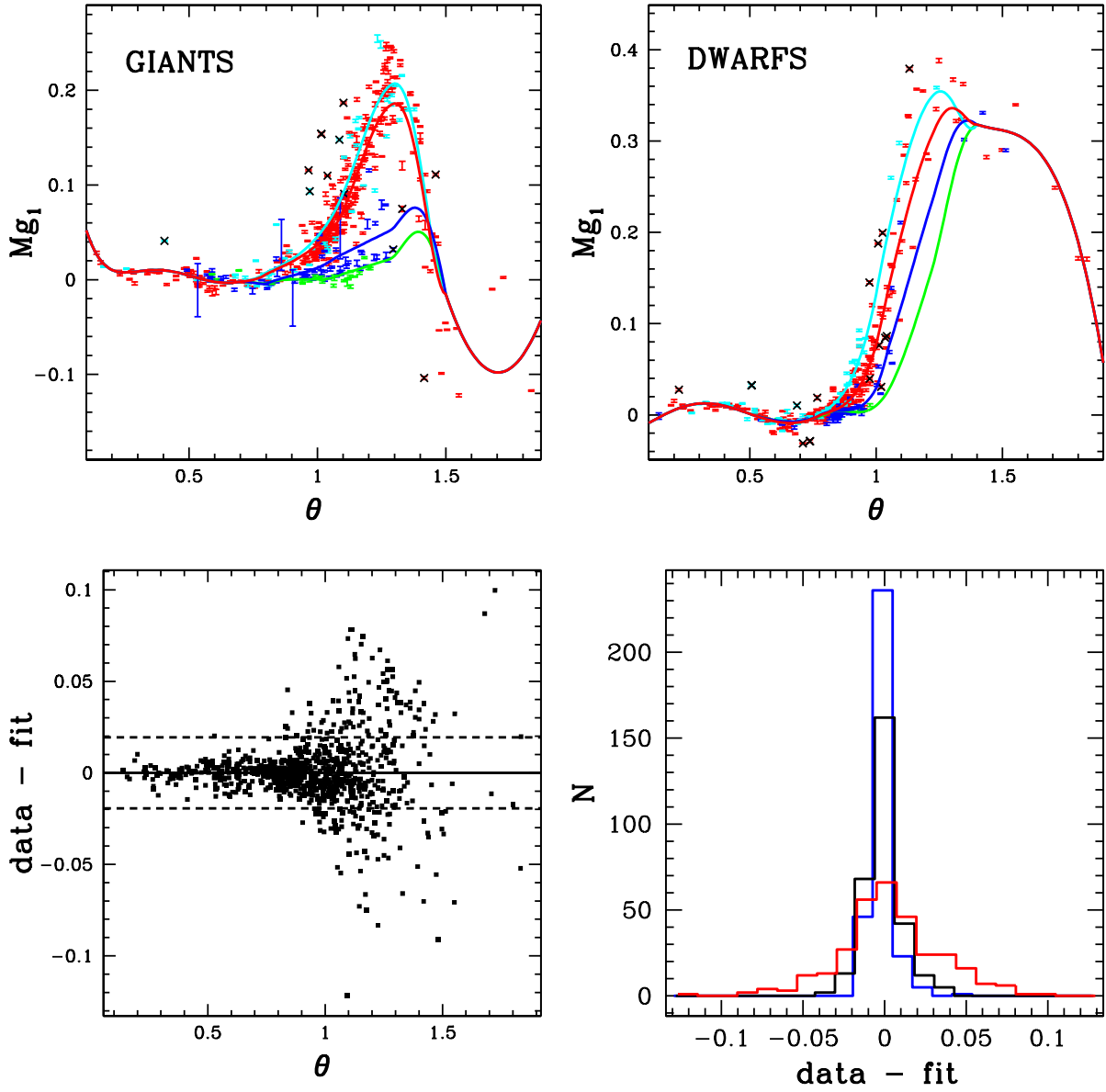**Figure A15.** Mg$_1$, same as Fig. 3.
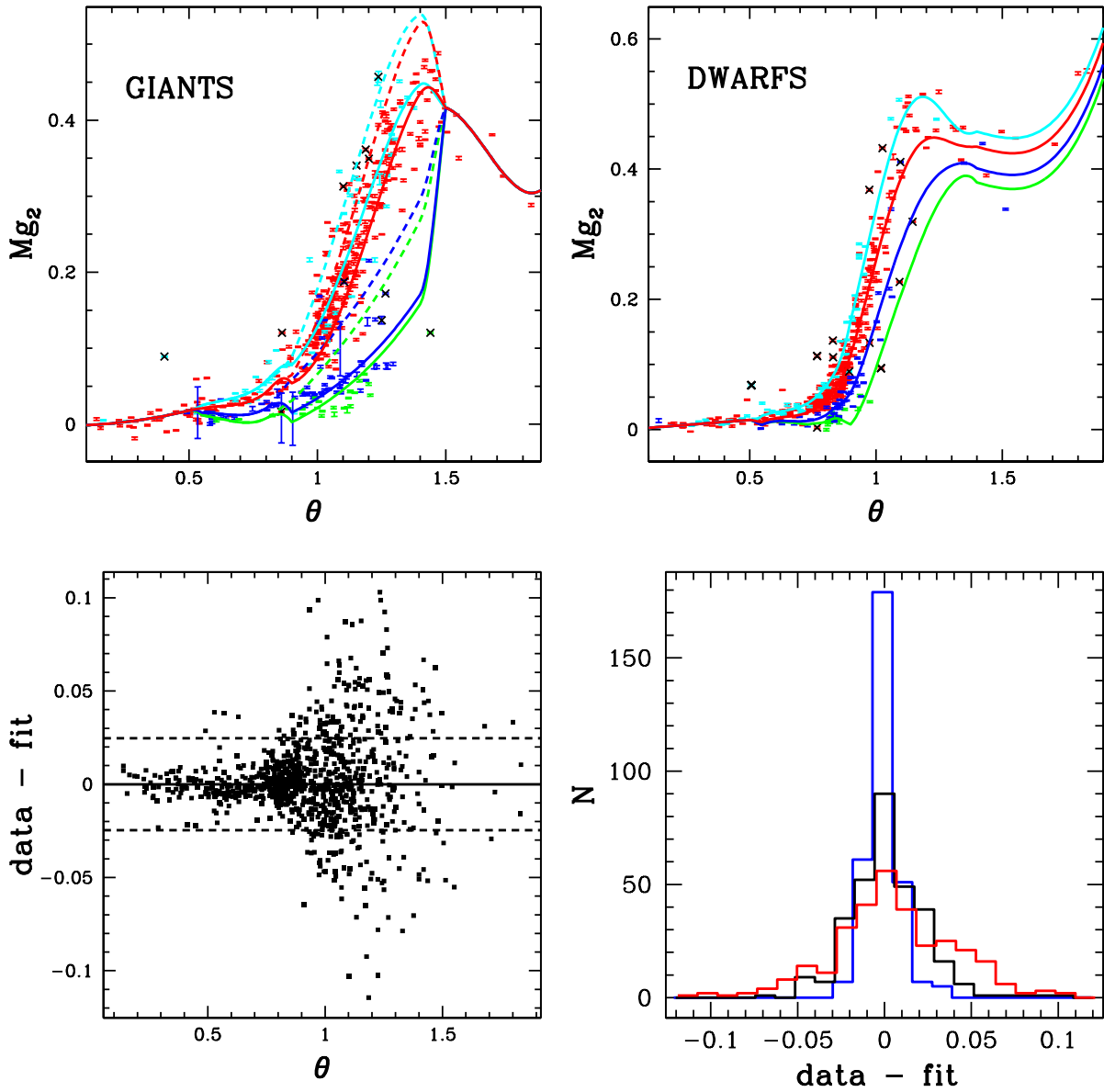
Figure A16. Mg$_2$, same as Fig. 3. Fixed log g-values of 1.5 (solid lines) and 3.3 (dashed lines) are used for showing the fitting functions of this index.

Figure A17. Mgb, same as Fig. 3. Fixed $\log g$-values of 1.5 (solid lines) and 3.3 (dashed lines) are used for showing the fitting functions of this index.
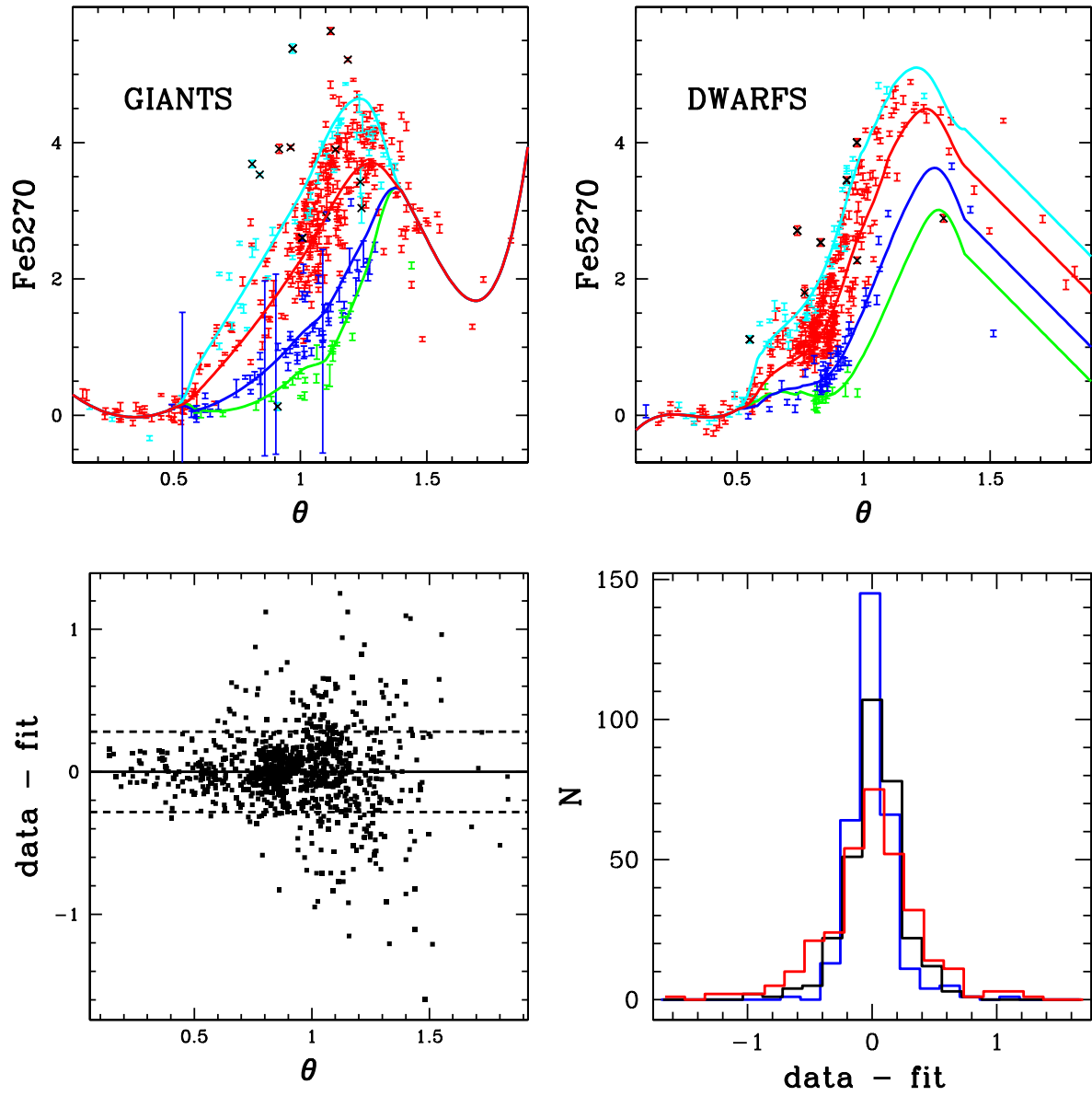
Figure A18. Fe5270, same as Fig. 3.
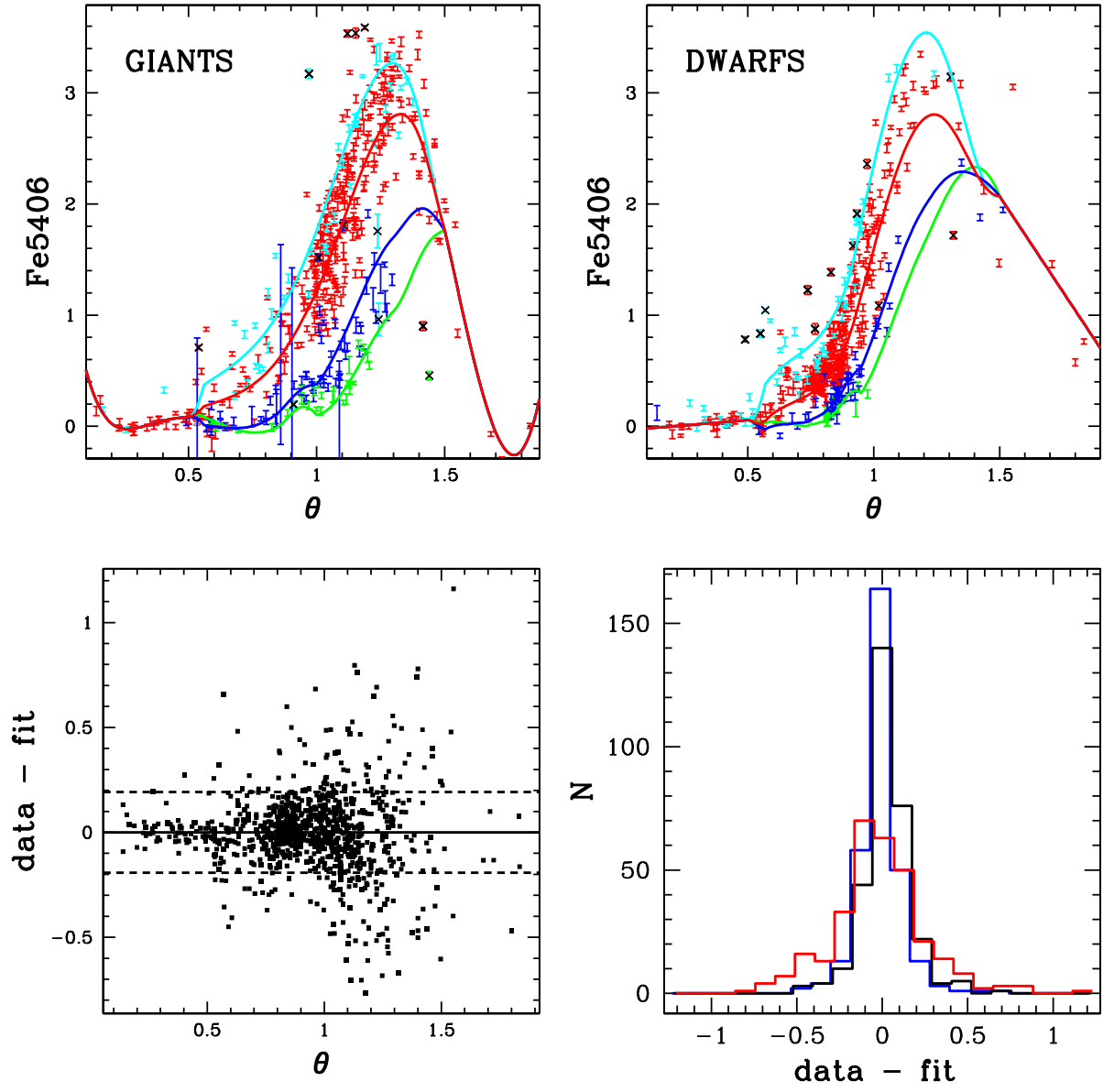
Figure A19. Fe5406, same as Fig. 3.
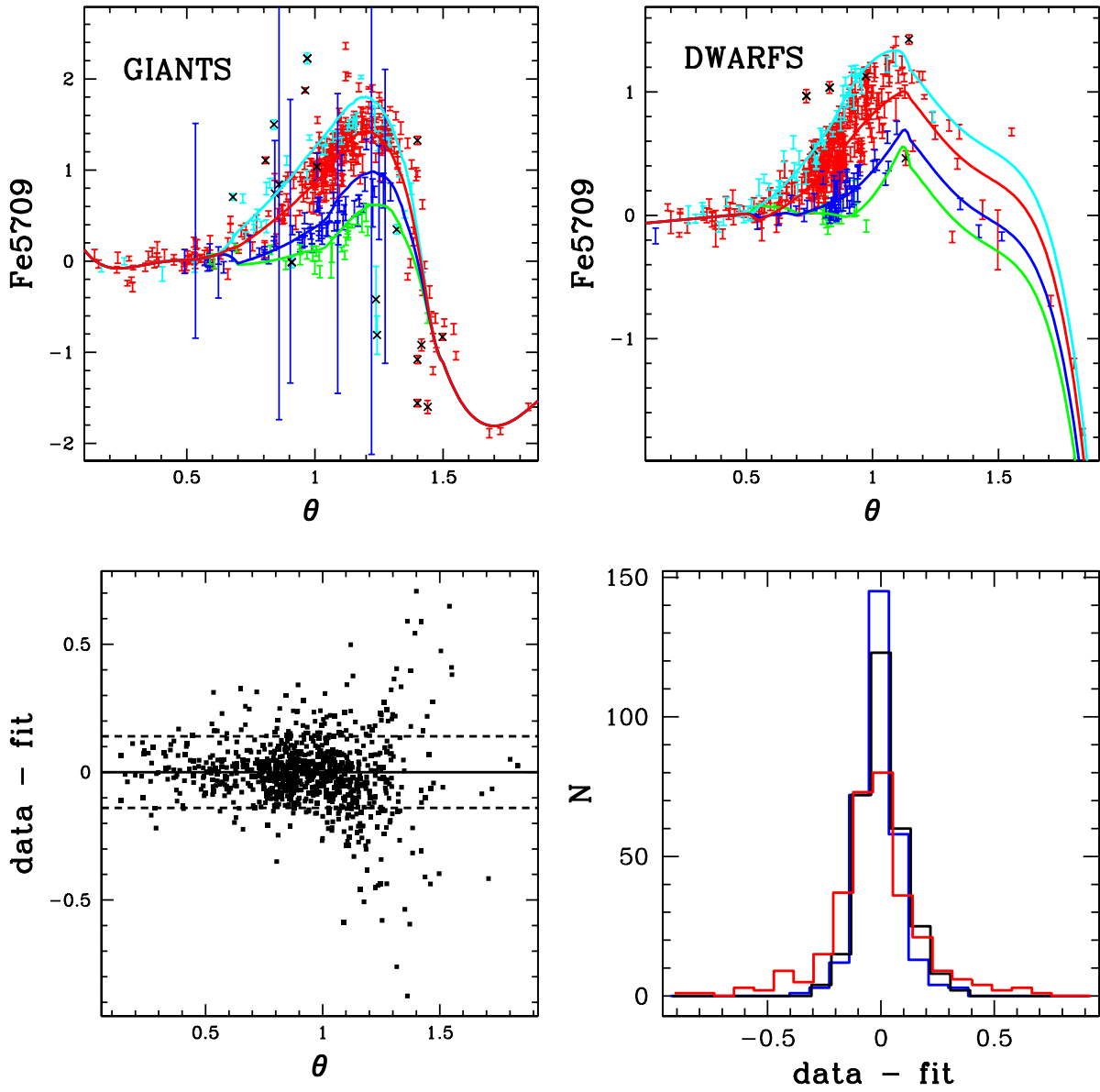
Figure A20. Fe5709, same as Fig. 3.
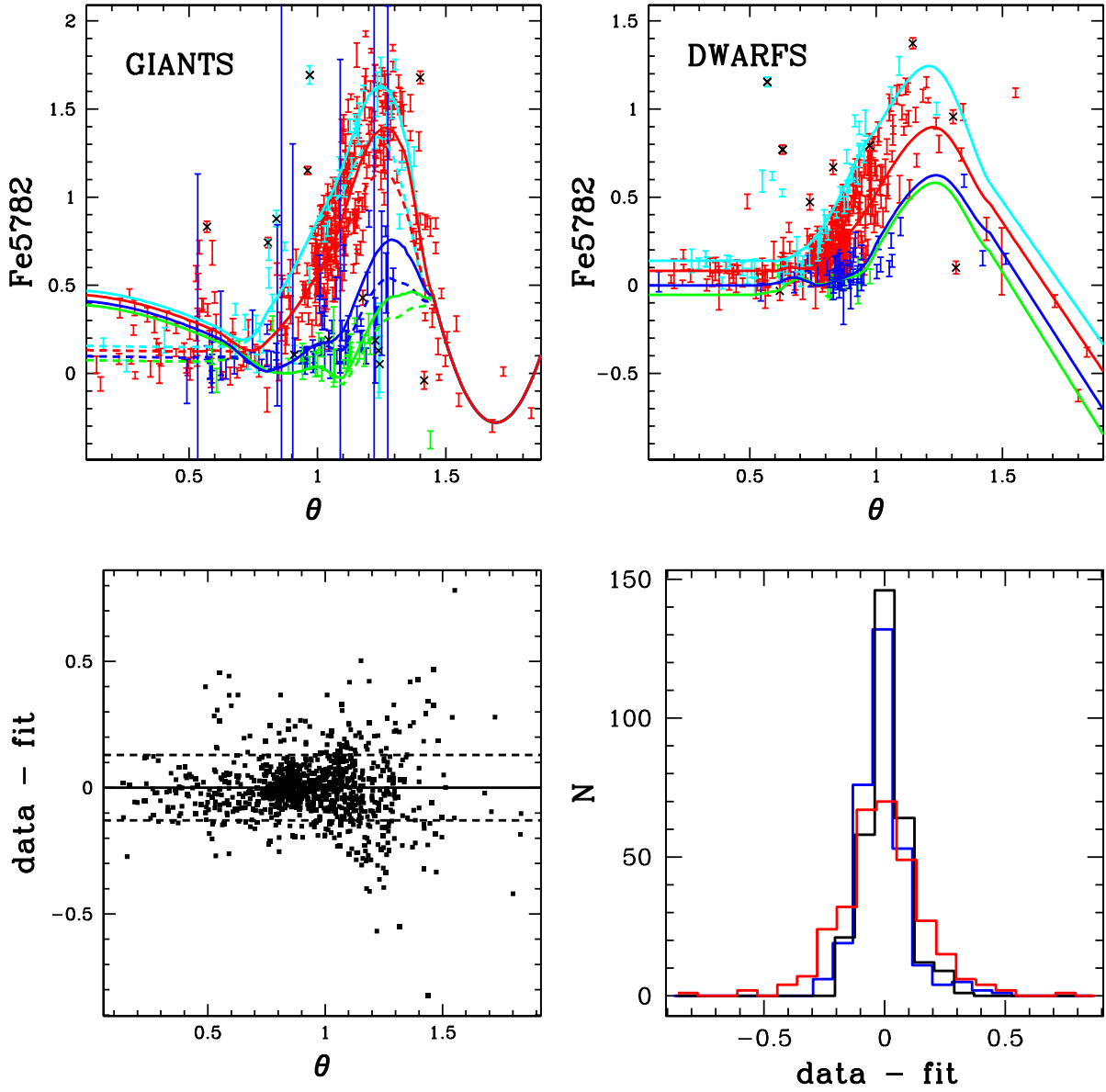
Figure A21. Fe5782, same as Fig. 3. Dashed-lines for additional $\log g$-value ($\log g = 3.3$) cover the data points in strong $\log g$-dependent regions.

