

## Effective Lande Factors of the Solar Spectral Lines in 5000Å–7000Å and Sunspot Magnetic Fields\*

By

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### Abstract

The effective Lande factors of the solar spectral lines in the wavelength region 5000–7000Å are tabulated. As an application of this table, sunspot spectra are analyzed to statistically determine the magnetic field strength.

### 1. Introduction

Lande factor is sensitivity of spectral lines to magnetic fields. Zeeman shifts appear proportionally to magnetic field strength with this factor in simple triplet line cases. In cases of complicated atomic transitions many Zeeman components appear. A single factor which represents averaged Zeeman shifts proportional to magnetic field strengths is conveniently defined. After Beckers (1969), this is given as

$$g_{eff} = (g_u + g_l)/2 + \Delta g \cdot \Delta J(J_u + J_l + 1)/4 \quad (1)$$

where  $g_u, g_l$ ; Lande factors of the upper and lower energy levels,

$J_u, J_l$ ; total angular momenta of the upper and lower energy levels,

$\Delta g = g_u - g_l$ , and

$\Delta J = J_u - J_l$ .

The Zeeman shift,  $\Delta\lambda_z$ , due to magnetic field strength,  $B$ , is assumed to be given as

$$\Delta\lambda_z = (\mu_B \lambda^2 / hc) g_{eff} B \quad (2)$$

The derivation of the formulae (1) and (2) takes account of only the  $\sigma$ -components, because the Zeeman shift rarely appears in the  $\pi$ -components. The assumption becomes true in case of the longitudinal magnetic field where the  $\pi$ -components vanish.

The effective Lande factors as well as the shift and the intensity of the Zeeman

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components were first tabulated by Beckers (1969) for possible atomic term transitions. Later Stenflo and Lindegren (1977) listed them for solar FeI lines in 4000–6860Å. In this report the effective Lande factors are given for all the solar spectral lines with known term transitions in 5000Å–7000Å. As an application, they are used to statistically determine the magnetic field strength of sunspots.

## 2. Table of Effective Lande Factors

Table 1 gives the effective Lande factors. First to third columns are line wavelength in Å, element, and multiplet number from *The Solar Spectrum* (Moore et al. 1966). Fourth column gives lower and upper terms of the transition which are taken from *A Multiplet Table of Astrophysical Interest* (Moore 1959). Effective Lande factors in fifth column come from the Becker's table (Beckers 1969) for the transitions in the fourth column. Sixth column shows the lower and upper term Lande factors (e.g., Condon and Shortley 1935). In the last column, after Moore et al. (1966) definition, remark 1 means a blend of two lines which happen to have the same wavelength and remark 2 shows blended lines which do not separate in the solar spectrum.

Table 1. Effective Lande factors

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value	Note
5000.349	Ni I	145	3F3-3F3	1.083	1.083	1.083
5000.735	FeII p	25	4P0.5-6F1.5	0.667	2.667	1.067
5000.990	Ti I	173	5G4-5F3	1.000	1.150	1.250
5001.472	CaII	15	2P0.5-2D1.5	0.833	0.667	0.800
5001.870	Fe I	965	3F4-3D3	1.125	1.250	1.333
5002.328	VI	132	2H4.5-2I5.5	0.955	0.909	0.923
5002.798	Fe I	687	5F3-5F4	1.500	1.250	1.350
5003.747	Ni I	50	1D2-3D3	1.667	1.000	1.333
5003.879	Fe I p	211	3F2-5F2	0.833	0.667	1.000
5004.049	Fe I -	1112	3P2-5P1	1.000	1.500	2.500
5004.212	Co I ?	141	2D1.5-2P0.5	0.833	0.800	0.667
5004.365	Cr I	122	5D4-5P3	1.250	1.500	1.667
5004.894	Mn I	20	4D2.5-6F3.5	1.429	1.371	1.397
5005.171	TiII p	71	2D1.5-4D1.5	1.000	0.800	1.200
5005.719	Fe I	984	3D3-3D3	1.333	1.333	1.333
5006.120	Fe I	318	7F5-7D5	1.550	1.500	1.600
5006.694	Fe I p	211	3F3-5F3	1.167	1.083	1.250
5007.217	Ti I	38	5F2-5G3	0.833	1.000	0.917 1
5007.280	Fe I	966	3F3-5D3	1.292	1.083	1.500 1,2
5007.280	Fe I	1065	5D4-5F5	1.200	1.500	1.400 1,2
5009.655	Ti I	5	3F3-3D3	1.208	1.083	1.333
5010.024	Ni I	111	5F1-5F2	1.500	0.000	1.000
5010.218	TiII	113	2D1.5-2D1.5	0.800	0.800	0.800
5010.327	Fe I p	211	3F4-5F4	1.300	1.250	1.350
5010.943	Ni I	144	3F3-3D3	1.208	1.083	1.333
5011.204	Fe I	1066	5D1-5D2	1.500	1.500	1.500
5012.075	Fe I	16	5F5-5F5	1.400	1.400	1.400 1
5012.156	Fe I p	1070	5D2-3D3	1.167	1.500	1.333 1
5012.448	Ni I	111	5F3-5F3	1.250	1.250	1.250
5012.700	Fe I	1093	5F2-5H3	0.000	1.000	0.500
5013.305	Ti I -	173	5G5-5F4	1.100	1.267	1.350 2
5013.305	Cr I	60	5P3-5D4	1.250	1.667	1.500 2
5013.690	TiII	71	2D2.5-4D2.5	1.286	1.200	1.371 1
5014.197	Ti I	5	3F2-3D1	0.750	0.667	0.500 1
5014.285	Ti I	38	5F1-5G2	0.500	0.000	0.333 1
5014.60	VI	132	2H5.5-2I6.5	1.038	1.091	1.077
5014.951	Fe I	965	3F3-3D2	1.000	1.083	1.167
5015.303	Fe I	968	3F2-5P2	1.250	0.667	1.833
5016.168	Ti I	38	5F5-5G5	1.333	1.400	1.267
5016.480	Fe I	1089	5F3-5F2	1.500	1.250	1.000
5017.584	Ni I	111	5F5-5F5	1.400	1.400	1.400
5018.036	Fe I p	884	3D1-3D2	1.500	0.500	1.167
5018.286	Ni I	162	3D1-3F2	0.750	0.500	0.667
5018.450	FeII	42	6S2.5-6P2.5	1.943	2.000	1.886
5019.176	Fe I	1242	3F2-3F2	0.667	0.667	0.667
5019.22	Cr I	20	5D1-7P2	2.750	1.500	2.333
5019.478	FeII ?-	168	2F3.5-2G4.5	1.056	1.143	1.111
5019.732	Fe I	966	3F2-5D2	1.083	0.667	1.500
5020.031	Ti I	38	5F4-5G4	1.250	1.350	1.150 2
5020.031	(CaII)	15	2P1.5-2D2.5	1.100	1.333	1.200 2
5020.688	Fe I p	629	3D3-5P3	1.500	1.333	1.667
5020.819	Fe I	748	1D2-3P1	0.750	1.000	1.500

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value		Note
5021.151	CaII	15	2P1.5-2D1.5	1.067	1.333	0.800	
5021.602	FeI -	1093	5F3-5H4	0.375	1.250	0.900	1
5021.686	FeI p	1067	5D1-5P1	2.000	1.500	2.500	1
5021.923	CrI	8	5S2-7D3	1.500	2.000	1.750	2
5021.923	FeI	629	3D1-5P2	2.500	0.500	1.833	2
5022.241	FeI	965	3F2-3D1	0.750	0.667	0.500	
5022.874	TiI	38	5F3-5G3	1.083	1.250	0.917	
5023.189	FeI	1095	5F2-3D1	1.250	1.000	0.500	
5023.348	TiI	199	3D2-3P2	1.333	1.167	1.500	
5023.496	FeI	1150	5G5-3F4	1.300	1.267	1.250	
5024.850	TiI	38	5F2-5G2	0.667	1.000	0.333	
5025.082	FeI p	1110	3P1-5F2	0.750	1.500	1.000	
5025.566	TiI	173	5G6-5F5	1.167	1.333	1.400	2
5025.566	(CrI)	20	5D2-7P3	2.333	1.500	1.917	2
5025.764	FeI	466	3P1-5D2	1.500	1.500	1.500	2
5026.488	NiI	158	3D2-5F3	1.333	1.167	1.250	
5027.130	FeI	1065	5D3-5F4	1.125	1.500	1.350	
5027.230	FeI	883	3D2-3F3	1.000	1.167	1.083	
5027.354	FeI p	968	3F2-5P1	-0.250	0.667	2.500	
5027.525	FeI p	960	3F4-7F4	1.357	1.250	1.500	
5027.762	FeI	1110	3P2-3F3	0.667	1.500	1.083	
5028.133	FeI	791	1H5-1G4	1.000	1.000	1.000	
5029.815	MnI	20	4D1.5-6F2.5	1.400	1.200	1.314	
5030.782	FeI	585	3H6-3I7	1.071	1.167	1.143	
5031.024	ScII -	23	1D2-1P1	1.000	1.000	1.000	2
5031.024	FeI	746	1D2-3G3	0.500	1.000	0.750	2
5031.024	FeI	883	3D3-3F3	1.208	1.333	1.083	2
5031.916	FeI	1150	5G4-3F3	1.250	1.150	1.083	
5032.733	NiI	207	1D2-3F3	1.167	1.000	1.083	
5034.057	CoI	91	2D1.5-2F2.5	0.900	0.800	0.857	
5035.370	NiI	143	3F3-3G4	1.000	1.083	1.050	
5035.910	TiI	110	3F4-3G5	1.100	1.250	1.200	1
5035.974	NiI	145	3F4-3F4	1.250	1.250	1.250	1
5036.471	TiI	110	3F3-3G4	1.000	1.083	1.050	
5036.924	FeI	465	3P2-5D2	1.500	1.500	1.500	2
5036.924	FeII	36	4F3.5-6P3.5	1.476	1.238	1.714	2
5037.808	TiII p	71	2D2.5-4D1.5	1.200	1.200	1.200	2
5038.403	TiI	110	3F2-3G3	0.833	0.667	0.750	
5038.596	NiI	166	3D1-1D2	1.250	0.500	1.000	
5038.799	FeI ?p	510	1G4-5D4	1.250	1.000	1.500	
5039.060	CI	4	3P1-3D2	1.000	1.500	1.167	2
5039.060	CI	4	3P0-3D1	0.500	0/0	0.500	2
5039.258	FeI	687	5F4-5F5	1.500	1.350	1.400	
5039.366	NiI	142	3F3-3P2	0.667	1.083	1.500	
5039.964	TiI	5	3F3-3D2	1.000	1.083	1.167	
5040.614	TiI	38	3F3-5G2	1.833	1.083	0.333	
5040.890	FeI	1094	5F2-3G3	0.500	1.000	0.750	2
5040.890	FeI	1092	5F3-5G3	1.083	1.250	0.917	2
5041.076	FeI	16	5F3-5F2	1.500	1.250	1.000	
5041.324	FeI p	1110	3P0-5F1	0.000	0/0	0.000	2
5041.324	FeI p	1328	1F3-3G3	0.875	1.000	0.750	2
5041.619	CaI	34	1D2-1P1	1.000	1.000	1.000	

