Updated library of H+K spectra

• **Observations** :

— *June 1990.* Observers B.Rocca-Volmerange and J.P.Maillard. 4 nights.
Night 11/12 : Files sp247 (A3V), sp265 (G0V), sp276 (F7V), sp282 (A1V), sp284 (B9I), sp286 (M4I), sp290 (M4I), sp293 (M2I), sp295 (K3III), sp296 (K0III), sp298 (B3V), sp301 (F9V).
Night 12/13 : Files sp309 (M2III), sp311 (G8V), sp314 (K4III), sp316 (G5V), sp318 (K7.5V), sp320 (K5III), sp324 (G2V), sp326 (K7V), sp328 (F3V), sp330 (A2?), sp339 (F6?), sp349 (G5III).
Night 13/14 : Files sp353 (K1III), sp374 (G2.5V), sp384 (G8IV), sp400 (A3III), sp404 (A8III).
Night 14/15 : Files sp406 (G5III), sp407 (G8III), sp409 (A7III), sp413 (K1III), sp415 (K0I), sp417 (M4III), sp419 (F3I), sp007 (M3III), sp009 (M3III), sp011 (K3V), sp013 (G2V), sp019 (M3III), sp020 (M2III), sp022 (O6V).

— *March 1991.* Observer J.P.Maillard. 4 nights.
Night 4/5 : Files sp644 (M2III), sp650 (M5III), sp652 (G5III)
Night 6/7 : Files sp719 (G8V), sp721 (G5V), sp725 (G0V).
Night 7/8 : Files sp872 (M8.5III), sp875 (M8III), sp877 (K2I), sp879 (F2I), sp883 (M7III)
Night 8/9 : Files sp994 (O9V)

— *October 1991.* Observers A. Lançon and J.P.Maillard. 2 nights.
Night 30/31 : Files sp280 (F8V), sp283 (M7I), sp285 (F7V), sp287 (O9V), sp291 (M2V), sp310 (M7V), sp325 (F8V).
Night 31/1 : Files sp418 (M5III), sp429 (F8V), sp456 (F8V).

— *Others 1989-90.* Observers T.X.Thuan and J.P.Maillard.
Files sp101 (O5V), sp102 (O9V), sp103 (F3V), sp104 (K0III), sp105 (K2III), sp106 (K2III), sp107 (M3III), sp108 (M4III0, sp109 (M5III), sp110 (M1I).

— *March 1994.* Observateurs B. Rocca-Volmerange and J.P. Maillard. 3 nights.
Night 1/2 : Files sp814 (F5V), sp816 (K3I), sp841 (G5III), sp846 (G2I), sp848 (K5III), sp876 (CII), sp878 (C), sp887 (C), sp891 (F5V)
Night 2/3 : Files sp661 (F5V), sp663 (G5III).
Night 3/4 : Files sp068 (G5?), sp070 (O9V), sp081 (B0.5V), sp083 (B2I).

References

Photometry: Gezari et al. 1994, NASA ref. publ. 1196 (via CDS)
Extinction: Neckel et al. 1980, A&ASS 42, 251 ; Gray 1994, PASP 106, 1248
Teffs: Gray 1994, PASP 106, 1248 ; Blackwell et al 1990, A&A 232, 396 ; Bell et al. 1994, MNRAS 268, 771 ; McWilliam 1990, ApJSS 74, 1075