Figure A22. NaD, same as Fig. 3. Dashed-lines for additional $\log g$-value ($\log g = 3.3$) cover the data points in strong $\log g$-dependent regions.

**Figure A23.** TiO_1, same as Fig. 3.

Figure A24. TiO$_2$, same as Fig. 3.

APPENDIX B: FITTING FUNCTIONS FOR *MILES* RESOLUTION

Table B1. *$H\delta_A$ fitting function coefficients for* MILES *resolution*

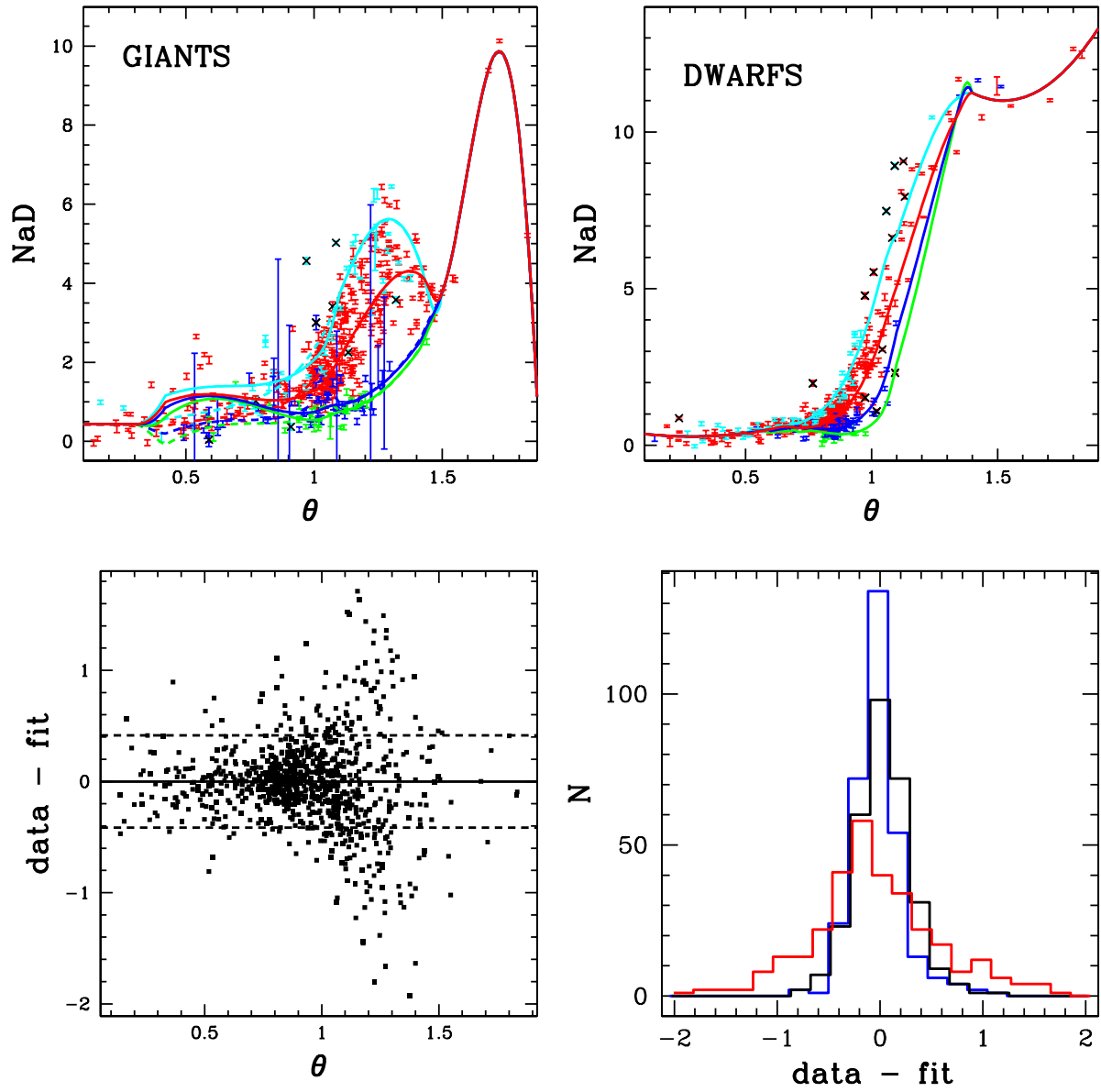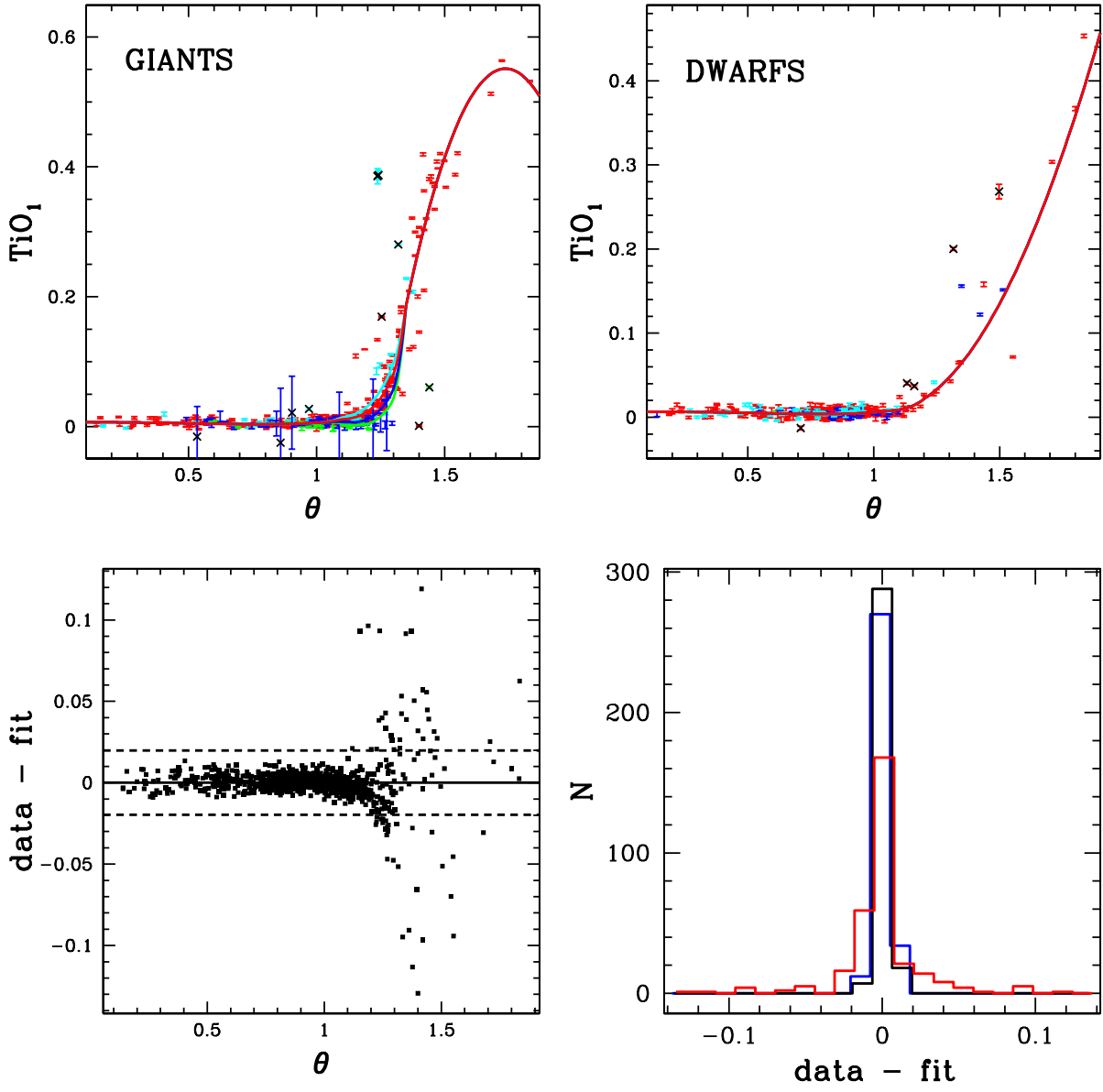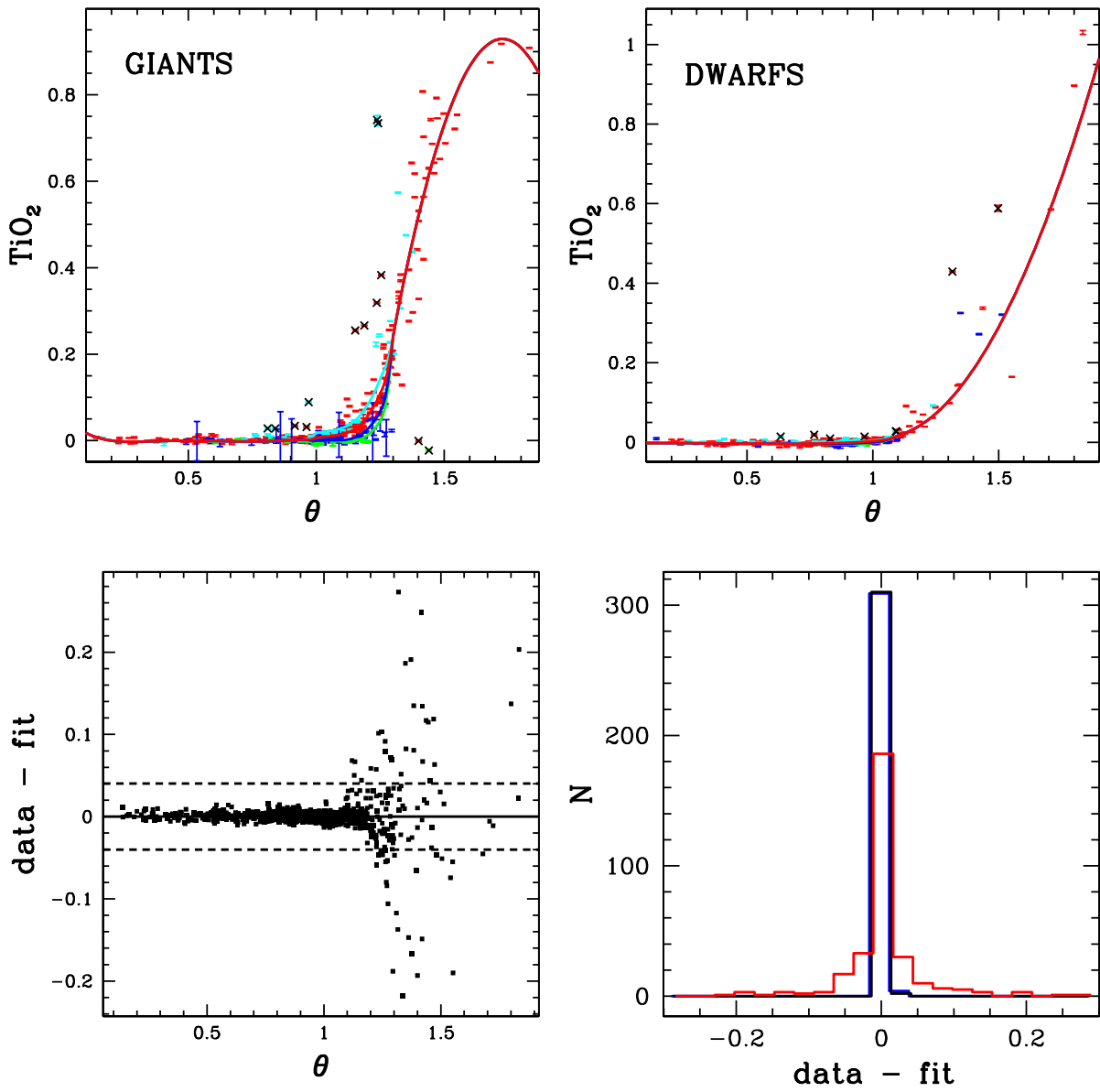|	overall rms=0.8009							
	$\log g \le 4.0$ and θ limits:				$\log g \ge 3.6$ and θ limits:			
Term	≤ 0.62	$0.53 - 1.1$	$0.90 - 1.4$	≥ 1.3	≤ 0.57	$0.50 - 0.90$	$0.80 - 1.2$	≥ 1.08
Const.	-8.002	-136.8	36.39	-127.4	-3.369	-134.7	-49.75	-41.96
θ	-12.19	487.8	-	23.06	16.05	596.3	297.8	42.42
[Fe/H]	-	-2.367	41.22	-	-	-13.31	31.61	-
$\log g$	-4.330	21.43	2.662	-	-	-	-0.5889	-
θ^2	-	-550.1	-88.27	103.1	13.26	-922.4	-423.0	-9.752
$[Fe/H]^2$	-	-	0.5080	-	-	-3.267	-	-
$\log g^2$	5.072	-	-	-	0.1957	-	-	-
$\theta[Fe/H]$	-	-	-78.94	-	-	31.04	-68.15	-
$\theta \log g$	-	-44.24	-6.149	-	0.2840	26.90	-	-
$[Fe/H]\log g$	-	0.2318	-	-	-	-	-	-
θ^3	273.0	195.6	48.49	49.23	-	448.91	175.3	-
$[Fe/H]^3$	-	0.5286	0.3213	-	-	-0.1733	-0.1461	-
$\log g^3$	-0.8813	-	-	-	-	-	-	-
$\theta^2[Fe/H]$	-	-	34.99	-	-	-20.90	33.01	-
$\theta^2 \log g$	-16.26	22.55	3.167	-	-	-17.20	-1.042	-
$\theta[Fe/H]^2$	-	1.297	-	-	-	2.919	-0.7101	-
$[Fe/H]^2 \log g$	-	-	-	-	-	0.02043	-	-
$\theta \log g^2$	2.150	-	-	-	-	-1.628	-	-
θ^4	-275.2	-	-	-108.1	-	-	-	-
θ^5	-	-	-	31.52	-	-	-	-
rms	1.033	1.076	0.8149	0.6510	0.8884	0.5558	0.5954	1.477
N	96	346	359	41	49	278	276	33