Table 1.(continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g- value		Note
5041.763	Fe I	36	3F4-3F3	1.500	1.250	1.083	1
5042.192	Ni I	131	3P1-3D2	1.000	1.500	1.167	
5042.58	Mn I ?	20	4P0.5-6F1.5	0.667	2.667	1.067	
5043.588	Ti I	38	5F4-5G3	2.000	1.350	0.917	
5044.033	Ce II ?	16	4K7.5-4H6.5	0.633	1.090	1.231	
5044.218	Fe I	318	7F4-7D5	1.800	1.500	1.600	
5045.407	Ti I	38	5F5-5G4	1.900	1.400	1.150	
5046.55	Zr I ?	62	3F4-3G5	1.100	1.250	1.200	
5047.120	Fe I p	1242	3F3-3F3	1.083	1.083	1.083	
5047.302	VII	127	3D3-3F4	1.125	1.333	1.250	2
5048.062	Ni I	161	3D1-3D1	0.500	0.500	0.500	
5048.225	Ti I	199	3D1-3P1	1.000	0.500	1.500	
5048.439	Fe I	984	3D1-3D2	1.500	0.500	1.167	
5048.76	Cr I	20	5D2-7P2	1.917	1.500	2.333	
5048.853	Ni I	195	1F3-1F3	1.000	1.000	1.000	
5049.827	Fe I	114	3P2-3D3	1.167	1.500	1.333	
5050.138	Fe I p	963	3F4-5F5	1.700	1.250	1.400	2
5051.305	Fe I p	1089	5F4-5F3	1.500	1.350	1.250	
5051.504	Ni I	144	3F4-3D3	1.125	1.250	1.333	
5051.642	Fe I	16	5F4-5F4	1.350	1.350	1.350	
5051.905	Cr I	8	5S2-7D2	2.000	2.000	2.000	
5052.151	Cr I	12	1P1-1D2	1.000	1.000	1.000	
5052.880	Ti I	199	3D3-3P2	1.167	1.333	1.500	
5052.990	Fe I	585	3H5-3I5	0.933	1.033	0.833	
5053.295	W I	1	5D1-7D1	2.250	1.500	3.000	
5054.083	Ti I	294	3G4-3G4	1.050	1.050	1.050	
5054.647	Fe I	884	3D2-3D3	1.500	1.167	1.333	
5055.988	Fe I	1149	5G5-3H4	2.200	1.267	0.800	
5056.846	Fe I	1111	3P1-5D1	1.500	1.500	1.500	2
5057.487	Fe I	1067	5D2-5P2	1.667	1.500	1.833	2
5057.487	Fe I	1150	5G3-3F2	1.167	0.917	0.667	2
5057.985	Fe I	967	3F3-7S3	1.542	1.083	2.000	
5058.495	Fe I	884	3D3-3D3	1.333	1.333	1.333	
5060.074	Fe I	1	5D4-7D3	1.125	1.500	1.750	2
5060.074	Fe I	1095	5F1-3D1	0.250	0.000	0.500	2
5062.104	Ti I	199	3D2-3P1	1.000	1.167	1.500	
5064.066	Ti I	294	3G5-3G5	1.200	1.200	1.200	
5064.336	Sc I -	13	4F3.5-4F4.5	1.500	1.238	1.333	1
5064.658	Ti I	5	3F4-3D3	1.125	1.250	1.333	
5064.974	Fe I p	1095	5F3-3D2	1.333	1.250	1.167	1,2
5064.974	(Zr I)	62	3F3-3G4	1.000	1.083	1.050	1,2
5065.030	Fe I	1094	5F3-3G4	0.750	1.250	1.050	1
5065.194	Fe I	883	3D3-3F4	1.125	1.333	1.250	
5065.904	Cr I	60	5P3-5D3	1.583	1.667	1.500	
5065.989	Ti I	110	3F3-3G3	0.917	1.083	0.750	
5067.155	Fe I	1092	5F4-5G4	1.250	1.350	1.150	
5067.746	Cr I	60	5P2-5D3	1.167	1.833	1.500	
5067.829	Ni I	141	3F2-5F2	0.833	0.667	1.000	
5068.302	Cr I	20	5D3-7P3	1.708	1.500	1.917	2
5068.302	Ti I	294	3G3-3G3	0.750	0.750	0.750	2
5068.771	Fe I	383	7P4-7D3	1.750	1.750	1.750	
5069.088	Ti II	113	2D1.5-2D1.5	0.800	0.800	0.800	

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value		Note
5069.36	Ti I	199	3D1-3P0	0.500	0.500	0/0	
5069.625	Fe I p	211	3F3-5F4	1.750	1.083	1.350	2
5070.23	Sc I	13	4F2.5-4F3.5	1.500	1.029	1.238	
5071.491	Ti I	110	3F4-3G4	1.150	1.250	1.050	
5072.080	Fe I	1089	5F2-5F2	1.000	1.000	1.000	
5072.298	Ti II	113	2D2.5-2D2.5	1.200	1.200	1.200	
5072.677	Fe I	1095	5F4-3D3	1.375	1.350	1.333	
5072.922	Cr I	8	5S2-7D1	1.500	2.000	3.000	
5074.753	Fe I	1094	5F4-3G5	0.900	1.350	1.200	
5075.164	Fe I p	1089	5F5-5F4	1.500	1.400	1.350	
5075.818	Sc I	13	4F1.5-4F2.5	1.500	0.400	1.029	
5076.275	Fe I	1089	5F1-5F1	0.000	0.000	0.000	1
5076.326	Ni I	143	3F4-3G4	1.150	1.250	1.050	1
5078.28	Zr I	62	3F2-3G3	0.833	0.667	0.750	
5078.539	Fe I ?p	744	1D2-5P1	0.250	1.000	2.500	
5078.981	-Fe I	1092	5F1-5G2	0.500	0.000	0.333	
5079.230	Fe I	66	5P2-5P1	1.500	1.833	2.500	
5079.745	Fe I	16	5F2-5F1	1.500	1.000	0.000	
5079.965	Ni I	60	1S0-3D1	0.500	0/0	0.500	
5080.539	Ni I	143	3F4-3G5	1.100	1.250	1.200	
5080.938	Fe I	585	3H5-3I6	1.000	1.033	1.024	
5081.119	Ni I	194	1F3-1G4	1.000	1.000	1.000	
5081.358	-Ti I p	109	3F2-3D3	2.000	0.667	1.333	
5081.581	Sc I	13	4F4.5-4F4.5	1.333	1.333	1.333	
5081.852	Fe I p	962	3F4-5G4	1.200	1.250	1.150	
5082.349	Ni I	130	3P1-3P1	1.500	1.500	1.500	
5082.654	Fe I p	466	3P0-5D1	1.500	0/0	1.500	
5083.345	Fe I	16	5F3-5F3	1.250	1.250	1.250	
5083.703	Sc I	13	4F3.5-4F3.5	1.238	1.238	1.238	
5084.105	Ni I	162	3D3-3F4	1.125	1.333	1.250	
5084.552	Fe I -	932	1G4-3G5	1.600	1.000	1.200	2
5085.340	Ti I	109	3F2-3D2	0.917	0.667	1.167	
5085.489	Ni I -	130	3P1-3P2	1.500	1.500	1.500	2
5085.489	Sc I	13	4F2.5-4F2.5	1.029	1.029	1.029	2
5085.679	Fe I p	1093	5F5-5H6	0.750	1.400	1.214	
5085.911	Fe I p	963	3F3-5F4	1.750	1.083	1.350	
5086.772	Fe I p	1067	5D3-5P3	1.583	1.500	1.667	
5086.931	Sc I	13	4F1.5-4F1.5	0.400	0.400	0.400	
5087.062	Ti I	109	3F2-3D1	0.750	0.667	0.500	
5087.426	Y II	20	3F4-3F4	1.250	1.250	1.250	
5088.158	Fe I	1066	5D3-5D4	1.500	1.500	1.500	
5088.543	Ni I -	190	1F3-3G3	0.875	1.000	0.750	
5088.960	Ni I	162	3D3-3F3	1.208	1.333	1.083	
5089.831	Nd II ?	46	4I4.5-6H3.5	0.556	0.727	0.825	
5090.782	Fe I	1090	5F3-5D2	1.000	1.250	1.500	
5091.725	Fe I	717	1P1-5D1	1.250	1.000	1.500	2
5091.725	Fe I	745	1D2-5F2	1.000	1.000	1.000	2
5091.888	Cr I	20	5D3-7P2	0.667	1.500	2.333	
5093.450	Cr I	20	5D4-7P4	1.625	1.500	1.750	
5094.418	Ni I	164	3D1-1P1	0.750	0.500	1.000	
5094.945	Co I	92	2D1.5-2D2.5	1.500	0.800	1.200	
5096.740	Sc I	13	4F2.5-4F1.5	1.500	1.029	0.400	