Table 1: List of individual spectrum files - Class V

Object	Files	cont.	(h-k)obs.	(h-k)litt.	type	comments (litt.)	qual.	crossid
HD 46223	sp101(r)		0.042/-0.070	0.04	O5V	Av 1.74 ($\rightarrow$ E(H-K) 0.10)	2	SAO 114017
						hot dust emission?		
HD 242908	sp070(r)		0.020/-0.105		O5V	Av 1.91 ($\rightarrow$ E(H-K) 0.11)	3	BD+33 1023, NGC 1893 269
HD 199579	sp022(r)	t40000g45	-0.035/-0.114		O6V	Av 1.19 ($\rightarrow$ E(H-K) 0.07)	1	SAO 50263, HR 8023
HR 6175	sp995(r)		-0.056/-0.122	-0.05/0.	O9V	Av 1.02 ($\rightarrow$ E(H-K) 0.06)	1	HD 149757, SAO 160006, ζ Oph
						(aver. of sp994,sp102)	(1,1)	
HR 8406	sp287(r)		0.026/-0.050		O9V	Av 1.15 ($\rightarrow$ E(H-K) 0.07)	2	HD 209481, SAO 33990, LZ Cep
HD 35653	sp081(r)	t25000g35	0.069/-0.015		B0.5V	Av 1.27 ($\rightarrow$ E(H-K) 0.075	1	SAO 58056, BD+33 1049
						Teff 25000		
HD 186182	sp298		-0.066		B3-5V	–	2	SAO 105164, BD+14 4006
HD 199629	sp282(r)	t9250g40	0.006/-0.002		A1V	Av 0.13 ($\rightarrow$ E(H-K) 0.01)	2	SAO 50274, HR 8028, ν Cyg
BD+05 3423	sp330		0.020		A2(V)	–	2	SAO 122514
HD 122408	sp247	t9000g40	0.009		A3V	Av 0.01	1	SAO 120238, HR 5264, τ Vir
HD 157950	sp328	t6750g45	0.025		F3V	Av 0.06, Teff 6750	2	SAO 141665, HR 6493
HR 3859	sp103		0.037		F3V	–	1	HD 83962, SAO 14976, BD+65 731
HD 113713	sp662	t6250g45	0.037		F5V	–	1	SAO 100407, BD+15 2541, AGKR 11717
						(aver. of sp661,sp891)	(1,2)	
HR 1436	sp814	t6250g45	0.034		F5V	–	1	HD 28736, Hyades 90, SAO 111879
HR 7925	sp339		0.020		F6IV	–	3	HD 197373, SAO 18979
HD 165908	sp276		0.039	0.02/0.06	F7V	Av 0.08	1	HR 6775, SAO 66648, B Her
HR 8665	sp285		0.059		F7V	Av 0.07, F6III?, Teff 6200	2	SAO 108165, HD 215648, ξ Peg
HR 458	sp429	t6000g45	0.039	0.15??	F8V	Av 0.06, Teff 6150/6200	2	HD 9826, SAO 37362, 50 And
HR 1780	sp457	t6000g45	0.031		F8V	Av 0.06	1	HD 35296, SAO 94526, 111 Tau
						(aver. of sp456,sp280,sp325)	(1,2,1)	
HR 4540	sp301		0.032		F9V	Av 0.10	1	β Vir, HD 102870
HD 109358	sp265	t6000g45	0.031	0.02/0.08	G0V	–	2	SAO 44230, Bet CVn, HR 4785
HR 5868	sp725	t6000g45	0.035	0.02/0.06	G0V	–	1	HD 141004, SAO 121186, λ Ser
HR 5853	sp374	t5750g45	0.031		G2.5V	–	2	HD 140538, SAO 121152, ψ Ser
HD 190605	sp013	t5750g45	0.053		G2V	–	2	SAO 88162, BD+25 4090
HD 26736	sp068		0.046	0.04	G5	B8II-III? ext?	3	Cl Melotte 25 15, Hyades 15, BD+23 649, SAO 76516
HR 5659	sp721		0.068		G5V	–	2	HD 135101, SAO 101437, BD+19 2939
HD 150205	sp316	t5750g45	0.051		G5V	–	3	SAO 84499, BD+29 2860
BD+02 3001	sp311		0.078		G8V	–	3	HD 141272, SAO 121196
HR 5544	sp719		0.069	0.02/0.04??	G8V	–	1	HD 131156, SAO 101250, ξ Boo
HD 190470	sp011		0.062		K3V	–	3	SAO 88147, BD+25 4085
HD 157881	sp326		0.145	0.11/0.13	K7V	–	3	SAO 122374, BD+02 3312
HD 151288	sp318		0.113		K7.5V	–	3	BD+33 2777, SAO 65525
Gliese 880	sp291		0.175	0.19/0.22	M2V	–	2	HD 216899, SAO 108272, BD+15 4733
Gliese 83.1	sp310		0.320	0.30	M7V	–	1	TZ Ari