Table B2. *$H\delta_F$ fitting function coefficients for* MILES *resolution*

	overall rms=0.4849							
	$\log g \le 4.0$ and θ limits:				$\log g \ge 3.6$ and θ limits:			
Term	≤ 0.62	$0.55 - 1.2$	$0.95 - 1.5$	≥ 1.3	≤ 0.57	$0.50 - 0.90$	$0.80 - 1.2$	≥ 1.05
Const.	-19.73	-56.22	104.9	-18.47	10.88	1.340	41.44	160.8
θ	54.95	212.07	-251.3	25.02	-	10.75	-37.49	-310.5
[Fe/H]	-	-1.844	-1.246	-	-	-	-	-
$\log g$	-3.439	11.95	0.2702	-	-4.657	-	-2.928	-
θ^2	-	-243.9	194.4	-8.919	-	-	-27.77	28.71
$[Fe/H]^2$	-	0.04078	-	-	-	-	-	-
$\log g^2$	5.232	-	-	-	0.6447	-	-	-
$\theta \log g$	-12.69	-25.27	-	-	-	7.833	2.805	-
$[Fe/H]\log g$	-	-	0.1582	-	-	-	-0.4345	-
θ^3	-	86.70	-49.33	-	156.9	-	23.84	282.9
$[Fe/H]^3$	-	0.08802	0.02016	-	-	-	0.04928	-
$\log g^3$	-0.7691	-	-	-	-	0.05399	-	-
$\theta[Fe/H]\log g$	-	0.3039	-	-	-	-	-	-
$\theta^2 \log g$	8.888	13.56	-	-	-	-	-	-
$\theta \log g^2$	-	-	-	-	-	-1.431	-	-
$[Fe/H]\log g^2$	-	-	-	-	-	-0.03380	0.06221	-
θ^4	-57.49	-	-	-	-209.6	-121.6	-	-204.7
θ^5	-	-	-	-	-	99.91	-	42.47
rms	0.8182	0.6291	0.4157	0.3921	0.4971	0.2743	0.2801	0.6200
N	96	432	360	44	48	276	279	41

Table B3. CN_1 *fitting function coefficients for* MILES *resolution*

| | overall rms=0.03424 | | | | | | | | |
| | | log $g \leq 4.0$ and θ limits: | | | | | log $g \geq 3.6$ and θ limits: | | |
Term	≤ 0.61	$0.50-1.0$	$0.81-1.4$ [Fe/H]≤ -0.90	$0.81-1.4$ [Fe/H]≥ -1.0	≥ 1.25	≤ 0.66	$0.55-0.88$	$0.70-1.1$	≥ 1.05
Const.	0.2130	2.816	-0.5154	3.702	3.972	0.03812	23.35	-0.2255	1.318
θ	1.776	-9.605	0.5259	-14.56	-4.710	-	-124.3	-	-1.710
[Fe/H]	-	-	-0.1137	-3.980	-	-	-	-0.2403	-
log g	0.2918	-0.6031	-	-0.01892	-	-	-	-	-
θ^2	-5.529	10.04	-	17.40	1.361	-	228.5	-	0.5049
[Fe/H]^2	-	-	-	-	-	-	-	-0.2181	-
log g^2	-0.1517	-	-	-	-	-0.004595	-	-	-
θ[Fe/H]	-	-	0.1313	7.373	-	-	-	-	-
θ log g	-0.07220	1.412	-	-	-	-	-	-	-
[Fe/H]log g	-	0.04778	-	-	-	-	-	-	-
θ^3	4.5175	-3.014	-	-6.356	-	-3.221	-154.6	0.2873	-
[Fe/H]^3	-	-	-	-	-	-	-	0.01723	-
log g^3	0.02044	-	-	-	-	-	-	-	-
θ^2[Fe/H]	-	-	-	-3.235	-	-	-	0.4307	-
θ^2 log g	-	-0.8645	-	-	-	-	-	-	-
θ[Fe/H]^2	-	-	-	-	-	-	-	0.3354	-
[Fe/H]log g^2	-	-0.01111	-	-	-	-	-	-	-
θ^4	-	-	-	-	-	-	-	-	-
θ^5	-	-	-	-	-	6.048	27.35	-	-
rms	0.02314	0.03973	0.02348	0.05366	0.05584	0.02224	0.01453	0.01798	0.04294
N	93	238	97	345	83	71	239	334	40

Table B4. CN_2 *fitting function coefficients for* MILES *resolution*

| | overall rms=0.03507 | | | | | | | | |
| | | log $g \leq 4.0$ and θ limits: | | | | | log $g \geq 3.6$ and θ limits: | | |
Term	≤ 0.61	$0.50-1.0$	$0.81-1.4$ [Fe/H]≤ -0.90	$0.81-1.4$ [Fe/H]≥ -1.0	≥ 1.25	≤ 0.66	$0.55-0.88$	$0.70-1.1$	≥ 1.02
Const.	-0.3589	1.314	-0.2631	6.363	-6.356	-0.2934	2.572	-0.1572	0.5348
θ	2.103	-5.113	-	-21.60	16.07	3.996	-13.33	-	-0.3972
[Fe/H]	-	-	-0.1879	-3.909	-	-	0.01401	-0.2058	-
log g	0.2571	-0.1074	-	-0.02594	-	-	-	-	-
θ^2	-5.085	6.659	0.3069	23.63	-12.27	-10.34	20.60	-	-
[Fe/H]^2	-	-	-	-	-	-	-	-0.1759	-
log g^2	-0.1057	-	-	-	-	-	-	-	-
θ[Fe/H]	-	-0.1048	0.2088	7.295	-	-	-	-	-
θ log g	-0.1404	0.08776	-	-	-	-0.2734	-	-	-
[Fe/H]log g	-	0.03617	-	-	-	-	-	-	-
θ^3	3.976	-2.704	-	-8.155	2.933	7.672	-9.995	0.2468	-
[Fe/H]^3	-	-	-	-	-	-	-	0.01709	-
log g^3	0.01380	-	-	-	-	-	-	-	-
θ[Fe/H]log g	-	-0.05262	-	-	-	-	-	-	-
θ^2[Fe/H]	-	0.1999	-	-3.217	-	-	-	0.3863	-
θ^2 log g	-	-	-	-	-	0.3116	-	-	-
θ[Fe/H]^2	-	-	-	-	-	-	-	0.2863	-
rms	0.02220	0.03580	0.02815	0.05308	0.05288	0.02366	0.01235	0.01798	0.05986
N	93	236	97	345	82	71	239	335	50

Table B5. *Ca4227 fitting function coefficients for* MILES *resolution*

			overall rms=0.3712						
		$\log g \leq 4.0$ and θ limits:				$\log g \geq 3.6$ and θ limits:			
Term	≤ 0.80	$0.70-1.1$	$1.0-1.5$		≥ 1.3	≤ 0.80	$0.70-1.02$	$0.90-1.5$	≥ 1.21
			[Fe/H]≤ -0.90	[Fe/H]≥ -1.1					
Const.	-0.02785	-64.42	-4.325	241.2	1.470	0.3032	-70.00	637.8	6.838
θ	-	199.6	6.671	-635.5	-	-1.713	267.1	-2300	-
[Fe/H]	-	0.2709	-	-4.731	-	2.578	-1.398	0.5383	-
$\log g$	-	11.42	-	0.4027	-	-	-	-	-
θ^2	0.1037	-201.8	-	544.6	2.135	-0.1199	-339.6	3042	-
[Fe/H]^2	-	-	0.3349	-	-	-	-	-	-
$\log g^2$	-	-0.7955	-	-	-	-	-	-	-
θ[Fe/H]	0.2396	-	1.714	4.764	-	0.3676	2.031	-	-
$\theta \log g$	-	-23.65	-	-	-	-	-	-	-
θ^3	1.113	68.40	-	-150.5	-	-	145.1	-1748	-
[Fe/H]^3	-	-	-	-	-	-	-	0.02910	-
$\log g^3$	-	-	0.02696	-	-	-	-	-	-
$\theta^2 \log g$	-	11.14	-0.1912	-	-	-	-	-	-
$\theta \log g^2$	-	1.070	-	-	-	-	-	-	-
[Fe/H]$\log g^2$	-0.002364	-	-	-	-	-	-	-	-
θ^4	-	-	-	-	-	-	-	370.2	-
rms	0.1102	0.2546	0.3562	0.5753	1.051	0.09941	0.1703	0.5395	0.3809
N	151	290	59	275	44	147	310	126	16

Table B6. *G4300 fitting function coefficients for* MILES *resolution*

			overall rms=0.5702						
		$\log g \leq 4.0$ and θ limits:				$\log g \geq 3.6$ and θ limits:			
Term	≤ 0.57	$0.51-1.0$	$0.86-1.35$		≥ 1.1	≤ 0.57	$0.51-0.88$	$0.85-1.35$	≥ 1.15
Term			[Fe/H]≤ -0.90	[Fe/H]≥ -1.0					
Const.	0.5945	71.39	-29.93	0.9283	-34.07	2.652	19.87	-157.1	12.49
θ	-	-278.8	84.71	-16.92	77.72	-1.545	-92.55	434.0	-6.031
[Fe/H]	-	-	30.57	-	-	-	-	15.38	-
$\log g$	2.476	-5.172	-	-	-	-0.6807	-	-	-
θ^2	-	363.2	-47.59	44.78	-37.85	-5.104	100.6	-377.8	-
[Fe/H]^2	-	-	7.427	-	-	-	1.326	-3.466	-
$\log g^2$	-1.459	-	-	-	-	-	-	-	-
θ[Fe/H]	-	0.6308	-30.21	-	-	-	1.650	-29.74	0.6086
$\theta \log g$	-1.326	7.877	-	-	-	-	-	-	-
θ^3	-	-147.0	-	-22.02	-	-	-	107.4	-
[Fe/H]^3	-	-0.1509	-	-	-	-	-	-	-
$\log g^3$	0.2126	0.03238	-	-	-	-	-	-	-
θ^2[Fe/H]	-	-	-	-	-	-	-	14.59	-
$\theta^2 \log g$	-	-3.537	-	-	-	-	-	-	-
θ[Fe/H]^2	-	-0.9516	-7.986	-	-	-	-1.822	3.092	-
θ^4	-	-	-	-	-	-	-17.64	-	-
θ^5	-	-	-	-	0.9201	-	-	-	-
rms	0.3973	0.8110	0.6868	0.5858	0.7560	0.3491	0.3757	0.3820	0.6256
N	76	229	87	309	208	48	247	210	21