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value		Note
5096.865	Ni I	111	5F2-5F3	1.500	1.000	1.250	
5097.005	Fe I	1092	5F2-5G3	0.833	1.000	0.917	
5097.321	Cr II	24	4P0.5-6D1.5	1.667	2.667	1.867	
5098.578	Fe I	984	3D2-3D3	1.500	1.167	1.333	
5098.707	Fe I	66	5P3-5P2	1.500	1.667	1.833	
5099.081	Fe I	965	3F2-3D2	0.917	0.667	1.167	
5099.329	Ni I	141	3F4-5F4	1.300	1.250	1.350	2
5099.329	(Sc I)	13	4F3.5-4F2.5	1.500	1.238	1.029	2
5099.936	Ni I	161	3D3-3D3	1.333	1.333	1.333	
5100.656	Fe II	35	4F4.5-6F3.5	1.222	1.333	1.397	
5100.854	Fe II	185	2D1.5-2D1.5	0.800	0.800	0.800	
5101.083	Sc I	13	4F4.5-4F3.5	1.500	1.333	1.238	2
5102.243	Fe I p	65	5P1-3F2	-0.250	2.500	0.667	
5102.973	Ni I	49	1D2-3F3	1.167	1.000	1.083	
5104.033	Fe I	465	3P2-5D3	1.500	1.500	1.500	
5104.195	Fe I	1092	5F5-5G5	1.333	1.400	1.267	
5104.440	Fe I	1090	5F2-5D1	0.750	1.000	1.500	
5105.545	Cu I	2	2D2.5-2P1.5	1.100	1.200	1.333	
5106.238	V II	127	3D2-3F3	1.000	1.167	1.083	
5107.457	Fe I	16	5F2-5F2	1.000	1.000	1.000	
5107.651	Fe I	36	3F3-3F2	1.500	1.083	0.667	
5108.912	Co I ?-	181	2G4.5-4G4.5	1.141	1.111	1.172	2
5108.912	Cr I	60	5P3-5D2	1.833	1.667	1.500	2
5109.435	Ti I	109	3F3-3D3	1.208	1.083	1.333	
5109.657	Fe I	1089	5F1-5F2	1.500	0.000	1.000	
5110.372	Fe I p	790	1H5-1H5	1.000	1.000	1.000	1
5110.435	Fe I	1	5D4-7D4	1.575	1.500	1.650	1
5110.763	Cr I	60	5P2-5D2	1.667	1.833	1.500	
5112.279	Zr II	95	2D1.5-2D1.5	0.800	0.800	0.800	
5112.490	Cr I	19	5D3-7D4	1.875	1.500	1.650	
5113.246	Co I	91	2D2.5-2F2.5	1.029	1.200	0.857	
5113.447	Ti I	109	3F3-3D2	1.000	1.083	1.167	
5114.505	Fe I p	1242	3F4-3F4	1.250	1.250	1.250	2
5114.505	La II	36	3D1-3D1	0.500	0.500	0.500	2
5115.398	Ni I	177	3G5-3F4	1.100	1.200	1.250	
5115.790	Fe I	789	1H5-3G4	0.900	1.000	1.050	
5116.049	Cr II	24	4P0.5-6D0.5	3.000	2.667	3.333	
5117.166	Ce II ?	23	4I7.5-4I7.5	1.200	1.200	1.200	
5117.942	Mn I	32	4G2.5-4F1.5	0.700	0.571	0.400	
5119.120	Y II	20	3F2-3F3	1.500	0.667	1.083	
5119.903	Fe I p	960	3F4-7F5	2.000	1.250	1.500	
5120.346	Fe II p	35	4F3.5-6F2.5	1.143	1.238	1.314	2
5120.420	Ti I	288	1H5-1I6	1.000	1.000	1.000	
5120.886	Fe I p	1150	5G2-3F2	0.500	0.333	0.667	2
5121.563	Ni I	177	3G3-3F3	0.917	0.750	1.083	
5121.649	Fe I	1095	5F2-3D2	1.083	1.000	1.167	
5121.982	Fe I ?p	745	1D2-5F3	1.500	1.000	1.250	
5122.121	Cr I	19	5D4-7D5	1.800	1.500	1.600	
5122.798	Co I	170	4F1.5-4F1.5	0.400	0.400	0.400	2
5123.006	La II	36	3D2-3D2	1.167	1.167	1.167	
5123.222	Y II	21	3F2-1P1	0.500	0.667	1.000	
5123.291	Fe I	1150	5G3-3F3	1.000	0.917	1.083	2

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value		Note
5123.470	Cr I	20	5D4-7P3	0.875	1.500	1.917	
5123.730	Fe I	16	5F1-5F1	0.000	0.000	0.000	
5124.197	Fe I	1035	3F2-3D2	0.917	0.667	1.167	2
5124.617	Fe I p	585	3H4-3I5	0.900	0.800	0.833	
5125.128	Fe I	1090	5F4-5D3	1.125	1.350	1.500	
5125.250	Ni I	160	3D3-3G4	0.625	1.333	1.050	
5126.199	Fe I	1089	5F3-5F3	1.250	1.250	1.250	2
5126.199	(Co I)	170	4F2.5-4F2.5	1.029	1.029	1.029	2
5127.368	Fe I	16	5F4-5F5	1.500	1.350	1.400	
5127.688	Fe I p	1	5D3-7D2	1.000	1.500	2.000	
5127.874	Fe II	167	2F2.5-2F2.5	0.857	0.857	0.857	2
5128.081	Ni I	113	5F3-3D2	1.333	1.250	1.167	2
5128.494	VI	123	6D4.5-6F5.5	1.227	1.556	1.455	2
5129.162	Ti II	86	2G4.5-2G4.5	1.111	1.111	1.111	
5129.377	Ni I	159	3D3-3P2	1.167	1.333	1.500	
5129.634	Fe I	965	3F3-3D3	1.208	1.083	1.333	
5130.372	Ni I	177	3G4-3F4	1.150	1.050	1.250	
5130.588	Nd II	75	6L10.5-6K9.5	1.119	1.238	1.263	2
5130.930	Fe I p	1149	5G5-3H5	1.150	1.267	1.033	
5131.308	Ti II p	86	2G3.5-2G4.5	1.500	0.889	1.111	
5131.476	Fe I	66	5P1-5P1	2.500	2.500	2.500	
5131.773	Ni I	114	5F3-3F3	1.167	1.250	1.083	
5132.674	Fe II p	35	4F4.5-6F4.5	1.384	1.333	1.434	
5132.950	Ti I	230	3H5-3G4	1.000	1.033	1.050	
5133.198	Fe I p	818	5P3-3F3	1.375	1.667	1.083	
5133.478	Co I	180	2G4.5-4H5.5	1.182	1.111	1.133	
5133.699	Fe I	1092	5F5-5G6	1.167	1.400	1.333	1
5136.099	Fe I	1036	3F2-1P1	0.500	0.667	1.000	
5136.800	Fe II	35	4F2.5-6F1.5	1.000	1.029	1.067	
5137.080	Ni I	48	1D2-1P1	1.000	1.000	1.000	
5137.393	Fe I	1090	5F5-5D4	1.200	1.400	1.500	
5137.961	Cr I	207	3G3-3G4	1.500	0.750	1.050	
5138.717	Cr I -	19	5D2-7D2	1.750	1.500	2.000	2
5139.261	Fe I	383	7P3-7D2	1.833	1.917	2.000	
5139.473	Fe I	383	7P4-7D4	1.700	1.750	1.650	
5139.648	Cr I	207	3G3-3G3	0.750	0.750	0.750	
5141.540	Fe I p	930	1G4-3F3	0.875	1.000	1.083	
5141.746	Fe I	114	3P1-3D1	1.000	1.500	0.500	
5142.276	Cr I	60	5P2-5D1	2.000	1.833	1.500	
5142.530	Fe I	1092	5F3-5G4	1.000	1.250	1.150	2
5142.530	Fe I	1090	5F1-5D1	0.750	0.000	1.500	2
5142.786	Ni I	161	3D2-3D2	1.167	1.167	1.167	
5142.936	Fe I	16	5F3-5F4	1.500	1.250	1.350	
5143.728	Fe I	65	5P2-3F3	0.333	1.833	1.083	
5145.102	Fe I	66	5P2-5P2	1.833	1.833	1.833	
5145.468	Ti I	109	3F4-3D3	1.125	1.250	1.333	
5146.119	Fe II p	35	4F3.5-6F3.5	1.317	1.238	1.397	2
5146.314	Fe I	1150	5G4-3F4	1.200	1.150	1.250	
5146.491	Ni I	162	3D2-3F3	1.000	1.167	1.083	
5146.776	Co I -	170	4F3.5-4F3.5	1.238	1.238	1.238	2
5147.482	Ti I	4	3F2-3F3	1.500	0.667	1.083	
5148.051	Fe I	1090	5F2-5D2	1.250	1.000	1.500	