Table 2: List of individual spectrum files - Class III

Object	Files	cont.	(h-k)obs.	(h-k)litt.	type	comments (litt.)	qual.	crossid
HR 7711	sp400		-0.026		A3III	–	3	HD 191747, SAO 88295, BD+26 3815
HR 4900	sp409	t8000g35	-0.003		A7III	–	2	HD 112097, BD+13 2602, 41 Vir
HR 8198	sp404		0.026		A8III	–	3	HD 203925, SAO 89685
HR 8043	sp349	t5000g30	0.049		G5III	–	2	HD 200039, SAO 9911, BD+75 764
HR 3323	sp664		0.065		G5III	Teff 5176, log g 2.6	2	HD 71369, SAO 14573, 1 UMa, o UMa
						(aver. of sp663,sp406)	(3,3)	
HR 5160	sp652		0.049		G6III	–	2	HD 119445, SAO 44720, BD+42 2431
HR 4697	sp407		0.056		G8III	–	2	HD 107383, SAO 100053, IRC+20241
HR 6950	sp384		0.072		G8IV	–	2	HD 170829, SAO 86142, BD+20 3821
SAO 119580	sp353		0.065		K1IIII	–	2	HR 4849, HD 111028, 33 Vir, BD+10 2468
HR 8551	sp296		0.070	0.08	K0III	–	2	HD 212943, SAO 127540, 35 Peg
HD 143666	sp104		0.071		K0III	–	1	SAO 101879, HR 5966, r Her
HD 140573	sp105		0.071	0.11	K2III	Teff 4550	1	SAO 121157, HR 5854, α Ser
HR 4945	sp413		0.092		K1III		2	HD 113847, SAO 44465
HD 137759	sp106		0.096		K2III		1	SAO 29520, HR 5744, ι Dra
HR 8498	sp295		0.177	0.10/0.15	K3II-III	–	2	HD 211388, SAO 72191, 1 Lac
HR 6136	sp314		0.180	0.14	K4III	–	2	HD 148513, SAO 121623
HR 6228	sp320		0.181	0.17	K5III	–	2	HD 151217, SAO 121843, I Her
HD 77189	sp848		0.162		K5III	–	1	SAO 61213, BD+39 2187
BD-02 3873	sp309		0.210		M2III	–	3	HD 128684, SAO 140046, IRC+00247
SAO 29251	sp644		0.233		M2III		1	HD 129779, IRC+60229, BD+55 8085
BD+35 4938	sp019		0.167		M3III	–	2	
BD+09 3920	sp009		0.183	0.22/0.23	M3III	–	1	
BD+29 3730	sp007		0.208	0.24/0.27	M3III	–	1	HD 186860, SAO 68801, V1967 Cyg
SAO 63349	sp107		0.213		M3III	–	1	BD+31 2450
HR 4765	sp417		0.210		M4III	–	1	HD 108907, SAO 15816, CQ Dra
SAO 82478	sp108		0.255		M4III	–	1	HD 110964, BD+27 2167
SAO 62808	sp109		0.257		M5III	–	1	BD+40 2491
SAO 30107	sp650		0.267		M5III	–	1	HD 152152, BD+58 1672, AH Dra
SAO 124789	sp418		0.271		M5III	–	1	HD 184313, BD+05 4190, V450 Aql
HR 6119	sp883		0.398	$\sim$ 0.5	M7III	–	1	HD 148206, SAO 102160, V* U Her
WW SER	sp875		0.496	0.4/0.5	M8III	–	1	IRC+00268, RAFGL 1777
IRC 20281	sp872		0.827	1/2.7	M8.5III	–	1	WX Ser

Table 3: List of individual spectrum files - Class I and C

Object	Files	cont.	(h-k)obs.	(h-k)litt.	type	comments (litt.)	qual.	crossid
HD 41398	sp083(r)		0.032/-0.070		B2I	Av 1.55 ($\rightarrow$ E(H-K) 0.09) Teff 18000	2	BD+28 1008, SAO 77949
HD 202850	sp284r		0.052/?	0.03/0.08	B9I	–	2	SAO 71165, HR 8143, σ Cyg
HR 4912	sp419(r)	t7250g20	0.124/0.009		F3I	E(H-K) 0.11	2	HD 112374, SAO 181244, LN Hya
BD+38 2803	sp879(r)		0.067/0.025	0.06	F2I/F8	E(H-K) 0.04	3	UU Her, SAO 65424
HD 74395	sp846(r)		0.036/0.022		G2I	Av 0.2 ($\rightarrow$ E(H-K) 0.01)	2	BD-06 2708, HR 3459, F Hya, SAO 136221
HR 5009	sp415		0.045		K0I	–	3	HD 115337, SAO 2164, BD+81 416
HD 152326	sp877		0.097		K2I	–	1	SAO 84651, BD+24 3069, HR 6270, 51 Her
HD 28749	sp816		0.098		K3I	(K3II-III?) Teff 4250, log g 2.0	1	BD-00 713, 45 Eri, HR 1437, SAO 131270, IRC+61
HD 4933	sp841		0.200		G5III	better: K5I-II	1	BD+22 138, AGKR 710, SAO 74323
HR 2197	sp110		0.292	0.29/0.30	M1I		1	HD 42543, SAO 78098, BU Gem
BD+64 1842	sp020		0.307	0.33/0.39	M2II	–	1	SAO 20788
AZ CYG	sp293		0.394	0.38/0.50	M2I	–	2	BD+45 3349, SAO 50296, IRC+50351
BC CYG	sp286		0.542	0.52/0.54	M4I	–	2	BD+37 3903, IRC+40409
KY CYG	sp290		0.643	0.59/0.68	M4I	–	1	IRC+40415
MY CEP	sp283		0.773		M7I	–	1	IRC+60375, RAFGL 2987
HD 92839	sp876		0.365	0.39/0.43	C5II	var.	2	SAO 15274, HR 4195, BD+68 617, VY UMa, IRC+70100
HD 112559	sp878		0.517	0.41/0.49	C/N	–	2	SAO 15945, BD+66 780, RY Dra
HD 100764	sp887		0.384	0.67	C	dust emission?	2	SAO 156773, BD-13 3407