Table B7. *Hγ_A fitting function coefficients for* MILES *resolution*

| | **overall rms=0.9033** | | | | | | | |
| | $\log g \leq 4.0$ and θ limits: | | | | $\log g \geq 3.6$ and θ limits: | | | |
Term	≤ 0.62	$0.55 - 1.1$	$0.95 - 1.5$	≥ 1.3	≤ 0.57	$0.50 - 0.90$	$0.85 - 1.4$	≥ 1.15
Const.	-9.475	-152.7	54.65	640.3	2.923	-116.3	137.8	-68.17
θ	7.952	548.2	-58.07	-1372	-40.24	526.9	-266.1	76.29
[Fe/H]	-	-	2.262	-	-	-12.87	-	-
$\log g$	-7.477	22.60	-	-	-	-	-3.517	-
θ^2	-	-634.2	-32.71	946.4	136.0	-745.7	143.4	-22.61
[Fe/H]^2	-	-	0.4048	-	-	-	-	-
$\log g^2$	6.263	-	-0.1260	-	0.2483	-	-	-
θ[Fe/H]	-	-	-3.780	-	-	39.29	-2.307	-
$\theta \log g$	-1.101	-42.02	0.3577	-	-	12.91	2.815	-
[Fe/H]$\log g$	-	-	0.1708	-	-	-	-0.7831	-
θ^3	169.3	229.8	30.07	-212.1	-	346.6	-19.64	-
$\log g^3$	-0.9246	-0.08222	-	-	-	-	-	-
θ[Fe/H]$\log g$	-	-	-	-	-	-0.6399	0.8452	-
θ^2[Fe/H]	-	-1.830	-	-	-	-28.04	-	-
$\theta^2 \log g$	-	20.97	-	-	-	-17.52	-	-
θ[Fe/H]^2	-	0.4648	-	-	-	-	-	-
[Fe/H]$^2 \log g$	-	-0.07933	-	-	-	-	-	-
θ^4	-215.0	-	-	-	-139.0	-	-	-
rms	1.073	1.139	0.8524	1.170	0.7820	0.6525	0.6356	1.705
N	96	336	365	43	48	278	209	20

Table B8. *Hγ_F fitting function coefficients for* MILES *resolution*

| | **overall rms=0.4841** | | | | | | | |
| | $\log g \leq 4.0$ and θ limits: | | | | $\log g \geq 3.6$ and θ limits: | | | |
Term	≤ 0.62	$0.55 - 1.2$	$1.0 - 1.5$	≥ 1.3	≤ 0.57	$0.50 - 0.90$	$0.80 - 1.2$	≥ 1.1
Const.	-10.57	-101.8	157.6	-190.7	10.15	-45.50	91.25	136.1
θ	12.11	344.8	-357.4	341.2	-10.47	241.9	-152.0	-250.9
[Fe/H]	-	-	12.40	-	-	-	-1.126	-
$\log g$	-3.056	22.02	-1.168	-	-3.347	-	-4.584	-
θ^2	-	-372.2	264.9	-202.6	-	-312.8	58.8	8.312
[Fe/H]^2	-	0.1112	1.041	-	-	-	-	-
$\log g^2$	4.141	-1.436	-	-	0.4930	0.4002	-	-
θ[Fe/H]	-	-0.5689	-22.18	-	-	5.701	-	-
$\theta \log g$	-3.712	-37.78	-	-	-	-5.070	4.367	-
[Fe/H]$\log g$	-	-	-	-	-	-0.4037	-	-
θ^3	159.2	128.5	-64.91	39.31	220.1	126.7	-	227.7
$\log g^3$	-0.6296	-	-0.02131	-	-	-	-	-
θ^2[Fe/H]	-	-	9.479	-	-	-5.547	-	-
$\theta^2 \log g$	-	15.65	-	-	-	-	-	-
θ[Fe/H]^2	-	-	-0.8024	-	-	-	-	-
[Fe/H]$^2 \log g$	-	-	-	-	-	-	-0.04099	-
$\theta \log g^2$	-	1.327	0.2058	-	-	-	-	-
θ^4	-209.0	-	-	-	-284.8	-	-	-154.1
θ^5	-	-	-	-	-	-	-	30.31
rms	0.6925	0.5961	0.4471	0.5304	0.5016	0.3339	0.3516	0.3647
N	96	432	325	44	48	276	277	25

Table B9. *Fe4383 fitting function coefficients for* MILES *resolution*

| | overall rms=0.6286 | | | | | | | | |
| | log g ≤ 4.0 and θ limits: | | | | | log g ≥ 3.6 and θ limits: | | | |
Term	≤ 0.60	0.51 − 1.08	0.89 − 1.5 [Fe/H]≤ −0.75	[Fe/H]≥ −1.0	≥ 1.3	≤ 0.56	0.51 − 0.90	0.78 − 1.2	≥ 1.15
Const.	-0.004200	2.950	-16.03	14.48	-1586	2.034	41.14	92.02	22.18
θ	-	-	46.44	-	3214	-	-153.1	-354.8	-12.04
[Fe/H]	-	2.169	14.17	-77.57	-	-	9.599	-44.02	1.526
$\log g$	-	0.1784	-	-	-	-	-	-	-
θ^2	53.49	-	-18.43	-108.0	-2127	-7.755	201.2	427.6	-
$[\text{Fe/H}]^2$	-	-	6.324	5.957	-	-	-	-	-
$\log g^2$	0.05584	-0.1400	-	-	-	-0.1009	-	-	-
$\theta[\text{Fe/H}]$	-	-6.301	-	142.3	-	-	-30.97	89.91	-
$\theta \log g$	-2.152	-6.402	-	-	-	-	-7.144	-	-
$[\text{Fe/H}]\log g$	-	-	-	-	-	-	-	0.7415	-
θ^3	-158.2	2.918	-	160.3	459.5	-	-91.72	-163.4	-
$[\text{Fe/H}]^3$	-	-	1.005	-	-	-	-	-	-
$\theta[\text{Fe/H}]\log g$	-	-	-	-	-	-	0.6902	-	-
$\theta^2[\text{Fe/H}]$	-	6.152	-	-62.73	-	-	23.04	-45.70	-
$\theta^2 \log g$	-	5.019	-	-	-	-	9.331	1.268	-
$\theta[\text{Fe/H}]^2$	-	-	-	-6.350	-	-	-	-	-
$\theta \log g^2$	-	0.4748	-	-	-	-	-	-	-
$[\text{Fe/H}]^2 \log g$	-	-	-	-	-	-	0.1121	0.1088	-
θ^4	133.85	-	-	-61.54	-	-	-	-	-
rms	0.4207	0.6138	0.6633	0.7948	1.344	0.4218	0.3203	0.3695	1.531
N	91	335	89	321	44	45	277	299	21

Table B10. *Ca4455 fitting function coefficients for* MILES *resolution*

| | overall rms=0.2288 | | | | | | | |
| | log g ≤ 4.0 and θ limits: | | | | log g ≥ 3.6 and θ limits: | | | |
Term	≤ 0.59	0.51 − 1.08	1.0 − 1.5	≥ 1.45	≤ 0.56	0.51 − 1.0	0.9 − 1.35	≥ 1.1
Const.	-1.267	-0.6277	1.895	-496.8	-2.123	-9.446	-7.146	4.248
θ	24.27	-	-	911.3	32.54	36.99	-	-1.359
[Fe/H]	-	-0.2721	1.184	-	-	1.159	-10.24	-
$\log g$	-	-	-0.3074	-	-	-	-	-
θ^2	-82.01	2.687	-	-551.3	-107.3	-49.19	20.61	-
$[\text{Fe/H}]^2$	-	0.1493	-	-	-	0.4143	1.908	-
$\theta[\text{Fe/H}]$	-	1.384	-	-	-	-2.923	24.01	-
$\theta \log g$	-	-0.08608	-	-	-	-	-	-
$[\text{Fe/H}]\log g$	-	-	-0.1513	-	-	-	-	-
θ^3	75.81	-	0.9027	111.1	100.0	23.64	-11.46	-
$[\text{Fe/H}]^3$	-	-	-0.1387	-	-	0.1109	-	-
$\theta^2[\text{Fe/H}]$	-	-	-	-	-	3.206	-12.52	0.2318
$\theta[\text{Fe/H}]^2$	-	-	-0.3254	-	-	-	-1.707	-
$[\text{Fe/H}]\log g^2$	-	-0.007551	-	-	-	-	-	-
$\theta^2[\text{Fe/H}]^3$	-	-	-	-	-	-0.05722	-	-
rms	0.1553	0.2226	0.3028	0.1877	0.1652	0.1207	0.2301	0.3782
N	85	339	328	13	45	348	124	29

Table B11. *Fe4531 fitting function coefficients for* MILES *resolution*

| | overall rms=0.3946 | | | | | | | |
| | log g ≤ 4.0 and θ limits: | | | | log g ≥ 3.6 and θ limits: | | | |
Term	≤ 0.55	0.45 − 1.05	0.9 − 1.45	≥ 1.4	≤ 0.57	0.51 − 0.82	0.80 − 1.4	≥ 1.1
Const.	0.7553	0.1724	8.362	23.54	-0.05406	-45.11	6.5052	-15.42
θ	-7.126	-17.32	-	-12.75	-	194.1	-	32.82
[Fe/H]	-	-	-	-	-	-	-6.446	0.9014
$\log g$	0.05548	-	-8.235	-	-	-	-	-
θ^2	12.69	58.90	-	-	-	-273.1	-18.94	-12.71
$[Fe/H]^2$	-	-	-0.5819	-	-	0.4087	-	-
$\log g^2$	-	0.4170	1.678	-	-	-	-	-
$\theta[Fe/H]$	-	6.179	0.9238	-	-	1.992	16.34	-
$\theta \log g$	-	-5.113	4.959	-	-	-	-	-
$[Fe/H]\log g$	-	-0.9076	-0.1252	-	-	-	-	-
θ^3	-	-	-0.6952	-	-	131.4	-	-
$[Fe/H]^3$	-	-	-0.1123	-	-	-	-0.08622	-
$\log g^3$	-	-	-0.08304	-	-	-	-	-
$\theta^2[Fe/H]$	-	-3.441	-	-	1.018	-	-8.574	-
$\theta^2 \log g$	-	3.945	-	-	-	-	-	-
$\theta[Fe/H]^2$	-	-	-	-	-	-0.2327	-0.1929	-
$\theta \log g^2$	-	-0.2891	-0.7840	-	-	-	-	-
$[Fe/H]\log g^2$	-	0.1285	-	-	-	-	-	-
θ^4	-	-77.79	-	-	8.048	-	34.33	-
θ^5	-	42.10	-	-	-	-	-17.93	-
rms	0.1855	0.4337	0.4199	1.165	0.1704	0.2485	0.2119	0.6367
N	71	312	382	25	48	150	286	29

Table B12. C_24668 *fitting function coefficients for* MILES *resolution*

| | overall rms=0.9644 | | | | | | | |
| | log g ≤ 4.0 and θ limits: | | | | log g ≥ 3.6 and θ limits: | | | |
	≤ 0.70	0.60 − 0.90	0.75 − 1.5	≥ 1.35	≤ 0.70	0.50 − 0.99	0.95 − 1.4	≥ 1.22
Const.	-18.44	-85.97	430.0	-2359	1.519	15.82	-169.1	81.20
θ	251.6	368.0	-1807	4247	-	-57.99	483.4	-120.0
[Fe/H]	-	8.260	-35.27	-	-	4.068	41.39	-
θ^2	-1203	-531.3	2774	-2522	-24.83	52.24	-437.5	45.30
$[Fe/H]^2$	-	-0.8072	0.1034	-	-	-2.334	7.347	-
$\theta[Fe/H]$	-	-28.81	72.42	-	-	-21.81	-50.25	-
θ^3	2665	260.0	-1842	499.5	33.07	-	128.3	-
$[Fe/H]^3$	-	-	-0.2820	-	-	0.5855	-	-
$\theta^2[Fe/H]$	-	26.37	-32.78	-	-	26.27	14.20	-
$\theta[Fe/H]^2$	-	1.718	-	-	-	6.085	-5.821	-
θ^4	-2844	-	450.2	-	-	-	-	-
θ^5	1200	-	-	-	-	-3.491	-	-
rms	0.6032	0.6032	1.174	3.714	0.4477	0.4635	1.241	1.909
N	121	133	477	33	79	341	86	16

Table B13. *Hβ fitting function coefficients for* MILES *resolution*

	overall rms=0.3579							
	$\log g \le 4.0$ and θ limits:				$\log g \ge 3.6$ and θ limits:			
Term	≤ 0.65	$0.61-1.15$	$1.0-1.4$	≥ 1.21	≤ 0.65	$0.54-1.0$	$0.8-1.2$	≥ 1.08
Const.	-16.82	44.51	-131.4	1046	3.094	-0.6367	94.54	143.6
θ	-80.85	-99.21	352.8	-1703	-7.720	78.09	-261.3	-294.4
[Fe/H]	-	-1.030	0.5176	-	-	-0.3576	0.1242	-
$\log g$	11.16	0.6827	1.237	-	-	-	-	-
θ^2	317.0	77.67	-306.6	-125.4	-	-147.3	255.3	195.0
$\log g^2$	-	-	-	-	-	-	-0.04017	-
θ[Fe/H]	-	2.720	-	-	-	0.5569	-	-
$\theta \log g$	-6.196	-0.9654	-1.513	-	-	-	-	-
[Fe/H]$\log g$	-	-	-0.1002	-	-	-	-	-
θ^3	-214.7	-20.26	87.77	1645	275.0	72.59	-86.35	-41.63
$\log g^3$	-0.3262	-	-	-	-	-	-	-
θ^2[Fe/H]	-	-1.203	-	-	-	-	-	-
$\theta^2 \log g$	-22.60	-	-	-	-11.70	-	-	-
[Fe/H]$^2 \log g$	-	0.04200	-	-	-	-	-	-
$\theta \log g^2$	3.117	-	-	-	0.7397	-0.05140	-	-
θ^4	-	-	-	-1041	-303.6	-	-	-
θ^5	-	-	-	199.2	-	-	-	-
rms	0.6200	0.2925	0.2307	0.4137	0.4893	0.2396	0.2359	0.7234
N	123	372	305	103	68	342	276	33