Table 1.(continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value	Note
5148.237	Fe I	1095	5F3-3D3	1.292	1.250	1.333
5148.676	Ni I	158	3D3-5F4	1.375	1.333	1.350
5148.846	Na I	8	2P0.5-2S0.5	1.333	0.667	2.000
5149.796	Co I	39	4P1.5-4D0.5	2.167	1.733	0.000 2
5150.197	Fe I p	789	1H5-3G5	1.100	1.000	1.200 2
5150.852	Fe I	16	5F2-5F3	1.500	1.000	1.250 1
5150.938	Fe II p	35	4F1.5-6F0.5	0.667	0.400	-0.667 1
5151.917	Fe I	16	5F1-5F2	1.500	0.000	1.000
5152.190	Ti I	4	3F3-3F4	1.500	1.083	1.250
5153.241	Cu I	7	2P0.5-2D1.5	0.833	0.667	0.800 1
5153.410	Na I	8	2P1.5-2S0.5	1.167	1.333	2.000
5153.505	Cr II	24	4P1.5-6D2.5	1.600	1.733	1.657
5154.075	Ti II	70	2D1.5-2D2.5	1.500	0.800	1.200
5154.412	Fe II p	35	4F2.5-6F2.5	1.171	1.029	1.314 1
5155.132	Ni I	206	1D2-3F2	0.833	1.000	0.667
5155.771	Ni I	210	1D2-1F3	1.000	1.000	1.000
5156.356	Co I	180	2G3.5-4H4.5	1.111	0.889	0.970
5157.424	La II	97	3H4-1F3	0.500	0.800	1.000
5157.984	Ni I	111	5F4-5F5	1.500	1.350	1.400
5158.860	Co I	188	4D2.5-4P1.5	1.100	1.371	1.733
5159.065	Fe I	1091	5F2-5P1	0.250	1.000	2.500
5159.966	Fe I p	1095	5F1-3D2	1.750	0.000	1.167
5160.835	Fe II	167	2F3.5-2F3.5	1.143	1.143	1.143
5161.179	Fe II p-	35	4F1.5-6F1.5	0.733	0.400	1.067 2
5161.78	Cr I	60	5P1-5D0	2.500	2.500	0/0
5162.281	Fe I	1089	5F5-5F5	1.400	1.400	1.400
5164.552	Fe I	1166	3G4-3F3	1.000	1.050	1.083
5164.680	Fe I p	210	3F3-5D2	0.667	1.083	1.500 2
5164.913	Fe I	1033	3F3-3H4	0.375	1.083	0.800 2
5165.128	Co I	39	4P2.5-4D1.5	1.900	1.600	1.200 2
5165.415	Fe I	1089	5F4-5F4	1.350	1.350	1.350
5166.284	Fe I	1	5D4-7D5	1.800	1.500	1.600 2
5166.284	(Cr I)	207	3G4-3G4	1.050	1.050	1.050 2
5167.327	Mg I	2	3P0-3S1	2.000	0/0	2.000 1
5167.508	Fe I	37	3F4-3D3	1.125	1.250	1.333 1
5167.718	Fe I p	717	1P1-5D2	1.750	1.000	1.500
5167.954	Cr I	207	3G4-3G3	1.500	1.050	0.750
5168.194	Fe I p	964	3F3-5S2	0.167	1.083	2.000 2
5168.194	Fe I p	960	3F3-7F3	1.292	1.083	1.500 2
5168.663	Ni I	112	5F3-3G4	0.750	1.250	1.050
5168.908	Fe I	1	5D3-7D3	1.625	1.500	1.750
5169.050	Fe II	42	6S2.5-6P3.5	1.357	2.000	1.714
5169.300	Fe I p	1032	3F4-3D3	1.125	1.250	1.333
5170.106	Fe I p	1241	3F4-3H5	0.600	1.250	1.033
5171.028	Ru I	11	5D4-5F5	1.200	1.500	1.400 2
5171.610	Fe I	36	3F4-3F4	1.250	1.250	1.250
5172.221	Fe I p	210	3F4-5D3	0.875	1.250	1.500
5172.698	Mg I	2	3P1-3S1	1.750	1.500	2.000
5173.749	Ti I	4	3F2-3F2	0.667	0.667	0.667
5173.911	Pr II	35	5L9-5K8	1.056	1.133	1.153
5175.749	Fe I p-	1	5D2-7D1	0.750	1.500	3.000 2
5175.749	Ni I ?p	188	1F3-5F2	1.000	1.000	1.000 2

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value	Note
5176.138	Co I	92	2D2.5-2D2.5	1.200	1.200	
5176.565	Ni I	209	1D2-1D2	1.000	1.000	
5177.241	Fe I	930	1G4-3F4	1.125	1.000	
5177.411	Cr I	201	7D4-7D5	1.500	1.650	
5177.811	Cr I	206	3G3-3G4	1.500	0.750	
5178.801	Fe I	1166	3G5-3F4	1.100	1.200	
5179.125	Ni I	202	1D2-5F1	1.500	1.000	
5180.069	Fe I	1166	3G3-3F2	0.833	0.750	
5183.619	Mg I	2	3P2-3S1	1.250	1.500	
5184.196	Fe I p	1147	5G5-3G4	1.700	1.267	
5184.273	Fe I	1089	5F2-5F3	1.500	1.000	
5184.562	Ni I	159	3D2-3P1	1.000	1.167	2
5184.562	Cr I	201	7D3-7D4	1.500	1.750	2
5185.908	Ti II	86	2G3.5-2G3.5	0.889	0.889	
5186.331	Ti I -	183	5F4-5F5	1.500	1.350	
5186.557	Ni I	205	1D2-3D1	1.250	1.000	
5187.457	Ce II	15	4K7.5-4I6.5	1.033	1.090	
5187.838	Ni I	159	3D2-3P2	1.333	1.167	
5187.917	Fe I	1032	3F3-3D2	1.000	1.083	
5188.238	La II	95	3H6-3G5	1.083	1.167	
5188.698	Ti II	70	2D2.5-2D2.5	1.200	1.200	
5188.852	Ca I	49	1P1-1D2	1.000	1.000	1
5189.581	Ti I p	215	3P1-3P2	1.500	1.500	2
5191.465	Fe I	383	7P2-7D1	2.000	2.333	
5191.602	Zr II	95	2D2.5-2D2.5	1.200	1.200	2
5191.602	Fe II p	52	2P1.5-4D1.5	1.267	1.333	2
5191.998	Cr I	201	7D2-7D3	1.500	2.000	
5192.353	Fe I	383	7P3-7D3	1.833	1.917	
5192.497	Ni I	111	5F3-5F4	1.500	1.250	
5192.621	Nd II	75	6L9.5-6K8.5	1.079	1.183	
5192.978	Ti I	4	3F3-3F3	1.083	1.083	
5193.502	Cr I	206	3G3-3G3	0.750	0.750	
5194.056	Ti I	183	5F3-5F4	1.500	1.250	
5194.77	VI ?	125	6F4.5-6F4.5	1.434	1.434	2
5194.77	VI ?	125	6F2.5-6F2.5	1.314	1.314	2
5194.949	Fe I	36	3F3-3F3	1.083	1.083	
5195.480	Fe I	1092	5F4-5G5	1.100	1.350	
5196.065	Fe I	1091	5F3-5P2	0.667	1.250	
5196.268	Fe I p	406	3G5-5G4	1.300	1.200	
5196.452	Cr I	207	3G5-3G5	1.200	1.200	
5196.578	Cr I	207	3G5-3G4	1.056	1.200	2
5196.578	Mn I	32	4G4.5-4F3.5	1.253	1.172	2
5197.170	Ni I	204	1D2-3G3	0.500	1.000	
5197.576	Fe II	49	4G2.5-4F1.5	0.700	0.571	
5197.942	Fe I	1091	5F1-5P1	1.250	0.000	
5198.718	Fe I	66	5P1-5P2	1.500	2.500	
5198.866	Fe I	743	1D2-3G3	0.500	1.000	2
5199.718	V II	55	5D2-5D3	1.500	1.500	
5200.185	Cr I	201	7D1-7D2	1.500	3.000	
5200.415	Y II	20	3F2-3F2	0.667	0.667	
5201.095	Ti I	183	5F2-5F3	1.500	1.000	
5202.273	Fe I	1090	5F3-5D3	1.375	1.250	1

Table 1.(continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value	Note
5202.348	Fe I	66	5P3-5P3	1.667	1.667	1
5204.513	Cr I	7	5S2-5P1	1.750	2.000	1
5204.601	Fe I	1	5D2-7D2	1.750	1.500	1
5202.945	Fe I	407	3G4-5H3	1.875	1.050	0.500
5205.302	Fe I p	1112	3P1-5P2	2.000	1.500	1.833
5205.730	Y II	20	3F3-3F3	1.083	1.083	1.083
5206.044	Cr I	7	5S2-5P2	1.917	2.000	1.833
5206.044	(Ti I)	276	1P1-1P1	1.000	1.000	1.000
5206.545	Cr I p	206	3G4-3G4	1.050	1.050	1.050
5206.811	Fe I p	1095	5F2-3D3	1.667	1.000	1.333
5207.864	Ti I	183	5F1-5F2	1.500	0.000	1.000
5207.935	Fe I	880	3D1-3P1	1.000	0.500	1.500
5208.432	Cr I	7	5S2-5P3	1.333	2.000	1.667
5208.601	Fe I	553	5D3-5D2	1.500	1.500	1.500
5209.892	Fe I	584	3H6-3G5	1.083	1.167	1.200
5210.043	Co I	167	2D2.5-2P1.5	1.100	1.200	1.333
5210.392	Ti I	4	3F4-3F4	1.250	1.250	1.250
5210.851	Cr II	24	4P1.5-6D0.5	1.333	1.733	3.333
5211.206	Ti I	37	5F4-5D4	1.425	1.350	1.500
5211.535	Ti II	103	2F3.5-2F3.5	1.143	1.143	1.143
5211.816	Co I ?	184	2F3.5-4D3.5	1.286	1.143	1.429
5212.231	Cr I	189	5P3-5S2	1.333	1.667	2.000
5212.27	Ti I	215	3P2-3P2	1.500	1.500	1.500
5212.691	Co I	170	4F4.5-4F4.5	1.333	1.333	1.333
5212.996	Ti I ?	215	3P0-3P1	1.500	0/0	1.500
5213.352	Fe I p	1165	3G5-3H4	2.000	1.200	0.800
5213.812	Fe I	962	3F3-5G4	1.250	1.083	1.150
5214.130	Cr I	193	3P1-5D2	1.500	1.500	1.500
5214.616	Cr I	189	5P2-5S2	1.917	1.833	2.000
5215.188	Fe I	553	5D2-5D1	1.500	1.500	1.500
5215.885	V II ?	55	3D3-5D3	1.417	1.333	1.500
5216.283	Fe I	36	3F2-3F2	0.667	0.667	0.667
5216.484	Ni I	113	5F2-3D2	1.083	1.000	1.167
5217.396	Fe I	553	5D4-5D3	1.500	1.500	1.500
5217.675	Fe I p	965	3F2-3D3	2.000	0.667	1.333
5217.922	Fe I	880	3D2-3P1	1.000	1.167	1.500
5218.209	Cu I	7	2P1.5-2D2.5	1.100	1.333	1.200
5218.516	Fe I p	1240	3F2-3G3	0.833	0.667	0.750
5219.028	Pr II	37	5K7-5K7	1.054	1.054	1.054
5219.706	Ti I	4	3F3-3F2	1.500	1.083	0.667
5220.086	Cu I	7	2P1.5-2D1.5	1.067	1.333	0.800
5220.296	Ni I	114	5F2-3F3	1.167	1.000	1.083
5220.912	Cr I	201	7D1-7D1	3.000	3.000	3.000
5221.763	Cr I	193	3P2-5D3	1.500	1.500	1.500
5221.763	Fe I	628	3D1-3D1	0.500	0.500	0.500
5222.397	Cr I	206	3G4-3G3	1.500	1.050	0.750
5222.397	Fe I p	112	3P2-3F2	1.083	1.500	0.667
5222.67	Cr I	59	5P3-5P2	1.500	1.667	1.833
5222.684	Ti I	183	5F1-5F1	0.000	0.000	0.000
5223.190	Fe I	880	3D1-3P0	0.500	0.500	0/0
5223.628	Ti I	183	5F2-5F2	1.000	1.000	1.000
5224.074	Cr I	201	7D3-7D3	1.750	1.750	1.750