Table B14. *Fe5015 fitting function coefficients for* MILES *resolution*

	overall rms=0.8387								
	$\log g \le 4.0$ and θ limits:					$\log g \ge 3.6$ and θ limits:			
	≤ 0.57	$0.50-0.80$	$0.70-1.5$		≥ 1.35	≤ 0.53	$0.43-0.90$	$0.75-1.2$	≥ 1.1
Term			[Fe/H]≤ -1.05	[Fe/H]≥ -1.1					
Const.	-4.564	28.33	-9.887	-102.8	-376.4	1.664	-6.022	-4.520	-41.55
θ	40.68	-174.6	19.50	331.3	454.4	-	13.63	-	117.2
[Fe/H]	-	-2.763	0.6823	28.16	-	-	-9.427	-16.64	-
$\log g$	-	-	-	-3.619	-	-	-	-	-
θ^2	-	330.3	-5.308	-318.6	-126.7	-25.55	-1.785	23.52	-92.28
[Fe/H]^2	-	0.2873	-	-	-	-	0.5453	0.4234	-
$\log g^2$	-	-	-	0.8683	-	-	-	-	-
θ[Fe/H]	-	6.918	-	-49.57	-	-	28.03	40.90	-2.129
[Fe/H]$\log g$	-	-	-	0.7114	-	-	-	-	-
θ^3	-584.2	-188.6	-	102.0	-	39.07	-	-13.30	23.11
$\log g^3$	-	-	-	-0.09803	-	-	-	-	-
θ^2[Fe/H]	-	-	-	24.09	-	-	-15.85	-21.15	2.016
θ[Fe/H]^2	-	-	0.3190	-	-	-	-	0.02827	-
[Fe/H]$\log g^2$	-	0.01430	-	-0.2659	-	-	-	-	-
θ^4	1371	-	-	-	-	-	-	-	-
θ^5	-901.6	-	-	-	-	-	-	-	-
rms	0.4316	0.6036	0.4654	1.212	2.974	0.2685	0.3803	0.3423	0.6706
N	76	100	91	409	33	36	287	324	29

Table B15. *Mg$_1$ fitting function coefficients for* MILES *resolution*

| | overall rms=0.01942 | | | | | | | | |
| | log $g \leq 4.0$ and θ limits: | | | | | log $g \geq 3.6$ and θ limits: | | | |
Term	≤ 0.80	$0.70-1.1$	$1.0-1.5$ [Fe/H]≤ -1.0	[Fe/H]≥ -1.1	≥ 1.28	≤ 0.80	$0.75-1.05$	$0.97-1.4$	≥ 1.22
Const.	0.2584	-0.6769	0.1513	18.98	5.700	-0.01749	-4.065	-0.08262	8.576
θ	-3.218	2.246	0.1068	-50.44	-6.851	-	15.12	-3.775	-16.79
[Fe/H]	-	0.08222	0.2835	-	-	-	0.6151	-2.166	-
θ^2	15.37	-2.576	-	44.25	2.031	1.401	-18.90	6.670	11.43
[Fe/H]^2	-	-	0.1402	-	-	-	-0.05229	0.2437	-
θ[Fe/H]	-	-0.1991	0.04435	0.01950	-	-	-1.657	4.251	-
θ^3	-34.06	1.050	-	-12.73	-	-5.244	7.950	-2.705	-2.604
[Fe/H]^3	-	-0.003712	0.02005	-	-	-	0.002163	0.01660	-
θ^2[Fe/H]	-	0.1286	-	-	-	-	1.119	-1.978	-
θ[Fe/H]^2	-	-0.01122	-	-	-	-	0.07348	-0.1803	-
θ^4	35.17	-	-	-	-	6.458	-	-	-
θ^5	-13.68	-	-	-	-	-2.547	-	-	-
rms	0.006250	0.01294	0.01314	0.02768	0.05446	0.004532	0.008322	0.04121	0.02372
N	152	291	53	275	57	146	295	70	16

Table B16. *Mg$_2$ fitting function coefficients for* MILES *resolution*

| | overall rms=0.02607 | | | | | | | | |
| | log $g \leq 4.0$ and θ limits: | | | | | log $g \geq 3.6$ and θ limits: | | | |
Term	≤ 0.55	$0.50-0.90$	$0.80-1.5$ [Fe/H]≤ -1.2	[Fe/H]≥ -1.3	≥ 1.4	≤ 0.55	$0.50-0.90$	$0.8-1.4$	≥ 1.1
Const.	-0.002917	-0.003019	-0.01846	0.8543	-8.701	0.000688	-0.7370	41.61	-1.389
θ	-	-	-	-	16.35	0.02876	3.672	-158.2	4.780
[Fe/H]	-	-0.03795	-	-0.7066	-	-	0.1621	-1.004	0.02558
log g	-	-	-	-0.4915	-	-	-	-	-
θ^2	0.08533	0.4175	-	-2.259	-9.577	-	-6.045	219.9	-3.941
[Fe/H]^2	-	-	-	-	-	-	0.005216	0.03243	-
θ[Fe/H]	-	0.07552	-	1.363	-	-	-0.5089	2.075	-
θ log g	-	-	-	0.7938	-	-	-	-	-
θ^3	-	-0.7579	-	-	1.817	-	3.373	-132.2	1.042
[Fe/H]^3	-	-	-	-	-	-	-	0.01147	-
log g^3	-	-	-0.002528	0.005149	-	-	-	-	-
θ^2[Fe/H]	-	-	-	-0.6060	-	-	0.4357	-0.9749	-
θ^2 log g	-	-	-	-0.2836	-	-	-	-	-
[Fe/H]^2 log g	-	-	-0.005409	-	-	-	-	-	-
θ log g^2	-	-	0.01829	-0.01832	-	-	-	-	-
θ^4	-	-	0.04529	2.721	-	-	-	29.15	-
θ^5	-	0.5343	-	-1.207	-	-	-	-	-
rms	0.009909	0.01197	0.02528	0.03350	0.03775	0.008151	0.01048	0.02615	0.03385
N	71	175	71	396	24	43	275	284	28

Table B17. *Mgb fitting function coefficients for* MILES *resolution*

	overall rms=0.4747								
		log $g \leq 4.0$ and θ limits:					log $g \geq 3.6$ and θ limits:		
	≤ 0.70	$0.55 - 1.15$	$0.80 - 1.4$		≥ 1.3	≤ 0.70	$0.56 - 0.90$	$0.8 - 1.3$	≥ 1.1
Term			[Fe/H]≤ -1.0	[Fe/H]≥ -1.3					
Const.	0.1068	14.31	-6.132	-6.776	-59.64	0.9563	-28.29	1093	9.265
θ	-2.059	-31.01	5.606	-	-	-12.67	138.6	-4177	-
[Fe/H]	-	6.083	-2.712	0.5262	-	-	-2.778	-30.24	0.3947
log g	-	-1.517	-	0.9073	-	-	-	-	-
θ^2	-	16.73	-	9.517	75.36	47.26	-226.8	5581	-
[Fe/H]^2	-	-	-	-	-	-	-	0.9899	-
θ[Fe/H]	-	-13.67	-	-	-	-	4.048	64.39	-
[Fe/H]log g	-	-1.225	1.147	-	-	-	-	-	-
θ^3	21.02	-	-	-2.789	-29.34	-67.36	127.3	-2745	-
log g^3	-	-	-0.1025	-	-	-	-	-	-
θ[Fe/H]log g	-	1.322	-	-	-	-	-	-	-
θ^2[Fe/H]	-	7.438	1.411	-	-	-	-	-32.85	-
θ^2 log g	-	1.795	-	-	-	-	-	-	-
θ[Fe/H]^2	-	-	-	-	-	-	-	-1.190	-
θ log g^2	-	0.2062	0.7258	-	-	-	-	-	-
[Fe/H]log g^2	-	0.06629	-0.1350	-	-	-	-	-	-
θ^4	-23.22	-	-	-	-	35.52	-	-	-5.356
θ^5	-	-	-	-	-	-	-4.153	253.3	2.894
rms	0.2003	0.4151	0.3624	0.5955	1.198	0.1618	0.2759	0.4813	0.7151
N	122	398	91	376	43	79	266	279	29

Table B18. *Fe5270 fitting function coefficients for* MILES *resolution*

| | **overall rms=0.3255** | | | | | | | |
| | | log $g \leq 4.0$ and θ limits: | | | | log $g \geq 3.6$ and θ limits: | | |
Term	≤ 0.58	$0.50 - 1.1$	$0.95 - 1.4$	≥ 1.25	≤ 0.58	$0.50 - 1.0$	$0.90 - 1.5$	≥ 1.2
Const.	0.6742	-2.410	111.1	-30.85	-0.8970	-76.12	0.2437	10.55
θ	-3.978	4.714	-315.5	44.16	9.174	382.2	-	-4.386
[Fe/H]	-	-1.892	-23.45	-	-	3.002	-9.475	0.7294
log g	-	-	-	-	-	-	-0.4613	-
θ^2	5.520	-	300.3	-	-29.76	-699.8	-20.38	-
[Fe/H]^2	-	0.1831	0.1291	-	-	0.4046	1.333	-
log g^2	-	-	-	-	-	-	0.1220	-
θ[Fe/H]	-	5.397	44.76	-	-	-8.017	20.36	-
[Fe/H]$logg$	-	-	-	-	-	-	0.3389	-
θ^3	-	0.8036	-92.79	-	30.53	554.9	43.21	-
[Fe/H]^3	-	-	-	-	-	0.05142	-	-
θ^2[Fe/H]	-	-1.963	-19.86	-	-	7.214	-10.71	-
θ[Fe/H]^2	-	-	-	-	-	-	-1.204	-
θ^4	-	-	-	-16.45	-	-157.0	-19.60	-
θ^5	-	-	-	6.689	-	-	-	-
rms	0.1312	0.3234	0.4217	0.6946	0.1203	0.1854	0.2483	0.6955
N	81	359	349	84	50	350	290	17

Table B19. Fe5335 fitting function coefficients for *MILES* resolution

	overall rms=0.3435						
	$\log g \leq 4.0$ and θ limits:				$\log g \geq 3.6$ and θ limits:		
Term	≤ 0.58	$0.50 - 1.1$	$0.95 - 1.5$	≥ 1.2	≤ 0.58	$0.50 - 1.0$	$0.85 - 1.4$	≥ 1.2
Const.	-0.09465	-1.061	140.9	-270.2	-0.4020	-85.59	51.53	11.42
θ	0.6876	1.275	-387.6	583.4	5.270	444.9	-178.9	-5.072
[Fe/H]	-	-0.7830	-	-	-	2.490	-14.70	0.7751
$\log g$	-	-	-	-	-	-	0.4092	-
θ^2	-	2.823	356.0	-405.0	-16.96	-846.2	197.0	-
[Fe/H]^2	-	-	-	-	-	-	1.718	-
θ[Fe/H]	-	2.268	1.386	-	-	-7.239	32.97	-
θ^3	-	-	-106.3	91.50	17.89	701.2	-67.70	-
[Fe/H]^3	-	-0.07740	-0.1217	-	-	-	-	-
θ^2[Fe/H]	-	-	-	-	-	6.858	-16.44	-
θ[Fe/H]^2	-	-	-0.1642	-	-	0.3244	-1.477	-
θ^4	-	-	-	-	-	-210.7	-	-
rms	0.1261	0.2923	0.4535	1.087	0.1054	0.1706	0.2311	0.9290
N	81	359	367	114	51	350	209	17

Table B20. *Fe5406 Fitting function coefficients for* MILES *resolution*

	overall rms=0.2224						
	$\log g \leq 4.0$ and θ limits:				$\log g \geq 3.6$ and θ limits:		
Term	≤ 0.56	$0.50 - 1.0$	$0.85 - 1.5$	≥ 1.3	≤ 0.57	$0.50 - 0.95$	$0.86 - 1.5$	≥ 1.2
Const.	2.927	-4.768	8.565	-202.5	-0.03174	-15.72	140.8	7.870
θ	-32.23	21.76	-	419.4	0.1975	67.77	-521.0	-3.602
[Fe/H]	-	-0.2207	-8.025	-	-	-	-11.56	-
θ^2	126.8	-31.66	-53.50	-279.5	-	-96.37	694.1	-
[Fe/H]^2	-	-	0.5797	-	-	0.3458	0.1907	-
θ[Fe/H]	-	1.055	15.98	-	-	0.9593	23.30	-
θ^3	-212.2	16.34	72.38	60.56	-	46.53	-390.3	-
[Fe/H]^3	-	-0.05446	-0.1388	-	-	0.05529	-	-
θ^2[Fe/H]	-	-	-7.051	-	-	-	-10.53	-
θ[Fe/H]^2	-	-	-0.8017	-	-	-	-	-
θ^4	130.2	-	-25.78	-	-	-	78.59	-
rms	0.1111	0.2111	0.2709	0.4732	0.08984	0.1310	0.1732	0.5269
N	72	237	422	44	47	316	191	17

Table B21. *Fe5709 fitting functions coefficients for MILES resolution*

| | fe5709 overall rms=0.1602 | | | | | | | |
| | $\log g \leq 4.0$ and θ limits: | | | | $\log g \geq 3.6$ and θ limits: | | | |
Term	≤ 0.7	$0.6 - 1.1$	$0.9 - 1.5$	≥ 1.35	≤ 0.55	$0.5 - 0.9$	$0.8 - 1.15$	≥ 1.1
Const.	0.7024	-0.6460	59.16	275.6	-0.06815	-0.2309	-2.591	15.55
θ	-9.075	-	-172.3	-483.9	0.1665	-	-	-15.22
[Fe/H]	-	-0.6068	-7.889	-	-	-	-7.364	0.4104
$\log g$	-	-	-0.1985	-	-	-	-	-
θ^2	37.69	1.826	168.9	281.1	-	-	8.818	-10.80
$[Fe/H]^2$	-	-	-	-	-	0.1162	0.1059	-
$\theta[Fe/H]$	-	1.248	15.14	-	-	-0.2359	16.33	-
θ^3	-64.52	-	-54.04	-54.3	-	1.419	-5.087	17.93
$\theta^2[Fe/H]$	-	-	-6.644	-	-	1.033	-8.258	-
$[Fe/H]^3$	-	-0.03052	-	-	-	-	-	-
θ^4	39.95	-	-	-	-	-	-	-5.619
rms	0.1185	0.1277	0.2244	0.7449	0.08144	0.07993	0.08756	0.3025
N	121	316	385	34	44	279	273	29

Table B22. *Fe5782 Fitting function coefficients for MILES resolution*

| | overall rms=0.1374 | | | | | | | |
| | $\log g \leq 4.0$ and θ limits: | | | | $\log g \geq 3.6$ and θ limits: | | | |
Term	≤ 0.8	$0.6 - 1.1$	$0.95 - 1.45$	≥ 1.3	≤ 0.7	$0.6 - 1.0$	$0.85 - 1.45$	≥ 1.15
Const.	1.143	0.9476	75.77	30.38	0.1253	10.91	24.10	3.311
θ	-	-3.530	-210.4	-35.49	-	-38.27	-83.03	-1.801
[Fe/H]	0.04377	-0.6869	-6.810	-	0.08613	-0.4059	0.5787	-
$\log g$	-0.2967	-	-	-	-	-	-	-
θ^2	-1.729	3.399	194.7	10.38	-	43.43	101.2	-
$[Fe/H]^2$	-	-	-	-	-	-0.3029	0.1513	-
$\theta[Fe/H]$	-	1.195	13.18	-	-	-	-	0.1398
$\theta \log g$	-	-	-0.1357	-	-	-	-	-
$[Fe/H]\log g$	-	-	-0.05209	-	-	-	-	-
θ^3	-	-	-58.88	-	-	-15.27	-49.32	-
$[Fe/H]^3$	-	-0.03190	-0.1658	-	-	-	-	-
$\theta^2[Fe/H]$	-	-	-5.851	-	-	1.153	-	-
$\theta^2 \log g$	0.5237	-	-	-	-	-	-	-
$\theta[Fe/H]^2$	-	-	-0.3676	-	-	0.5039	-	-
θ^4	-	-	-	-	-	-	7.783	-
θ^5	0.1213	-	-	-	-	-	-	-
rms	0.1371	0.1236	0.1741	0.2894	0.1300	0.07955	0.1045	0.2869
N	152	318	359	44	78	330	210	21

Table B23. *NaD fitting function coefficients for* MILES *resolution*

| | overall rms=0.4383 | | | | | | | | |
| | $\log g \leq 4.0$ and θ limits: | | | | | $\log g \geq 3.6$ and θ limits: | | | |
Term	≤ 0.42	$0.30 - 1.1$	$1.0 - 1.5$ [Fe/H]≤ -1.0	[Fe/H]≥ -1.1	≥ 1.41	≤ 0.70	$0.60 - 1.1$	$0.8 - 1.4$	≥ 1.34
Const.	0.3511	0.1740	19.90	88.45	3248	0.6307	7.019	20.94	46.58
θ	-	-	-34.02	-268.4	-6170	-2.244	-42.42	-	-46.07
[Fe/H]	-	1.158	0.3753	-62.91	-	-	5.227	-24.46	-
$\log g$	-	0.4854	-	-	-	-	-	-	-
θ^2	-	29.97	15.74	263.6	3890	3.487	110.1	-139.3	15.09
$[\text{Fe/H}]^2$	-	-	-	-	-	-	-0.6801	0.8736	-
$\theta[\text{Fe/H}]$	-	-3.701	-	110.4	-	-	-17.29	50.07	-
$\theta \log g$	-	-4.673	-	-	-	-	-	-	-
θ^3	-	-50.76	-	-81.81	-812.1	-	-131.7	187.0	-
$[\text{Fe/H}]^3$	-	0.06637	-	-	-	-	0.1290	0.2549	-
$\theta^2[\text{Fe/H}]$	-	3.721	-	-46.39	-	-	14.53	-23.35	-
$\theta^2 \log g$	-	3.352	-	-	-	-	-	-	-
$\theta[\text{Fe/H}]^2$	-	0.4695	-	-	-	-	1.460	-	-
$[\text{Fe/H}]^2 \log g$	-	-0.02425	-	-	-	-	-	-	-
$\theta \log g^2$	-	0.2004	-	-	-	-	-	-	-
θ^4	-	23.24	-	-	-	-	60.49	-65.06	-
rms	0.3553	0.3261	0.3495	0.6618	0.4630	0.1914	0.2612	0.3994	0.3951
N	34	395	55	279	21	80	358	282	10

Table B24. *TiO$_1$ Fitting function coefficients for* MILES *resolution*

| | **TiO1** overall rms=0.01957 | | | | |
| | $\log g \leq 4.0$ and θ limits: | | | $\log g \geq 3.6$ and θ limits: | |
Term	≤ 1.1	$1.0 - 1.35$	≥ 1.29	≤ 1.2	≥ 1.0
Const.	0.007726	-11.02	-6.780	0.007084	0.5641
θ	-	30.24	8.454	-	-1.148
[Fe/H]	-	0.3417	-	-	-
θ^2	-	-27.67	-2.437	-	0.5845
$\theta[\text{Fe/H}]$	-	-0.6647	-	-	-
θ^3	-0.03208	8.443	-	-0.01441	-
$\theta^2[\text{Fe/H}]$	-	0.3247	-	-	-
θ^4	0.02992	-	-	-	-
θ^5	-	-	-	0.01209	-
rms	0.004498	0.01614	0.05518	0.004030	0.01485
N	414	302	51	428	57

Table B25. *TiO₂ Fitting function coefficients for* MILES *resolution*

	TiO2 overall rms=0.03905				
	$\log g \leq 4.0$ and θ limits:			$\log g \geq 3.6$ and θ limits:	
Term	≤ 1.0	$0.95 - 1.3$	≥ 1.25	≤ 1.1	≥ 1.0
Const.	0.05962	-10.83	0.8441	-0.001325	1.168
θ	-0.6614	31.24	-9.529	-	-2.418
[Fe/H]	-	0.4785	-	-	-
θ^2	2.634	-30.08	11.32	-	1.248
$[Fe/H]^2$	-	0.004367	-	-	-
$\theta[Fe/H]$	-	-0.9298	-	-	-
θ^3	-4.818	9.676	-3.344	-0.01753	-
$\theta^2[Fe/H]$	-	0.4688	-	0.003379	-
θ^4	4.094	-	-	0.02277	-
θ^5	-1.303	-	-	-	-
rms	0.005573	0.02264	0.09347	0.003833	0.03301
N	288	329	82	414	57

Table B26. *Hδ$_A$ fitting function coefficient errors for* MILES *resolution*

Term	log $g \leq 4.0$ and θ limits:				log $g \geq 3.6$ and θ limits:			
	≤ 0.62	$0.53 - 1.1$	$0.90 - 1.4$	≥ 1.3	≤ 0.57	$0.50 - 0.90$	$0.80 - 1.2$	≥ 1.08
Const.	0.4823	1.064	0.5594	5.456	0.2281	2.021	8.658	2.663
θ	0.8927	3.815	-	1.437	1.056	9.203	27.20	4.116
[Fe/H]	-	0.03542	1.382	-	-	0.6321	1.868	-
log g	0.5258	0.1701	0.7713	-	-	-	0.2323	-
θ^2	-	4.421	1.288	4.934	0.7514	12.67	28.19	1.571
[Fe/H]^2	-	-	0.06092	-	-	0.1537	-	-
log g^2	0.1749	-	-	-	0.01045	-	-	-
θ[Fe/H]	-	-	2.624	-	-	1.778	4.058	-
θ log g	-	0.4568	1.465	-	0.1937	0.9961	-	-
[Fe/H]log g	-	0.008650	-	-	-	-	-	-
θ^3	5.999	1.682	0.7450	2.079	-	5.906	9.587	-
[Fe/H]^3	-	0.007364	0.01828	-	-	0.01624	0.01678	-
log g^3	0.01720	-	-	-	-	-	-	-
θ^2[Fe/H]	-	-	1.235	-	-	1.237	2.195	-
θ^2 log g	0.8148	0.2976	0.6957	-	-	0.3000	0.05433	-
θ[Fe/H]^2	-	0.02271	-	-	-	0.1526	0.2776	-
[Fe/H]^2 log g	-	-	-	-	-	0.03207	-	-
θ log g^2	0.1090	-	-	-	-	0.1238	-	-
θ^4	5.554	-	-	5.489	-	-	-	-
θ^5	-	-	-	1.717	-	-	-	-

Table B27. *Hδ$_F$ fitting function coefficient errors for* MILES *resolution*

Term	log $g \leq 4.0$ and θ limits:				log $g \geq 3.6$ and θ limits:			
	≤ 0.62	$0.55 - 1.2$	$0.95 - 1.5$	≥ 1.3	≤ 0.57	$0.50 - 0.90$	$0.80 - 1.2$	≥ 1.05
Const.	0.2957	0.5959	3.280	1.576	0.5857	0.3350	3.904	21.94
θ	0.5226	2.003	8.335	2.039	-	1.389	12.28	42.91
[Fe/H]	-	0.01927	0.02489	-	-	-	-	-
log g	0.2498	0.08659	0.01213	-	0.2836	-	0.2658	-
θ^2	-	2.208	6.982	0.6529	-	-	12.89	5.146
[Fe/H]^2	-	0.01825	-	-	-	-	-	-
log g^2	0.08483	-	-	-	0.03439	-	-	-
θ log g	0.3436	0.2069	-	-	-	0.4848	0.2942	-
[Fe/H]log g	-	-	0.009573	-	-	-	0.02455	-
θ^3	-	0.8015	1.930	-	0.9580	-	4.420	39.68
[Fe/H]^3	-	0.006024	0.002552	-	-	-	0.003038	-
log g^3	0.01001	-	-	-	-	0.001537	-	-
θ[Fe/H]log g	-	0.005741	-	-	-	-	-	-
θ^2 log g	0.3988	0.1208	-	-	-	-	-	-
θ log g^2	-	-	-	-	-	0.05912	-	-
[Fe/H]log g^2	-	-	-	-	-	0.0003500	0.005705	-
θ^4	1.327	-	-	-	1.629	2.171	-	30.21
θ^5	-	-	-	-	-	1.778	-	6.623

Table B28. *CN₁ fitting function coefficient errors for* MILES *resolution*

| Term | $\log g \leq 4.0$ and θ limits: | | | | | $\log g \geq 3.6$ and θ limits: | | | |
| | ≤ 0.61 | $0.50 - 1.0$ | $0.81 - 1.4$ | | ≥ 1.25 | ≤ 0.66 | $0.55 - 0.88$ | $0.70 - 1.1$ | ≥ 1.05 |
			$[\mathrm{Fe/H}] \leq -0.90$	$[\mathrm{Fe/H}] \geq -1.0$					
Const.	0.01647	0.03507	0.01295	0.07278	0.03424	0.002193	0.7339	0.000658	0.04675
θ	0.06532	0.1319	0.01302	0.2068	0.04620	-	3.878	-	0.07445
$[\mathrm{Fe/H}]$	-	-	0.007835	0.03166	-	-	-	0.003556	-
$\log g$	0.01372	0.006134	-	0.000258	-	-	-	-	-
θ^2	0.1693	0.1643	-	0.1935	0.01541	-	7.237	-	0.02925
$[\mathrm{Fe/H}]^2$	-	-	-	-	-	-	-	0.005154	-
$\log g^2$	0.004746	-	-	-	-	0.000128	-	-	-
$\theta[\mathrm{Fe/H}]$	-	-	0.007825	0.06134	-	-	-	-	-
$\theta \log g$	0.004452	0.01680	-	-	-	-	-	-	-
$[\mathrm{Fe/H}]\log g$	-	0.000494	-	-	-	-	-	-	-
θ^3	0.1413	0.06874	-	0.05967	-	0.01562	5.029	0.000999	-
$[\mathrm{Fe/H}]^3$	-	-	-	-	-	-	-	0.000442	-
$\log g^3$	0.000564	-	-	-	-	-	-	-	-
$\theta^2[\mathrm{Fe/H}]$	-	-	-	0.02940	-	-	-	0.004554	-
$\theta^2 \log g$	-	0.01121	-	-	-	-	-	-	-
$\theta[\mathrm{Fe/H}]^2$	-	-	-	-	-	-	-	0.005584	-
$[\mathrm{Fe/H}]\log g^2$	-	0.000141	-	-	-	-	-	-	-
θ^4	-	-	-	-	-	-	-	-	-
θ^5	-	-	-	-	-	0.03520	0.9529	-	-

Table B29. *CN₂ fitting function coefficient errors for* MILES *resolution*

| Term | $\log g \leq 4.0$ and θ limits: | | | | | $\log g \geq 3.6$ and θ limits: | | | |
| | ≤ 0.61 | $0.50 - 1.0$ | $0.81 - 1.4$ | | ≥ 1.25 | ≤ 0.66 | $0.55 - 0.88$ | $0.70 - 1.1$ | ≥ 1.02 |
			$[\mathrm{Fe/H}] \leq -0.90$	$[\mathrm{Fe/H}] \geq -1.0$					
Const.	0.01914	0.03251	0.007447	0.08455	0.4923	0.009552	0.1257	0.000770	0.005443
θ	0.07716	0.1359	-	0.2406	0.9915	0.08594	0.5272	-	0.004705
$[\mathrm{Fe/H}]$	-	-	0.008985	0.03694	-	-	0.000375	0.004160	-
$\log g$	0.01598	0.001480	-	0.000301	-	-	-	-	-
θ^2	0.2003	0.1844	0.007326	0.2255	0.6600	0.1952	0.7300	-	-
$[\mathrm{Fe/H}]^2$	-	-	-	-	-	-	-	0.006054	-
$\log g^2$	0.005532	-	-	-	-	-	-	-	-
$\theta[\mathrm{Fe/H}]$	-	0.006657	0.008935	0.07172	-	-	-	-	-
$\theta \log g$	0.005135	0.001911	-	-	-	0.01423	-	-	-
$[\mathrm{Fe/H}]\log g$	-	0.001479	-	-	-	-	-	-	-
θ^3	0.1674	0.08115	-	0.06961	0.1451	0.1343	0.3340	0.001180	-
$[\mathrm{Fe/H}]^3$	-	-	-	-	-	-	-	0.000522	-
$\log g^3$	0.000658	-	-	-	-	-	-	-	-
$\theta[\mathrm{Fe/H}]\log g$	-	0.001996	-	-	-	-	-	-	-
$\theta^2[\mathrm{Fe/H}]$	-	0.008284	-	0.03444	-	-	-	0.005351	-
$\theta^2 \log g$	-	-	-	-	-	0.02716	-	-	-
$\theta[\mathrm{Fe/H}]^2$	-	-	-	-	-	-	-	0.006568	-

Table B30. *Ca4227 fitting function coefficient errors for* MILES *resolution*

Term	log $g \leq 4.0$ and θ limits: ≤ 0.80	$0.70 - 1.1$	$1.0 - 1.5$ [Fe/H]≤ -0.90	$1.0 - 1.5$ [Fe/H]≥ -1.1	≥ 1.3	log $g \geq 3.6$ and θ limits: ≤ 0.80	$0.70 - 1.02$	$0.90 - 1.5$	≥ 1.21
Const.	0.01136	2.620	0.3171	2.433	0.02849	0.02884	3.140	16.30	0.01508
θ	-	8.056	0.2736	5.972	-	0.1168	11.09	57.19	-
[Fe/H]	-	0.004432	-	0.1143	-	0.1089	0.06854	0.01341	-
log g	-	0.3666	-	0.006666	-	-	-	-	-
θ^2	0.1250	8.258	-	4.852	0.01268	0.02146	12.99	74.61	-
[Fe/H]^2	-	-	0.02758	-	-	-	-	-	-
log g^2	-	0.03283	-	-	-	-	-	-	-
θ[Fe/H]	0.01386	-	0.09545	0.09950	-	0.03974	0.07902	-	-
θ log g	-	0.7418	-	-	-	-	-	-	-
θ^3	0.1476	2.829	-	1.305	-	-	5.050	42.89	-
[Fe/H]^3	-	-	-	-	-	-	-	0.005281	-
log g^3	-	-	0.002263	-	-	-	-	-	-
θ^2 log g	-	0.3913	0.04070	-	-	-	-	-	-
θ log g^2	-	0.03699	-	-	-	-	-	-	-
[Fe/H]log g^2	0.000776	-	-	-	-	-	-	-	-
θ^4	-	-	-	-	-	-	-	9.166	-

Table B31. *G4300 fitting function coefficient errors for* MILES *resolution*

Term	log $g \leq 4.0$ and θ limits: ≤ 0.57	$0.51 - 1.0$	$0.86 - 1.35$ [Fe/H]≤ -0.90	$0.86 - 1.35$ [Fe/H]≥ -1.0	≥ 1.1	log $g \geq 3.6$ and θ limits: ≤ 0.57	$0.51 - 0.88$	$0.85 - 1.35$	≥ 1.15
Const.	0.2646	1.143	1.449	3.034	1.938	0.2107	1.482	4.226	0.2349
θ	-	4.312	2.129	8.544	3.512	0.6051	5.676	12.26	0.1842
[Fe/H]	-	-	1.558	-	-	-	-	0.8945	-
log g	0.3250	0.1813	-	-	-	0.03796	-	-	-
θ^2	-	5.331	0.9823	7.955	1.677	0.7878	6.023	11.77	-
[Fe/H]^2	-	-	0.4549	-	-	-	0.08202	0.2047	-
log g^2	0.1264	-	-	-	-	-	-	-	-
θ[Fe/H]	-	0.02026	1.526	-	-	-	0.02396	1.727	0.04210
θ log g	0.01953	0.4957	-	-	-	-	-	-	-
θ^3	-	2.201	-	2.449	-	-	-	3.738	-
[Fe/H]^3	-	0.007825	-	-	-	-	-	-	-
log g^3	0.01562	0.000835	-	-	-	-	-	-	-
θ^2[Fe/H]	-	-	-	-	-	-	-	0.8393	-
θ^2 log g	-	0.3277	-	-	-	-	-	-	-
θ[Fe/H]^2	-	0.02580	0.4454	-	-	-	0.1018	0.2199	-
θ^4	-	-	-	-	-	-	1.938	-	-
θ^5	-	-	-	-	0.05672	-	-	-	-