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value		Note
5224.16	Ti I	37	5F3-5D3	1.375	1.250	1.500	
5224.310	Ti I	183	5F5-5F5	1.400	1.400	1.400	
5224.551	Cr I -	59	5P2-5P2	1.833	1.833	1.833	2
5224.551	Cr I -	193	3P0-5D1	1.500	0/0	1.500	2
5224.551	Ti I	183	5F3-5F3	1.250	1.250	1.250	2
5224.937	Ti I -	183	5F4-5F4	1.350	1.350	1.350	1, 2
5224.937	Cr I	201	7D5-7D5	1.600	1.600	1.600	1, 2
5225.032	Cr I	201	7D4-7D4	1.650	1.650	1.650	1
5225.534	Fe I	1	5D1-7D1	2.250	1.500	3.000	
5225.813	Cr I	58	5P3-5F2	2.333	1.667	1.000	
5226.061	Fe I	716	1P1-3P0	1.000	1.000	0/0	
5226.384	Fe I p	406	3G5-5G5	1.233	1.200	1.267	
5226.545	Ti II	70	2D1.5-2D1.5	0.800	0.800	0.800	
5226.870	Fe I	383	7P2-7D2	2.167	2.333	2.000	2
5226.870	(Cr I)	193	3P2-5D2	1.500	1.500	1.500	2
5227.192	Fe I	37	3F3-3D2	1.000	1.083	1.167	2
5227.192	Fe I	114	3P1-3D2	1.000	1.500	1.167	2
5227.737	Cr I	58	5P2-5F2	1.417	1.833	1.000	
5227.881	Ti II p	103	2F2.5-2F3.5	1.500	0.857	1.143	
5228.103	Cr I	193	3P1-5D1	1.500	1.500	1.500	
5228.383	Fe I	1091	5F4-5P3	0.875	1.350	1.667	
5229.860	Fe I	553	5D1-5D0	1.500	1.500	0/0	2
5229.860	Fe I	1090	5F4-5D4	1.425	1.350	1.500	2
5230.216	Co I	39	4P1.5-4D1.5	1.467	1.733	1.200	2
5230.216	Cr I	58	5P1-5F2	0.250	2.500	1.000	2
5230.984	Ti I	215	3P1-3P1	1.500	1.500	1.500	
5231.396	Fe I	787	1H5-5F4	0.300	1.000	1.350	
5232.503	Cr II	43	4F3.5-4F4.5	1.500	1.238	1.333	
5232.952	Fe I	383	7P4-7D5	1.300	1.750	1.600	
5233.854	Ti I	37	5F2-5D2	1.250	1.000	1.500	
5234.090	VI	131	2H4.5-2H4.5	0.909	0.909	0.909	
5234.213	Nd II	74	6L5.5-6I4.5	0.136	0.615	0.828	
5234.630	Fe II	49	4G3.5-4F2.5	0.929	0.984	1.029	
5235.188	Co I	83	2G3.5-2F2.5	0.929	0.889	0.857	
5235.390	Fe I	210	3F3-5D3	1.292	1.083	1.500	1, 2
5235.390	Fe I	1031	3F4-3D3	1.125	1.250	1.333	1, 2
5235.508	Ni I	208	1D2-1P1	1.000	1.000	1.000	1
5236.378	Fe I p	1146	5G5-5H5	1.183	1.267	1.100	
5237.325	Cr II	43	4F4.5-4F4.5	1.333	1.333	1.333	
5238.249	Fe I	962	3F2-5G3	1.167	0.667	0.917	
5238.568	Ti I	37	5F5-5D4	1.200	1.400	1.500	2
5238.568	Ti I	183	5F2-5F1	1.500	1.000	0.000	2
5238.969	Cr I	59	5P2-5P1	1.500	1.833	2.500	
5239.823	Sc II	26	1S0-1P1	1.000	0/0	1.000	
5239.95	Ti I	37	5F1-5D1	0.750	0.000	1.500	
5240.359	Fe I p	584	3H5-3G4	1.000	1.033	1.050	
5240.475	Cr I	237	5P2-5D3	1.167	1.833	1.500	
5240.878	VI	131	2H5.5-2H5.5	1.091	1.091	1.091	
5241.182	VII	241	1G4-1H5	1.000	1.000	1.000	
5241.461	Cr I	59	5P1-5P1	2.500	2.500	2.500	
5241.923	Fe I	1150	5G3-3F4	1.750	0.917	1.250	
5242.500	Fe I	843	1H6-1H5	1.000	1.000	1.000	

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g- value		Note
5243.360	Cr I	201	7D2-7D1	1.500	2.000	3.000	
5243.783	Fe I	1089	5F3-5F4	1.500	1.250	1.350	
5245.629	Fe I p	1149	5G5-3H6	0.917	1.267	1.167	2
5245.737	Fe I	715	1P1-3S1	1.500	1.000	2.000	
5246.004	Fe I p	628	3D3-3D2	1.500	1.333	1.167	
5246.147	Ti I	282	1D2-1P1	1.000	1.000	1.000	
5246.556	Ti I	37	5F4-5D3	1.125	1.350	1.500	
5246.777	Cr II	23	4P0.5-4P1.5	1.500	2.667	1.733	
5247.058	Fe I	1	5D2-7D3	2.000	1.500	1.750	
5247.297	Ti I	183	5F3-5F2	1.500	1.250	1.000	
5247.574	Cr I	18	5D0-5P1	2.500	0/0	2.500	
5247.923	Co I	39	4P0.5-4D0.5	1.333	2.667	0.000	2
5248.375	Ti I	37	5F1-5D0	0.000	0.000	0/0	2
5248.375	Ti I	156	3G4-3F4	1.150	1.050	1.250	2
5249.111	Fe I	1166	3G3-3F3	0.917	0.750	1.083	
5249.425	Cr II	23	4P1.5-4P2.5	1.500	1.733	1.600	
5249.579	Nd II	75	6L8.5-6K7.5	1.029	1.108	1.129	
5250.023	Co I	190	4G2.5-4H3.5	0.786	0.571	0.667	
5250.216	Fe I	1	5D0-7D1	3.000	0/0	3.000	
5250.654	Fe I	66	5P2-5P3	1.500	1.833	1.667	
5250.913	Ti I	37	5F3-5D2	1.000	1.250	1.500	
5251.487	Ti I	37	5F2-5D1	0.750	1.000	1.500	
5252.106	Ti I	4	3F4-3F3	1.500	1.250	1.083	
5253.033	Fe I p	113	3P2-5P1	1.000	1.500	2.500	
5253.259	Fe I p	875	3D1-5F1	0.250	0.500	0.000	
5253.468	Fe I	553	5D1-5D1	1.500	1.500	1.500	
5254.651	Co I	187	4D3.5-4D3.5	1.429	1.429	1.429	
5254.953	Cr I -	201	7D3-7D2	1.500	1.750	2.000	2
5254.953	Fe I	1	5D1-7D2	2.250	1.500	2.000	2
5255.123	Cr I	225	7P4-7D5	1.300	1.750	1.600	
5255.325	Mn I	32	4G5.5-4F4.5	1.136	1.273	1.333	
5255.663	Fe I p	1089	5F4-5F5	1.500	1.350	1.400	1
5255.743	Fe I p	1091	5F2-5P2	1.417	1.000	1.833	1
5255.812	Ti I	183	5F4-5F3	1.500	1.350	1.250	1
5256.933	Fe II	41	6S2.5-6F2.5	1.657	2.000	1.314	2
5257.080	Cr I ?	205	3G4-5F4	1.200	1.050	1.350	
5257.645	Co I	188	4D3.5-4P2.5	1.214	1.429	1.600	2
5257.645	Fe I p	788	1H5-3G5	1.100	1.000	1.200	2
5258.323	Sc I	23	2G4.5-2H5.5	1.045	1.111	1.091	
5259.089	Fe I p	1149	5G4-3H5	0.800	1.150	1.033	
5259.735	Pr II	35	5L7-5K6	0.929	0.911	0.905	
5259.974	Ti I	298	1D2-1F3	1.000	1.000	1.000	
5260.390	Ca I	22	3D1-3P2	2.000	0.500	1.500	
5260.778	Mn I	32	4G4.5-4F4.5	1.253	1.172	1.333	
5261.501	Fe I p	406	3G5-5G6	1.667	1.200	1.333	
5261.708	Ca I	22	3D1-3P1	1.000	0.500	1.500	
5262.150	Ti II	70	2D2.5-2D1.5	1.500	1.200	0.800	1
5262.248	Ca I	22	3D1-3P0	0.500	0.500	0/0	1
5262.457	Fe II p	52	2P1.5-4D2.5	1.400	1.333	1.371	
5262.623	Fe I p	1149	5G6-3H6	1.250	1.333	1.167	
5262.887	Fe I p	628	3D3-3D3	1.333	1.333	1.333	
5263.314	Fe I	553	5D2-5D2	1.500	1.500	1.500	

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g- value		Note
5263.494	Ti I	183	5F5-5F4	1.500	1.400	1.350	
5263.718	Cr I	309	3F4-3D3	1.125	1.250	1.333	
5263.865	Fe I	788	1H5-3G4	0.900	1.000	1.050	
5264.160	Cr I	18	5D1-5P1	2.000	1.500	2.500	1
5264.246	Ca I	22	3D2-3P2	1.333	1.167	1.500	1
5264.808	Fe II	48	4G2.5-4D1.5	0.100	0.571	1.200	
5265.153	Cr I	201	7D4-7D3	1.500	1.650	1.750	
5265.254	Fe I p	407	3G3-5H3	0.625	0.750	0.500	
5265.418	Fe I p	1145	5G5-5G4	1.500	1.267	1.150	
5265.560	Ca I	22	3D2-3P1	1.000	1.167	1.500	
5265.723	Cr I	18	5D1-5P2	2.000	1.500	1.833	
5265.964	Ti I	156	3G5-3F4	1.100	1.200	1.250	
5266.309	Co I	172	4G3.5-4F2.5	0.929	0.984	1.029	
5266.472	Ti I ?p	36	5F3-3D3	1.292	1.250	1.333	1,2
5266.472	Co I	83	2G4.5-2F3.5	1.056	1.111	1.143	1,2
5266.563	Fe I	383	7P3-7D4	1.250	1.917	1.650	1
5267.275	Fe I p	1146	5G4-5H4	1.025	1.150	0.900	
5268.342	Ni I	273	1D2-1F3	1.000	1.000	1.000	
5268.495	Co I	172	4G2.5-4F1.5	0.700	0.571	0.400	
5268.614	Ti II	103	2F2.5-2F2.5	0.857	0.857	0.857	2
5269.550	Fe I	15	5F5-5D4	1.200	1.400	1.500	1
5269.905	Ti I	156	3G3-3F3	0.917	0.750	1.083	
5270.064	Fe I p	877	3D1-5P1	1.500	0.500	2.500	
5270.269	Ca I	22	3D3-3P2	1.167	1.333	1.500	1
5270.383	Fe I	37	3F2-3D1	0.750	0.667	0.500	1
5272.003	Cr I	225	7P3-7D4	1.250	1.917	1.650	
5272.400	Fe II	185	2D2.5-2D2.5	1.200	1.200	1.200	
5273.170	Fe I	553	5D0-5D1	1.500	0/0	1.500	
5273.389	Fe I	114	3P0-3D1	0.500	0/0	0.500	
5273.43	Cr I	201	7D5-7D4	1.500	1.600	1.650	
5273.602	Fe I p	1147	5G5-3G5	1.233	1.267	1.200	
5274.979	Cr II	43	4F3.5-4F3.5	1.238	1.238	1.238	2
5274.979	Fe I	1029	3F4-3G3	2.000	1.250	0.750	2
5275.170	Cr I	94	7P2-7D3	1.167	2.333	1.750	2
5275.170	(Cr I)	192	3P2-3D3	1.167	1.500	1.333	2
5275.284	Fe I p	742	1D2-3S1	0.500	1.000	2.000	
5275.594	V II	195	3F4-3F4	1.250	1.250	1.250	
5275.759	Cr I	94	7P2-7D2	2.167	2.333	2.000	
5276.002	Fe II	49	4G4.5-4F3.5	1.056	1.172	1.238	1
5276.071	Cr I	94	7P2-7D1	2.000	2.333	3.000	1
5276.174	Co I	190	4G3.5-4H4.5	0.944	0.984	0.970	1
5277.308	Fe I p	584	3H5-3G5	1.117	1.033	1.200	2
5277.308	Fe I p	1149	5G3-3H4	0.625	0.917	0.800	2
5277.42	Zr I	27	3P1-3D2	1.000	1.500	1.167	
5277.572	Fe I	983	3D1-5D1	1.000	0.500	1.500	
5278.254	Cr I	309	3F3-3D2	1.000	1.083	1.167	
5278.961	Si I	4	3S1-3P2	1.250	2.000	1.500	
5279.671	Fe I p	584	3H4-3G3	0.875	0.800	0.750	
5279.877	Cr II	43	4F4.5-4F3.5	1.500	1.333	1.238	
5280.072	Cr II	43	4F2.5-4F3.5	1.500	1.029	1.238	2
5280.284	Cr I	192	3P1-3D2	1.000	1.500	1.167	1
5280.369	Fe I	880	3D3-3P2	1.167	1.333	1.500	1

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value		Note
5280.633	Co I	172	4G4.5-4F3.5	1.056	1.172	1.238	
5280.928	Fe I p	210	3F2-5D3	2.333	0.667	1.500	
5281.163	Fe I p	1240	3F3-3G4	1.000	1.083	1.050	
5281.666	Ni I	231	3F3-3F2	1.500	1.083	0.667	1
5281.798	Fe I	383	7P2-7D3	1.167	2.333	1.750	1
5282.402	Ti I	74	3P1-3D2	1.000	1.500	1.167	
5283.443	Ti I	156	3G4-3F3	1.000	1.050	1.083	1
5283.629	Fe I	553	5D3-5D3	1.500	1.500	1.500	1
5284.112	Fe II	41	6S2.5-6F3.5	0.643	2.000	1.397	
5284.280	Fe I p	875	3D1-5F2	1.250	0.500	1.000	
5284.428	Fe I	842	1I6-3G5	0.500	1.000	1.200	2
5284.428	Ti I	74	3P0-3D1	0.500	0/0	0.500	2
5284.615	Fe I p	1032	3F2-3D2	0.917	0.667	1.167	
5285.130	Fe I p	1166	3G4-3F4	1.150	1.050	1.250	
5285.262	Ca II	14	2P0.5-2S0.5	1.333	0.667	2.000	
5285.386	Cr I ?	285	1I6-3I7	1.571	1.000	1.143	
5285.649	Cr I	192	3P0-3D1	0.500	0/0	0.500	
5287.183	Cr I	225	7P2-7D3	1.167	2.333	1.750	
5287.569	Co I	175	4D3.5-4F3.5	1.333	1.429	1.238	
5287.788	Co I	187	4D2.5-4D2.5	1.371	1.371	1.371	
5288.218	Fe I p	818	5P3-3F4	0.625	1.667	1.250	
5288.375	Fe I p	406	3G4-5G4	1.100	1.050	1.150	
5288.533	Fe I	929	1G4-1G4	1.000	1.000	1.000	
5289.282	Ti I	36	5F4-3D3	1.375	1.350	1.333	2
5289.282	Cr I	192	3P1-3D1	1.000	1.500	0.500	2
5289.820	Y II	20	3F3-3F2	1.500	1.083	0.667	
5290.817	Fe I p-	1147	5G6-3G5	1.667	1.333	1.200	2
5290.817	La II ?	6	3F2-1D2	0.833	0.667	1.000	2
5292.873	Cr I	205	3G5-5F5	1.300	1.200	1.400	2
5292.873	Mn I	36	4P0.5-4D0.5	1.333	2.667	0.000	2
5293.042	Fe I p	1165	3G5-3H5	1.117	1.200	1.033	
5293.169	Nd II	75	6L7.5-6K6.5	0.967	1.004	1.015	
5293.375	Cr I	192	3P2-3D2	1.333	1.500	1.167	
5293.963	Fe I	1031	3F3-3D2	1.000	1.083	1.167	
5294.553	Fe I	875	3D2-5F2	1.083	1.167	1.000	
5295.321	Fe I	1146	5G3-5H3	0.708	0.917	0.500	
5295.784	Ti I	74	3P2-3D3	1.167	1.500	1.333	
5296.702	Cr I	18	5D2-5P1	1.000	1.500	2.500	
5297.233	Ti I	156	3G3-3F2	0.833	0.750	0.667	
5297.385	Cr I	94	7P3-7D4	1.250	1.917	1.650	
5298.023	Cr I	94	7P3-7D3	1.833	1.917	1.750	
5298.283	Cr I	18	5P2-5P2	1.833	1.833	1.833	
5298.415	Ti I	281	1D2-1P1	1.000	1.000	1.000	1,2
5298.784	Fe I	875	3D3-5F2	1.667	1.333	1.000	1
5299.984	Ti I	74	3P1-3D1	1.000	1.500	0.500	
5300.408	Fe I	1240	3F4-3G5	1.100	1.250	1.200	
5300.751	Cr I	18	5D2-5P3	1.833	1.500	1.667	
5301.047	Co I	39	4P2.5-4D2.5	1.486	1.600	1.371	
5301.312	Fe I p	1162	3G5-5H4	1.800	1.200	0.900	
5302.307	Fe I	553	5D1-5D2	1.500	1.500	1.500	
5303.223	V II	54	3D3-3D3	1.333	1.333	1.333	
5304.185	Cr I	225	7P4-7D4	1.700	1.750	1.650	

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value		Note
5305.430	Fe I	877	3D1-5P2	2.500	0.500	1.833	
5305.866	Cr II	24	4P2.5-6D2.5	1.629	1.600	1.657	
5307.231	Ca II	14	2P1.5-2S0.5	1.167	1.333	2.000	
5307.281	Cr I	237	5P3-5D3	1.583	1.667	1.500	
5307.369	Fe I	36	3F2-3F3	1.500	0.667	1.083	
5308.429	Cr II	43	4F3.5-4F2.5	1.500	1.238	1.029	
5308.691	Fe I	1091	5F3-5P3	1.458	1.250	1.667	
5309.457	Cr I	285	1I6-3I5	1.417	1.000	0.833	
5310.242	Co I ?	196	4F2.5-4G2.5	0.800	1.029	0.571	
5310.697	Cr II	43	4F1.5-4F2.5	1.500	0.400	1.029	
5311.43	Zr I	27	3P0-3D1	0.500	0/0	0.500	
5311.476	Nd II	80	6K6.5-6I5.5	0.962	1.105	1.035	
5311.631	Hf II	37	2D1.5-2D2.5	1.500	0.800	1.200	
5311.782	Zr II ?-	95	2D2.5-2D1.5	1.500	1.200	0.800	
5312.656	Co I	197	4F2.5-2F3.5	1.286	1.029	1.143	
5312.863	Cr I	225	7P3-7D3	1.833	1.917	1.750	
5313.244	Ti I	74	3P2-3D2	1.333	1.500	1.167	
5313.411	Fe I p	1239	3F3-1F3	1.042	1.083	1.000	
5313.585	Cr II -	43	4F2.5-4F2.5	1.029	1.029	1.029	
5313.755	Ti II ?p	81	2H4.5-2F3.5	0.500	0.909	1.143	
5315.077	Fe I	1147	5G4-3G4	1.100	1.150	1.050	
5315.784	Fe I p	877	3D2-5P2	1.500	1.167	1.833	
5316.620	Fe II	49	4G5.5-4F4.5	1.136	1.273	1.333	
5316.780	Fe II	48	4G3.5-4D2.5	0.500	0.984	1.371	1, 2
5316.780	(Co I)	192	4G4.5-4G4.5	1.172	1.172	1.172	1, 2
5317.075	Mn I	36	4P0.5-4D1.5	0.833	2.667	1.200	
5317.526	Fe I p	1032	3F3-3D3	1.208	1.083	1.333	
5318.040	Fe I	406	3G3-5G3	0.833	0.750	0.917	
5318.361	Sc II	22	1D2-3P1	0.750	1.000	1.500	
5318.597	-VII ?p	53	3D3-5F4	1.375	1.333	1.350	
5318.776	Cr I	225	7P2-7D2	2.167	2.333	2.000	
5319.214	Fe I p	1029	3F4-3G4	1.150	1.250	1.050	
5319.820	Nd II	75	6L5.5-6K4.5	0.773	0.615	0.545	
5320.040	Fe I	877	3D3-5P2	0.833	1.333	1.833	
5320.831	Y II -	20	3F4-3F3	1.500	1.250	1.083	
5321.114	Fe I	1165	3G4-3H4	0.925	1.050	0.800	
5322.049	Fe I	112	3P2-3F3	0.667	1.500	1.083	
5322.819	Pr II	35	5L6-5K5	0.833	0.714	0.667	
5323.507	Fe I	113	3P2-5P2	1.667	1.500	1.833	
5323.93	Ti I	36	5F3-3D2	1.333	1.250	1.167	
5324.191	Fe I	553	5D4-5D4	1.500	1.500	1.500	1
5325.280	Co I	192	4G5.5-4G5.5	1.273	1.273	1.273	
5325.560	Fe II	49	4G3.5-4F3.5	1.111	0.984	1.238	
5325.959	Co I	194	4F2.5-4H3.5	0.214	1.029	0.667	
5326.149	Fe I	407	3G3-5H4	1.125	0.750	0.900	2
5326.149	Fe I	785	1H5-5G4	0.700	1.000	1.150	2
5326.823	Fe I	1147	5G3-3G3	0.833	0.917	0.750	
5327.263	Fe I p	875	3D2-5F3	1.333	1.167	1.250	
5328.051	Fe I	15	5F4-5D3	1.125	1.350	1.500	
5328.332	Cr I	94	7P4-7D5	1.300	1.750	1.600	
5328.542	Fe I	37	3F3-3D3	1.208	1.083	1.333	
5329.147	Cr I	94	7P4-7D4	1.700	1.750	1.650	