Table B32. *$H\gamma_A$ fitting function coefficient errors for* MILES *resolution*

| Term | $\log g \le 4.0$ and θ limits: | | | | $\log g \ge 3.6$ and θ limits: | | | |
	≤ 0.62	$0.55 - 1.1$	$0.95 - 1.5$	≥ 1.3	≤ 0.57	$0.50 - 0.90$	$0.85 - 1.4$	≥ 1.15
Const.	0.3942	1.231	4.731	24.01	0.2872	1.528	5.941	3.131
θ	0.7740	4.274	11.90	46.98	2.134	6.682	16.46	4.639
[Fe/H]	-	-	0.2692	-	-	0.4887	-	-
$\log g$	0.3399	0.1890	-	-	-	-	0.5206	-
θ^2	-	4.909	9.886	30.47	4.350	9.464	15.60	1.702
$[Fe/H]^2$	-	-	0.01310	-	-	-	-	-
$\log g^2$	0.1179	-	0.007962	-	0.003739	-	-	-
$\theta[Fe/H]$	-	-	0.2135	-	-	1.397	0.2019	-
$\theta \log g$	0.1195	0.4762	0.02920	-	-	0.2010	0.5560	-
$[Fe/H]\log g$	-	-	0.02034	-	-	-	0.03943	-
θ^3	4.020	1.880	2.711	6.541	-	4.404	4.894	-
$\log g^3$	0.01412	0.000861	-	-	-	-	-	-
$\theta[Fe/H]\log g$	-	-	-	-	-	0.05026	0.04558	-
$\theta^2[Fe/H]$	-	0.02217	-	-	-	0.9775	-	-
$\theta^2 \log g$	-	0.2975	-	-	-	0.2689	-	-
$\theta[Fe/H]^2$	-	0.01226	-	-	-	-	-	-
$[Fe/H]^2 \log g$	-	0.002964	-	-	-	-	-	-
θ^4	4.669	-	-	-	4.741	-	-	-

Table B33. *$H\gamma_F$ fitting function coefficient errors for* MILES *resolution*

| Term | $\log g \le 4.0$ and θ limits: | | | | $\log g \ge 3.6$ and θ limits: | | | |
	≤ 0.62	$0.55 - 1.2$	$1.0 - 1.5$	≥ 1.3	≤ 0.57	$0.50 - 0.90$	$0.80 - 1.2$	≥ 1.1
Const.	0.2037	0.5445	4.443	15.35	0.4605	0.7393	0.7381	33.06
θ	0.3977	1.727	10.78	30.20	0.5942	3.205	0.8417	61.76
[Fe/H]	-	-	0.8250	-	-	-	0.01256	-
$\log g$	0.1760	0.1387	0.04143	-	0.2375	-	0.2230	-
θ^2	-	1.827	8.674	19.68	-	4.569	0.5181	4.722
$[Fe/H]^2$	-	0.003956	0.09237	-	-	-	-	-
$\log g^2$	0.06150	0.01487	-	-	0.02876	0.007480	-	-
$\theta[Fe/H]$	-	0.009075	1.375	-	-	0.2269	-	-
$\theta \log g$	0.05628	0.2694	-	-	-	0.08716	0.2483	-
$[Fe/H]\log g$	-	-	-	-	-	0.01942	-	-
θ^3	2.022	0.6451	2.310	4.247	4.207	2.140	-	57.65
$\log g^3$	0.007295	-	0.004090	-	-	-	-	-
$\theta^2[Fe/H]$	-	-	0.5741	-	-	0.1625	-	-
$\theta^2 \log g$	-	0.1270	-	-	-	-	-	-
$\theta[Fe/H]^2$	-	-	0.08353	-	-	-	-	-
$[Fe/H]^2 \log g$	-	-	-	-	-	-	0.001642	-
$\theta \log g^2$	-	0.01710	0.02242	-	-	-	-	-
θ^4	2.340	-	-	-	5.258	-	-	42.07
θ^5	-	-	-	-	-	-	-	8.966

Table B34. *Fe4383 fitting function coefficient errors for* MILES *resolution*

| | log g ≤ 4.0 and θ limits: | | | | | log g ≥ 3.6 and θ limits: | | | |
| | ≤ 0.60 | 0.51 − 1.08 | 0.89 − 1.5 | | ≥ 1.3 | ≤ 0.56 | 0.51 − 0.90 | 0.78 − 1.2 | ≥ 1.15 |
Term			[Fe/H]≤ −0.75	[Fe/H]≥ −1.0					
Const.	0.1314	0.1226	1.680	0.7717	33.15	0.1051	2.394	5.673	0.2877
θ	-	-	2.870	-	65.60	-	10.51	17.82	0.2254
[Fe/H]	-	0.2909	0.9447	1.849	-	-	0.8098	1.690	0.07300
$\log g$	-	0.1873	-	-	-	-	-	-	-
θ^2	5.021	-	1.337	3.387	42.98	0.1631	14.66	18.54	-
$[\mathrm{Fe/H}]^2$	-	-	0.5836	0.6186	-	-	-	-	-
$\log g^2$	0.009098	0.04548	-	-	-	0.006043	-	-	-
$\theta[\mathrm{Fe/H}]$	-	0.7415	-	3.272	-	-	2.275	3.602	-
$\theta \log g$	0.1053	0.2056	-	-	-	-	0.3219	-	-
$[\mathrm{Fe/H}]\log g$	-	-	-	-	-	-	-	0.04347	-
θ^3	16.16	0.1802	-	3.811	9.316	-	6.656	6.361	-
$[\mathrm{Fe/H}]^3$	-	-	0.1137	-	-	-	-	-	-
$\theta[\mathrm{Fe/H}]\log g$	-	-	-	-	-	-	0.06902	-	-
$\theta^2[\mathrm{Fe/H}]$	-	0.4567	-	1.435	-	-	1.552	1.942	-
$\theta^2 \log g$	-	0.1432	-	-	-	-	0.4061	0.04172	-
$\theta[\mathrm{Fe/H}]^2$	-	-	-	0.5640	-	-	-	-	-
$\theta \log g^2$	-	0.05379	-	-	-	-	-	-	-
$[\mathrm{Fe/H}]^2 \log g$	-	-	-	-	-	-	0.003654	0.003829	-
θ^4	14.38	-	-	1.195	-	-	-	-	-

Table B35. *Ca4455 fitting function coefficient errors for* MILES *resolution*

| | log g ≤ 4.0 and θ limits: | | | | log g ≥ 3.6 and θ limits: | | | |
Term	≤ 0.59	0.51 − 1.08	1.0 − 1.5	≥ 1.45	≤ 0.56	0.51 − 1.0	0.9 − 1.35	≥ 1.1
Const.	0.1508	0.01151	0.02797	52.65	0.2398	0.6511	0.2008	0.1036
θ	1.266	-	-	97.14	2.104	2.681	-	0.08445
[Fe/H]	-	0.02756	0.02438	-	-	0.2258	0.8115	-
$\log g$	-	-	0.007028	-	-	-	-	-
θ^2	3.365	0.01201	-	59.55	5.831	3.612	0.5333	-
$[\mathrm{Fe/H}]^2$	-	0.005040	-	-	-	0.01551	0.1840	-
$\theta[\mathrm{Fe/H}]$	-	0.02631	-	-	-	0.6166	1.511	-
$\theta \log g$	-	0.004435	-	-	-	-	-	-
$[\mathrm{Fe/H}]\log g$	-	-	0.007400	-	-	-	-	-
θ^3	2.851	-	0.009486	12.13	5.143	1.595	0.3301	-
$[\mathrm{Fe/H}]^3$	-	-	0.006167	-	-	0.01531	-	-
$\theta^2[\mathrm{Fe/H}]$	-	-	-	-	-	0.4127	0.7088	0.01658
$\theta[\mathrm{Fe/H}]^2$	-	-	0.01826	-	-	-	0.1881	-
$[\mathrm{Fe/H}]\log g^2$	-	0.000933	-	-	-	-	-	-
$\theta^2[\mathrm{Fe/H}]^3$	-	-	-	-	-	0.01921	-	-

Table B36. *Fe4531 fitting function coefficient errors for* MILES *resolution*

Term	$\log g \leq 4.0$ and θ limits:				$\log g \geq 3.6$ and θ limits:			
	≤ 0.55	$0.45 - 1.05$	$0.9 - 1.45$	≥ 1.4	≤ 0.57	$0.51 - 0.82$	$0.80 - 1.4$	≥ 1.1
Const.	0.1097	1.379	0.07943	0.3047	0.01443	3.895	0.3792	1.299
θ	0.5714	6.463	-	0.2052	-	17.57	-	1.932
$[\mathrm{Fe/H}]$	-	-	-	-	-	-	0.6118	0.04889
$\log g$	0.01575	-	0.2719	-	-	-	-	-
θ^2	0.7515	8.851	-	-	-	26.15	1.229	0.7042
$[\mathrm{Fe/H}]^2$	-	-	0.03158	-	-	0.09172	-	-
$\log g^2$	-	0.02075	0.09621	-	-	-	-	-
$\theta[\mathrm{Fe/H}]$	-	0.1267	0.02364	-	-	0.03822	1.234	-
$\theta \log g$	-	0.1820	0.2107	-	-	-	-	-
$[\mathrm{Fe/H}]\log g$	-	0.04161	0.007688	-	-	-	-	-
θ^3	-	-	0.03939	-	-	12.85	-	-
$[\mathrm{Fe/H}]^3$	-	-	0.01055	-	-	-	0.01258	-
$\log g^3$	-	-	0.006654	-	-	-	-	-
$\theta^2[\mathrm{Fe/H}]$	-	0.09114	-	-	0.1140	-	0.6170	-
$\theta^2 \log g$	-	0.1990	-	-	-	-	-	-
$\theta[\mathrm{Fe/H}]^2$	-	-	-	-	-	0.1127	0.03667	-
$\theta \log g^2$	-	0.02555	0.06239	-	-	-	-	-
$[\mathrm{Fe/H}]\log g^2$	-	0.008277	-	-	-	-	-	-
θ^4	-	7.853	-	-	0.3361	-	1.722	-
θ^5	-	4.076	-	-	-	-	0.8753	-

Table B37. C_24668 *fitting function coefficient errors for* MILES *resolution*

Term	$\log g \leq 4.0$ and θ limits:				$\log g \geq 3.6$ and θ limits:			
	≤ 0.70	$0.60 - 0.90$	$0.75 - 1.5$	≥ 1.35	≤ 0.70	$0.50 - 0.99$	$0.95 - 1.4$	≥ 1.22
Const.	1.793	10.07	8.136	44.19	0.05586	1.109	13.78	3.578
θ	24.51	40.00	30.34	85.03	-	3.802	36.22	4.861
$[\mathrm{Fe/H}]$	-	1.458	0.6218	-	-	0.5756	3.110	-
θ^2	128.4	52.59	41.84	54.29	0.7910	3.411	31.54	1.637
$[\mathrm{Fe/H}]^2$	-	0.1646	0.04107	-	-	0.1094	0.6047	-
$\theta[\mathrm{Fe/H}]$	-	3.878	1.241	-	-	1.549	5.515	-
θ^3	322.1	22.90	25.31	11.49	1.072	-	9.091	-
$[\mathrm{Fe/H}]^3$	-	-	0.01416	-	-	0.01670	-	-
$\theta^2[\mathrm{Fe/H}]$	-	2.568	0.605 8	-	-	1.026	2.465	-
$\theta[\mathrm{Fe/H}]^2$	-	0.2120	-	-	-	0.1451	0.5949	-
θ^4	387.3	-	5.669	-	-	-	-	-
θ^5	179.3	-	-	-	-	0.7595	-	-

Table B38. *Hβ fitting function coefficients errors for* MILES *resolution*

Term	log g ≤ 4.0 and θ limits:				log g ≥ 3.6 and θ limits:			
	≤ 0.65	0.61 − 1.15	1.0 − 1.4	≥ 1.21	≤ 0.65	0.54 − 1.0	0.8 − 1.2	≥ 1.08
Const.	0.4770	0.5111	4.624	17.25	0.09702	0.7428	2.762	4.884
θ	1.872	1.769	11.85	29.07	0.4360	2.986	8.698	10.65
[Fe/H]	-	0.1175	0.01165	-	-	0.02958	0.004921	-
$\log g$	0.1696	0.02434	0.08724	-	-	-	-	-
θ^2	2.226	2.044	10.12	1.567	-	3.924	9.079	7.636
$\log g^2$	-	-	-	-	-	-	0.001457	-
θ[Fe/H]	-	0.2771	-	-	-	0.03649	-	-
$\theta \log g$	0.6217	0.02750	0.07727	-	-	-	-	-
[Fe/H]$\log g$	-	-	0.006227	-	-	-	-	-
θ^3	1.115	0.7777	2.872	28.66	3.006	1.699	3.138	1.802
$\log g^3$	0.003453	-	-	-	-	-	-	-
θ^2[Fe/H]	-	0.1574	-	-	-	-	-	-
$\theta^2 \log g$	0.3931	-	-	-	0.3508	-	-	-
[Fe/H]$^2 \log g$	-	0.001471	-	-	-	-	-	-
$\theta \log g^2$	0.04934	-	-	-	0.02262	0.001485	-	-
θ^4	-	-	-	19.02	2.787	-	-	-
θ^5	-	-	-	3.804	-	-	-	-

Table B39. *Fe5015 fitting function coefficient errors for* MILES *resolution*

Term	log g ≤ 4.0 and θ limits:		0.70 − 1.5			log g ≥ 3.6 and θ limits:			
	≤ 0.57	0.50 − 0.80	[Fe/H]≤ −1.05	[Fe/H]≥ −1.1	≥ 1.35	≤ 0.53	0.43 − 0.90	0.75 − 1.2	≥ 1.1
Const.	0.4680	5.306	0.8827	0.7887	2.707	0.08648	0.2241	0.1670	9.832
θ	3.552	24.77	1.739	2.241	3.429	-	0.6533	-	21.27
[Fe/H]	-	0.2480	0.1837	0.5532	-	-	0.5812	1.367	-
$\log g$	-	-	-	0.04956	-	-	-	-	-
θ^2	-	38.13	0.8632	2.085	1.078	2.011	0.4660	0.5681	15.16
[Fe/H]^2	-	0.02835	-	-	-	-	0.01498	0.1763	-
$\log g^2$	-	-	-	0.02644	-	-	-	-	-
θ[Fe/H]	-	0.3089	-	1.104	-	-	1.657	2.898	0.5547
[Fe/H]$\log g$	-	-	-	0.05056	-	-	-	-	-
θ^3	58.75	19.37	-	0.6326	-	3.615	-	0.3968	3.557
$\log g^3$	-	-	-	0.004110	-	-	-	-	-
θ^2[Fe/H]	-	-	-	0.5429	-	-	1.145	1.537	0.4001
θ[Fe/H]^2	-	-	0.05045	-	-	-	-	0.2026	-
[Fe/H]$\log g^2$	-	0.004716	-	0.01085	-	-	-	-	-
θ^4	160.6	-	-	-	-	-	-	-	-
θ^5	127.7	-	-	-	-	-	-	-	-