Table 1.(continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value	g-value	Note
5329.794	Cr I	94	7P4-7D3	1.750	1.750	1.750	
5330.564	Ce II ?	13	2H4.5-4I4.5	0.818	0.909	0.727	
5331.199	Fe I p	817	5P2-5F1	2.750	1.833	0.000	
5331.435	Co I	39	4P0.5-4D1.5	0.833	2.667	1.200	1
5331.480	Fe I p	210	3F3-5D4	2.125	1.083	1.500	1
5332.665	V II	54	3D2-3D2	1.167	1.167	1.167	2
5332.665	Fe I	1031	3F2-3D1	0.750	0.667	0.500	2
5332.908	Fe I	36	3F3-3F4	1.500	1.083	1.250	
5333.148	Fe I p	1023	3F4-5F3	1.250	1.250	1.250	
5333.656	Co I	190	4G5.5-4H5.5	1.203	1.273	1.133	
5333.769	Fe I p-	464	3P2-5P1	1.000	1.500	2.500	
5334.222	Sc II	30	3P0-1P1	1.000	0/0	1.000	
5334.330	Fe I p	1064	5D4-5P3	1.250	1.500	1.167	
5334.870	Cr II	43	4F1.5-4F1.5	0.400	0.400	0.400	2
5334.870	(Co I)	191	4G5.5-4F4.5	1.136	1.273	1.333	2
5336.169	Co I	191	4G4.5-4F3.5	1.056	1.172	1.238	
5336.794	Ti II	69	2D2.5-2F3.5	1.071	1.200	1.143	
5337.727	Fe II	48	4G2.5-4D2.5	0.971	0.571	1.371	1
5337.760	Cr II	43	4F2.5-4F1.5	1.500	1.029	0.400	1
5338.333	Ti I	35	5F3-3F4	1.250	1.250	1.250	
5339.426	Fe I p	1162	3G4-5H3	1.875	1.050	0.500	
5339.535	Co I	199	2G3.5-2G3.5	0.889	0.889	0.889	
5339.937	Fe I	553	5D2-5D3	1.500	1.500	1.500	
5340.454	Cr I	225	7P2-7D1	2.000	2.333	3.000	
5340.672	Ti I	36	5F2-3D1	1.250	1.000	0.500	
5341.033	Fe I	37	3F2-3D2	0.917	0.667	1.167	1,2
5341.033	Mn I	4	6D4.5-6P3.5	1.278	1.556	1.714	1,2
5341.033	(Sc I)	19	4F1.5-4D0.5	0.500	0.400	0.000	1,2
5341.328	Co I	199	2G4.5-2G4.5	1.111	1.111	1.111	
5341.483	Ti I	316	1P1-1P1	1.000	1.000	1.000	
5342.708	Co I	190	4G5.5-4H6.5	1.115	1.273	1.231	
5342.962	Sc I	4	2D1.5-2P0.5	0.833	0.800	0.667	2
5343.392	Co I	190	4G4.5-4H5.5	1.045	1.172	1.133	1
5344.583	Co I	191	4G4.5-4F4.5	1.253	1.172	1.333	
5344.763	Cr I	225	7P3-7D2	1.833	1.917	2.000	
5345.543	Cr I p	225	7P4-7D3	1.750	1.750	1.750	
5345.807	Cr I	18	5D3-5P2	1.167	1.500	1.833	
5346.082	Cr II p	24	4P2.5-6D1.5	1.400	1.600	1.867	
5346.336	Fe I p	817	5P3-5F3	1.458	1.667	1.250	
5346.545	Cr II -	23	4P1.5-4P1.5	1.733	1.733	1.733	2
5346.545	Fe II	49	4G2.5-4F3.5	2.071	0.571	1.238	2
5347.514	Co I -	196	4F3.5-4G3.5	1.111	1.238	0.984	
5347.717	Ni I	145	3F2-3F3	1.500	0.667	1.083	
5348.070	Mn I	36	4P1.5-4D2.5	1.100	1.733	1.371	
5348.326	Cr I	18	5D3-5P3	1.583	1.500	1.667	
5349.292	Sc I	17	2F2.5-2D1.5	0.900	0.857	0.800	
5349.469	Ca I	33	1D2-1F3	1.000	1.000	1.000	
5349.745	Fe I	1163	3G5-3G4	1.500	1.200	1.050	2
5349.745	Sc I	4	2D2.5-2P1.5	1.100	1.200	1.333	2
5350.093	Zr II	115	2D2.5-2D2.5	1.200	1.200	1.200	
5350.363	Zr II	115	2D1.5-2D1.5	0.800	0.800	0.800	2
5350.363	V II	54	3D1-3D1	0.500	0.500	0.500	2

Table 1.(continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value		Note
5351.071	Ti I	300	1F3-1F3	1.000	1.000	1.000	
5351.838	Ni I p	177	3G3-3F4	2.000	0.750	1.250	
5352.049	Co I	172	4G5.5-4F4.5	1.136	1.273	1.333	
5353.383	Fe I	1062	5D4-5D3	1.500	1.500	1.500	2
5353.383	Ni I	70	3P1-3D1	1.000	1.500	0.500	2
5353.515	Co I	198	2G4.5-2H5.5	1.045	1.111	1.091	
5355.731	Sc I	19	4F2.5-4D1.5	0.900	1.029	1.200	
5356.084	Sc I	17	2F3.5-2D2.5	1.071	1.143	1.200	
5356.991	Nd II ?	80	6K8.5-6I7.5	1.088	1.207	1.239	
5357.190	Sc II	30	3P2-1P1	1.750	1.500	1.000	
5358.120	Fe I p	628	3D2-3D2	1.167	1.167	1.167	
5359.203	Co I	194	4F3.5-4H4.5	0.500	1.238	0.970	
5361.507	Nd II -	74	6L6.5-6I5.5	0.346	0.851	1.035	
5361.629	Fe I	1143	5G3-5F2	0.833	0.917	1.000	
5361.71	Ti I	35	5F4-3F4	1.300	1.350	1.250	
5362.760	Co I	198	2G3.5-2H4.5	0.944	0.889	0.909	1, 2
5362.867	Fe II	48	4G4.5-4D3.5	0.722	1.172	1.429	1
5364.880	Fe I	1146	5G2-5H3	0.667	0.333	0.500	
5365.407	Fe I	786	1H5-1G4	1.000	1.000	1.000	
5366.645	Ti I	35	5F2-3F3	1.167	1.000	1.083	
5367.476	Fe I	1146	5G3-5H4	0.875	0.917	0.900	
5368.546	Cr I	258	3D2-3F3	1.000	1.167	1.083	
5368.920	Co I	167	2D1.5-2P0.5	0.833	0.800	0.667	
5369.360	Cr II	29	4F4.5-6D4.5	1.444	1.333	1.556	
5369.596	Co I	39	4P1.5-4D2.5	1.100	1.733	1.371	
5369.974	Fe I	1146	5G4-5H5	1.000	1.150	1.100	
5371.501	Fe I	15	5F3-5D2	1.000	1.250	1.500	1, 2
5371.501	(Fe I p)	1163	3G4-3G3	1.500	1.050	0.750	1, 2
5371.927	Nd II	79	6K9.5-6K9.5	1.263	1.263	1.263	
5373.714	Fe I	1166	3G3-3F4	2.000	0.750	1.250	
5374.767	Fe I p	785	1H5-5G5	1.133	1.000	1.267	
5375.323	Sc I	19	4F3.5-4D2.5	1.071	1.238	1.371	
5376.60	Ti I	3	3F2-5D3	2.333	0.667	1.500	
5376.836	Fe I	1132	1D2-1P1	1.000	1.000	1.000	
5377.064	La II	95	3H5-3G4	1.000	1.033	1.050	
5377.614	Mn I	42	4P2.5-4S1.5	1.300	1.600	2.000	
5379.581	Fe I	928	1G4-1H5	1.000	1.000	1.000	
5380.322	Cr I	11	1P1-1P1	1.000	1.000	1.000	
5381.028	Ti II	69	2D1.5-2F2.5	0.900	0.800	0.857	2
5381.722	Co I -	196	4F1.5-4G2.5	0.700	0.400	0.571	
5382.755	Fe I	741	1D2-5D1	0.750	1.000	1.500	
5382.92	Ti I p	155	3G3-3F3	0.917	0.750	1.083	
5383.380	Fe I	1146	5G5-5H6	1.083	1.267	1.214	
5384.205	Fe I p	817	5P2-5F2	1.417	1.833	1.000	
5384.636	Ti I	35	5F3-5F3	1.250	1.250	1.250	
5384.873	V II	53	3D3-5F3	1.292	1.333	1.250	
5385.128	Zr I	26	3P2-1D2	1.250	1.500	1.000	
5385.587	Fe I p	927	1G4-3G4	1.025	1.000	1.050	
5386.340	Fe I	1064	5D3-5P2	1.167	1.500	1.833	
5386.971	Fe I -	875	3D3-5F4	1.375	1.333	1.350	2
5386.971	Cr I	191	3P1-3P2	1.500	1.500	1.500	2
5387.484	-Fe I	1031	3F3-3D3	1.208	1.083	1.333	1