Table B40. Mg_1 *fitting function coefficient errors for* MILES *resolution*

| | $\log g \leq 4.0$ and θ limits: | | | | | $\log g \geq 3.6$ and θ limits: | | | |
Term	≤ 0.80	$0.70 - 1.1$	$1.0 - 1.5$ [Fe/H]≤ -1.0	[Fe/H]≥ -1.1	≥ 1.28	≤ 0.80	$0.75 - 1.05$	$0.97 - 1.4$	≥ 1.22
Const.	0.01096	0.05202	0.02062	0.07904	0.01667	0.001613	0.1494	0.2925	0.3302
θ	0.1367	0.1777	0.01382	0.1940	0.02244	-	0.5141	0.7769	0.6637
[Fe/H]	-	0.01320	0.02934	-	-	-	0.02819	0.05399	-
θ^2	0.6435	0.2012	-	0.1573	0.007509	0.07581	0.5881	0.6847	0.4410
[Fe/H]^2	-	-	0.01676	-	-	-	0.002671	0.009663	-
θ[Fe/H]	-	0.02902	0.008512	0.000333	-	-	0.06422	0.09660	-
θ^3	1.435	0.07546	-	0.04219	-	0.3045	0.2236	0.2002	0.09683
[Fe/H]^3	-	0.000172	0.003046	-	-	-	0.000201	0.000844	-
θ^2[Fe/H]	-	0.01584	-	-	-	-	0.03665	0.04323	-
θ[Fe/H]^2	-	0.000558	-	-	-	-	0.002918	0.007846	-
θ^4	1.524	-	-	-	-	0.4394	-	-	-
θ^5	0.6201	-	-	-	-	0.2173	-	-	-

Table B41. Mg_2 *fitting function coefficient errors for* MILES *resolution*

| | $\log g \leq 4.0$ and θ limits: | | | | | $\log g \geq 3.6$ and θ limits: | | | |
Term	≤ 0.55	$0.50 - 0.90$	$0.80 - 1.5$ [Fe/H]≤ -1.2	[Fe/H]≥ -1.3	≥ 1.4	≤ 0.55	$0.50 - 0.90$	$0.8 - 1.4$	≥ 1.1
Const.	0.000318	0.005671	0.001298	0.007091	0.5636	0.000594	0.03237	0.3889	0.1539
θ	-	-	-	-	1.066	0.001463	0.1397	1.523	0.3279
[Fe/H]	-	0.001210	-	0.009706	-	-	0.01155	0.01272	0.000805
$\log g$	-	-	-	0.006650	-	-	-	-	-
θ^2	0.001619	0.05924	-	0.01797	0.6690	-	0.1978	2.218	0.2304
[Fe/H]^2	-	-	-	-	-	-	0.000226	0.000661	-
θ[Fe/H]	-	0.001660	-	0.01859	-	-	0.03242	0.02487	-
$\theta \log g$	-	-	-	0.01309	-	-	-	-	-
θ^3	-	0.08350	-	-	0.1395	-	0.09200	1.423	0.05335
[Fe/H]^3	-	-	-	-	-	-	-	0.000251	-
$\log g^3$	-	-	0.000072	0.000063	-	-	-	-	-
θ^2[Fe/H]	-	-	-	0.008735	-	-	0.02213	0.01200	-
$\theta^2 \log g$	-	-	-	0.005950	-	-	-	-	-
[Fe/H]$^2 \log g$	-	-	0.000076	-	-	-	-	-	-
$\theta \log g^2$	-	-	0.000353	0.000419	-	-	-	-	-
θ^4	-	-	0.000519	0.01874	-	-	-	0.3392	-
θ^5	-	0.03178	-	0.008114	-	-	-	-	-

Table B42. *Mgb fitting function coefficient errors for* MILES *resolution*

| | log g ≤ 4.0 and θ limits: | | | | | log g ≥ 3.6 and θ limits: | | | |
| | ≤ 0.70 | 0.55 − 1.15 | 0.80 − 1.4 | | ≥ 1.3 | ≤ 0.70 | 0.56 − 0.90 | 0.8 − 1.3 | ≥ 1.1 |
Term			[Fe/H]≤ −1.0	[Fe/H]≥ −1.3					
Const.	0.05767	0.1156	0.2637	0.03543	0.2026	0.3447	10.86	13.67	0.05480
θ	0.2820	0.2101	0.2510	-	-	3.613	56.03	52.40	-
[Fe/H]	-	0.1744	0.1197	0.006170	-	-	0.04536	0.7347	0.02444
$\log g$	-	0.01632	-	0.002770	-	-	-	-	-
θ^2	-	0.1074	-	0.09141	0.2507	13.39	102.0	70.97	-
$[Fe/H]^2$	-	-	-	-	-	-	-	0.08060	-
$\theta[Fe/H]$	-	0.3622	-	-	-	-	0.05660	1.503	-
$[Fe/H]\log g$	-	0.03171	0.03576	-	-	-	-	-	-
θ^3	1.426	-	-	0.05647	0.1061	20.97	69.21	35.81	-
$\log g^3$	-	-	0.002682	-	-	-	-	-	-
$\theta[Fe/H]\log g$	-	0.02753	-	-	-	-	-	-	-
$\theta^2[Fe/H]$	-	0.1824	0.08651	-	-	-	-	0.7654	-
$\theta^2 \log g$	-	0.01397	-	-	-	-	-	-	-
$\theta[Fe/H]^2$	-	-	-	-	-	-	-	0.09042	-
$\theta \log g^2$	-	0.003557	0.01241	-	-	-	-	-	-
$[Fe/H]\log g^2$	-	0.003813	0.007346	-	-	-	-	-	-
θ^4	1.497	-	-	-	-	11.81	-	-	0.07503
θ^5	-	-	-	-	-	-	12.50	3.579	0.04047

Table B43. *Fe5270 fitting function coefficient errors for* MILES *resolution*

| | log g ≤ 4.0 and θ limits: | | | | log g ≥ 3.6 and θ limits: | | | |
Term	≤ 0.58	0.50 − 1.1	0.95 − 1.4	≥ 1.25	≤ 0.58	0.50 − 1.0	0.90 − 1.5	≥ 1.2
Const.	0.05802	0.04835	2.914	1.561	0.2429	4.087	0.6453	0.09477
θ	0.3171	0.08986	7.565	1.764	2.109	22.08	-	0.06962
[Fe/H]	-	0.1211	0.5618	-	-	0.2087	0.2764	0.02282
$\log g$	-	-	-	-	-	-	0.2749	-
θ^2	0.4072	-	6.511	-	5.768	44.14	1.126	-
$[Fe/H]^2$	-	0.004681	0.005178	-	-	0.01585	0.06410	-
$\log g^2$	-	-	-	-	-	-	0.03283	-
$\theta[Fe/H]$	-	0.2995	1.022	-	-	0.5541	0.5033	-
$[Fe/H]logg$	-	-	-	-	-	-	0.01724	-
θ^3	-	0.04365	1.858	-	5.015	38.73	1.375	-
$[Fe/H]^3$	-	-	-	-	-	0.006161	-	-
$\theta^2[Fe/H]$	-	0.1807	0.4605	-	-	0.3581	0.2318	-
$\theta[Fe/H]^2$	-	-	-	-	-	-	0.07163	-
θ^4	-	-	-	0.5241	-	12.60	0.4673	-
θ^5	-	-	-	0.2060	-	-	-	-

Table B44. Fe5335 fitting function coefficient errors for *MILES* resolution

| Term | $\log g \leq 4.0$ and θ limits: | | | | $\log g \geq 3.6$ and θ limits: | | | |
	≤ 0.58	$0.50 - 1.1$	$0.95 - 1.5$	≥ 1.2	≤ 0.58	$0.50 - 1.0$	$0.85 - 1.4$	≥ 1.2
Const.	0.01891	0.07861	1.778	4.256	0.2752	4.549	2.170	0.08316
θ	0.04804	0.1872	4.488	8.736	2.418	24.41	6.228	0.06053
[Fe/H]	-	0.02427	-	-	-	0.2345	0.4317	0.02024
$\log g$	-	-	-	-	-	-	0.01324	-
θ^2	-	0.1102	3.744	5.922	6.685	48.44	5.909	-
$[\text{Fe/H}]^2$	-	-	-	-	-	-	0.09924	-
$\theta[\text{Fe/H}]$	-	0.02741	0.01217	-	-	0.6068	0.8158	-
θ^3	-	-	1.031	1.325	5.870	42.18	1.855	-
$[\text{Fe/H}]^3$	-	0.001657	0.005159	-	-	-	-	-
$\theta^2[\text{Fe/H}]$	-	-	-	-	-	0.3868	0.3871	-
$\theta[\text{Fe/H}]^2$	-	-	0.01476	-	-	0.006937	0.1053	-
θ^4	-	-	-	-	-	13.62	-	-

Table B45. *Fe5406 Fitting function coefficient errors for* MILES *resolution*

| Term | $\log g \leq 4.0$ and θ limits: | | | | $\log g \geq 3.6$ and θ limits: | | | |
	≤ 0.56	$0.50 - 1.0$	$0.85 - 1.5$	≥ 1.3	≤ 0.57	$0.50 - 0.95$	$0.86 - 1.5$	≥ 1.2
Const.	26.73	0.4227	0.1269	6.932	0.01647	0.7010	8.321	0.05610
θ	38.61	1.723	-	13.70	0.03977	2.950	29.98	0.03958
[Fe/H]	-	0.02262	0.1616	-	-	-	0.3139	-
θ^2	20.17	2.279	0.5880	8.968	-	4.062	40.12	-
$[\text{Fe/H}]^2$	-	-	0.03265	-	-	0.01515	0.008024	-
$\theta[\text{Fe/H}]$	-	0.02735	0.2886	-	-	0.01266	0.5811	-
θ^3	4.514	0.9846	0.6749	1.943	-	1.834	23.62	-
$[\text{Fe/H}]^3$	-	0.001783	0.004087	-	-	0.005568	-	-
$\theta^2[\text{Fe/H}]$	-	-	0.1303	-	-	-	0.2636	-
$\theta[\text{Fe/H}]^2$	-	-	0.02655	-	-	-	-	-
θ^4	0.3664	-	0.2151	-	-	-	5.158	-

Table B46. *Fe5709 fitting functions coefficient errors for* MILES *resolution*

| Term | log g ≤ 4.0 and θ limits: | | | | log g ≥ 3.6 and θ limits: | | | |
	≤ 0.7	0.6 − 1.1	0.9 − 1.5	≥ 1.35	≤ 0.55	0.5 − 0.9	0.8 − 1.15	≥ 1.1
Const.	0.2654	0.01187	1.375	16.50	0.02321	0.01141	0.1492	1.498
θ	2.837	-	3.529	31.83	0.05899	-	-	1.601
[Fe/H]	-	0.03125	0.3187	-	-	-	0.7857	0.02522
log g	-	-	0.004036	-	-	-	-	-
θ^2	10.79	0.01390	2.991	20.38	-	-	0.5027	1.129
$[Fe/H]^2$	-	-	-	-	-	0.006656	0.007399	-
$\theta[Fe/H]$	-	0.03377	0.5630	-	-	0.07549	1.690	-
θ^3	17.37	-	0.8381	4.326	-	0.02250	0.3507	1.816
$\theta^2[Fe/H]$	-	-	0.2474	-	-	0.09120	0.9066	-
$[Fe/H]^3$	-	0.002018	-	-	-	-	-	-
θ^4	10.02	-	-	-	-	-	-	0.5302

Table B47. *Fe5782 Fitting function coefficient errors for* MILES *resolution*

| Term | log g ≤ 4.0 and θ limits: | | | | log g ≥ 3.6 and θ limits: | | | |
	≤ 0.8	0.6 − 1.1	0.95 − 1.45	≥ 1.3	≤ 0.7	0.6 − 1.0	0.85 − 1.45	≥ 1.15
Const.	0.04529	0.1282	2.162	0.8035	0.005429	1.735	12.81	0.05979
θ	-	0.2939	5.541	1.055	-	6.512	47.46	0.04354
[Fe/H]	0.007681	0.03058	0.4361	-	0.009996	0.05441	0.01380	-
log g	0.01269	-	-	-	-	-	-	-
θ^2	0.1347	0.1659	4.706	0.3430	-	8.082	65.36	-
$[Fe/H]^2$	-	-	-	-	-	0.06495	0.009165	-
$\theta[Fe/H]$	-	0.03299	0.7187	-	-	-	-	0.01319
$\theta \log g$	-	-	0.004112	-	-	-	-	-
$[Fe/H]\log g$	-	-	0.008179	-	-	-	-	-
θ^3	-	-	1.325	-	-	3.318	39.64	-
$[Fe/H]^3$	-	0.001933	0.005449	-	-	-	-	-
$\theta^2[Fe/H]$	-	-	0.3005	-	-	0.07509	-	-
$\theta^2 \log g$	0.03293	-	-	-	-	-	-	-
$\theta[Fe/H]^2$	-	-	0.01469	-	-	0.07690	-	-
θ^4	-	-	-	-	-	-	8.932	-
θ^5	0.1250	-	-	-	-	-	-	-

Table B48. *NaD fitting function coefficient errors for* MILES *resolution*

| Term | log g ≤ 4.0 and θ limits: | | | | | log g ≥ 3.6 and θ limits: | | | |
	≤ 0.42	0.30 − 1.1	1.0 − 1.5 [Fe/H]≤ −1.0	1.0 − 1.5 [Fe/H]≥ −1.1	≥ 1.41	≤ 0.70	0.60 − 1.1	0.8 − 1.4	≥ 1.34
Const.	0.01021	0.1612	1.252	3.335	34.96	0.07165	10.95	0.4565	1.994
θ	-	-	2.142	8.204	65.39	0.3496	52.84	-	2.558
[Fe/H]	-	0.1327	0.02545	1.428	-	-	0.3217	0.3959	-
$\log g$	-	0.07589	-	-	-	-	-	-	-
θ^2	-	1.447	0.9167	6.685	40.64	0.3918	94.73	2.571	0.8137
[Fe/H]^2	-	-	-	-	-	-	0.09179	0.02903	-
θ[Fe/H]	-	0.3573	-	2.410	-	-	0.7439	0.7707	-
$\theta \log g$	-	0.2166	-	-	-	-	-	-	-
θ^3	-	2.192	-	1.804	8.392	-	74.78	3.267	-
[Fe/H]^3	-	0.008810	-	-	-	-	0.01002	0.01049	-
θ^2[Fe/H]	-	0.2311	-	1.010	-	-	0.4431	0.3700	-
$\theta^2 \log g$	-	0.1441	-	-	-	-	-	-	-
θ[Fe/H]^2	-	0.02950	-	-	-	-	0.1005	-	-
[Fe/H]$^2 \log g$	-	0.004089	-	-	-	-	-	-	-
$\theta \log g^2$	-	0.005577	-	-	-	-	-	-	-
θ^4	-	0.9002	-	-	-	-	21.94	1.156	-

Table B49. *TiO$_1$ Fitting function coefficient errors for* MILES *resolution*

| Term | log g ≤ 4.0 and θ limits: | | | log g ≥ 3.6 and θ limits: | |
	≤ 1.1	1.0 − 1.35	≥ 1.29	≤ 1.2	≥ 1.0
Const.	0.000231	0.2622	0.02176	0.000253	0.009328
θ	-	0.6823	0.02894	-	0.01421
[Fe/H]	-	0.03279	-	-	-
θ^2	-	0.5898	0.009556	-	0.005242
θ[Fe/H]	-	0.05801	-	-	-
θ^3	0.002025	0.1694	-	0.001018	-
θ^2[Fe/H]	-	0.02560	-	-	-
θ^4	0.001835	-	-	-	-
θ^5	-	-	-	0.000813	-

Table B50. *TiO$_2$ Fitting function coefficient errors for* MILES *resolution*

| Term | log $g \leq 4.0$ and θ limits: | | | log $g \geq 3.6$ and θ limits: | |
	≤ 1.0	$0.95 - 1.3$	≥ 1.25	≤ 1.1	≥ 1.0
Const.	0.007699	0.1822	0.3594	0.000308	0.01189
θ	0.08380	0.4881	0.7402	-	0.01902
[Fe/H]	-	0.02521	-	-	-
θ^2	0.3384	0.4341	0.5048	-	0.007532
[Fe/H]^2	-	0.000196	-	-	-
θ[Fe/H]	-	0.04621	-	-	-
θ^3	0.6390	0.1282	0.1139	0.002565	-
θ^2[Fe/H]	-	0.02102	-	0.000225	-
θ^4	0.5685	-	-	0.002431	-
θ^5	0.1920	-	-	-	-