Table 1.(continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value	Note	
5387.565	Cr I	191	3P0-3P1	1.500	0/0	1.500	1
5388.351	Ni I	70	3P2-3D2	1.333	1.500	1.167	
5388.504	Mn I	36	4P2.5-4D3.5	1.214	1.600	1.429	
5389.169	Ti I	35	5F1-3F2	1.000	0.000	0.667	
5389.486	Fe I	1145	5G3-5G3	0.917	0.917	0.917	
5390.007	Ti I	155	3G3-3F2	0.833	0.750	0.667	
5390.377	Cr I	191	3P1-3P0	1.500	1.500	0/0	
5391.070	Ti I p	155	3G4-3F4	1.150	1.050	1.250	
5391.35	Cr I	191	3P1-3P1	1.500	1.500	1.500	
5391.465	Fe I	1062	5D3-5D2	1.500	1.500	1.500	
5391.796	Fe I p	270	3G5-5F5	1.300	1.200	1.400	
5392.06	Sc I	19	4F4.5-4D3.5	1.167	1.333	1.429	1
5392.330	Ni I	250	3D3-3F2	2.000	1.333	0.667	
5393.176	Fe I	553	5D3-5D4	1.500	1.500	1.500	
5393.381	Ce II	24	4I5.5-4H4.5	0.955	0.965	0.970	
5394.641	Mn I	1	6S2.5-8P3.5	1.857	2.000	1.937	1
5395.222	Fe I	1143	5G2-5F1	0.500	0.333	0.000	
5396.578	Ti I	3	3F2-5D2	1.083	0.667	1.500	
5396.904	Fe I p	464	3P2-5P2	1.667	1.500	1.833	
5397.141	Fe I	15	5F4-5D4	1.425	1.350	1.500	2
5397.141	(Ti I)	155	3G4-3F3	1.000	1.050	1.083	2
5397.623	Fe I	841	1I6-3G5	0.500	1.000	1.200	
5398.287	Fe I	1145	5G2-5G2	0.333	0.333	0.333	
5399.479	Mn I	42	4P1.5-4S1.5	1.867	1.733	2.000	
5400.511	Fe I	1145	5G4-5G4	1.150	1.150	1.150	1
5400.629	Cr I	191	3P2-3P2	1.500	1.500	1.500	1
5401.271	Fe I	1146	5G6-5H6	1.274	1.333	1.214	
5401.39	Ti I	35	5F2-3F2	0.833	1.000	0.667	
5401.92	VI	130	2H4.5-2I5.5	0.955	0.909	0.923	2
5401.92	VI	139	2G3.5-2F2.5	0.529	0.889	0.857	2
5402.783	Y II	35	1D2-1F3	1.000	1.000	1.000	
5403.829	Fe I	1029	3F4-3G5	1.100	1.250	1.200	
5403.98	Ti I	259	3P1-3P2	1.500	1.500	1.500	
5404.145	Fe I -	1145	5G5-5G5	1.267	1.267	1.267	2
5404.145	Fe I	1165	3G4-3H5	1.000	1.050	1.033	2
5404.993	Cr I	191	3P2-3P1	1.500	1.500	1.500	
5405.358	Fe I p	1162	3G5-5H5	1.150	1.200	1.100	
5405.785	Fe I	15	5F2-5D1	0.750	1.000	1.500	
5406.337	Fe I p	1026	3F4-3F3	1.500	1.250	1.083	
5406.779	Fe I	1148	5G4-3D3	0.875	1.150	1.333	
5407.384	Mn I	4	6D3.5-6P3.5	1.651	1.587	1.714	1
5407.617	Cr II	23	4P2.5-4P2.5	1.600	1.600	1.600	
5408.088	Co I ?	112	2P1.5-2D1.5	1.067	1.333	0.800	
5408.823	Fe II	184	2D2.5-4F2.5	1.114	1.200	1.029	
5408.932	Ti I	3	3F2-5D1	0.250	0.667	1.500	
5409.139	Fe I	1147	5G4-3G5	1.300	1.150	1.200	
5409.609	Ti I	155	3G5-3F4	1.100	1.200	1.250	
5409.799	Cr I	18	5D4-5P3	1.250	1.500	1.667	
5410.918	Fe I	1165	3G3-3H4	0.875	0.750	0.800	
5411.223	Ni I	222	1P1-1S0	1.000	1.000	0/0	
5411.395	Fe I p	870	3D2-5G2	0.750	1.167	0.333	
5413.574	Fe I p	1237	3F3-3H4	0.375	1.083	0.800	

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g- value		Note
5412.791	Fe I p	1162	3G4-5H4	0.975	1.050	0.900	
5413.684	Mn I	42	4P0.5-4S1.5	1.833	2.667	2.000	
5414.075	Fe II	48	4G3.5-4D3.5	1.206	0.984	1.429	
5414.881	Fe I p	874	3D3-3G3	1.042	1.333	0.750	
5415.210	Fe I	1165	3G5-3H6	1.083	1.200	1.167	
5416.384	Nd II	80	6K5.5-6I4.5	0.864	0.839	0.828	
5417.042	Fe I	1148	5G3-3D2	0.667	0.917	1.167	
5418.775	(Ti II)	69	2D2.5-2F2.5	1.029	1.200	0.857	2
5419.217	Ti I ?	258	3P2-5S2	1.750	1.500	2.000	
5420.318	Mn I	4	6D3.5-6P2.5	1.214	1.587	1.886	1
5420.929	Cr II	23	4P1.5-4P0.5	1.500	1.733	2.667	
5421.403	Fe I p	874	3D3-3G4	0.625	1.333	1.050	
5421.577	Nd II ?	79	6K4.5-6K5.5	1.500	0.545	0.839	2
5421.843	Fe I p	1183	3F4-3F3	1.500	1.250	1.083	
5422.162	Fe I p	1145	5G6-5G5	1.500	1.333	1.267	
5423.752	Fe I p	927	1G4-3G5	1.600	1.000	1.200	
5424.080	Fe I	1146	5G6-5H7	1.143	1.333	1.286	1
5424.204	Fe I ? p	1026	3F4-3F4	1.250	1.250	1.250	1
5424.544	Ni I	231	3F2-3F2	0.667	0.667	0.667	
5424.654	Ni I	70	3P1-3D2	1.000	1.500	1.167	
5425.259	Fe II	49	4G4.5-4F4.5	1.253	1.172	1.333	
5425.627	Co I	196	4F4.5-4G4.5	1.253	1.333	1.172	
5426.258	Ti I	3	3F3-5D3	1.292	1.083	1.500	
5428.707	Fe I p	1032	3F2-3D1	0.750	0.667	0.500	
5428.850	Ni I	161	3D1-3D2	1.500	0.500	1.167	
5429.150	Ti I	259	3P2-3P2	1.500	1.500	1.500	
5429.432	Fe I p	1029	3F3-3G3	0.917	1.083	0.750	1
5429.511	Fe I p	1062	5D2-5D1	1.500	1.500	1.500	1
5429.706	Fe I	15	5F3-5D3	1.375	1.250	1.500	1
5429.854	Fe I p	1162	3G3-5H3	0.625	0.750	0.500	1
5431.541	Nd II	80	6K7.5-6I6.5	1.033	1.129	1.159	
5432.068	VII ?	53	3D1-5F2	1.250	0.500	1.000	
5432.33?	Ti I	265	3F3-3F4	1.500	1.083	1.250	1
5432.354	Cr I	204	3G3-3F3	0.917	0.750	1.083	1
5432.548	Mn I	1	6S2.5-8P2.5	2.143	2.000	2.286	
5432.955	Fe I -	1143	5G2-5F2	0.667	0.333	1.000	
5434.534	Fe I	15	5F1-5D0	0.000	0.000	0/0	
5435.183	Fe I p	1161	3G4-5G3	1.250	1.050	1.917	
5435.866	Ni I	70	3P0-3D1	0.500	0/0	0.500	
5436.302	Fe I	1161	3G5-5G4	1.700	1.200	1.150	
5436.596	Fe I	113	3P2-5P3	1.833	1.500	1.667	
5436.731	Ti I	51	1D2-3D3	1.667	1.000	1.333	
5436.845	O I ?	11	5P3-5S2	1.333	1.667	2.000	
5437.203	Fe I p	1145	5G5-5G6	1.500	1.267	1.333	
5438.051	Fe I	1237	3F4-3H5	0.600	1.250	1.033	
5438.307	Ti I	108	3F2-3G3	0.833	0.667	0.750	
5439.303	VII	53	3D2-5F2	1.083	1.167	1.000	
5440.503	Ti I p	107	3F2-5D2	1.083	0.667	1.500	
5441.347	Fe I	1144	5G5-5D4	0.800	1.267	1.500	
5442.420	Cr I	204	3G3-3F2	0.833	0.750	0.667	
5443.426	Fe I p	1059	5D4-5F4	1.425	1.500	1.350	
5444.588	Co I -	196	4F4.5-4G5.5	1.136	1.333	1.273	

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value	Note
5445.053	Fe I	1163	3G5-3G5	1.200	1.200	
5445.959	Fe II p	53	2P0.5-4F1.5	0.333	0.667	0.400
5446.591	Ti I	3	3F3-5D2	0.667	1.083	1.500
5446.591	Ti I	259	3P0-3P1	1.500	0/0	1.500
5446.591	Fe I p	1144	5G3-5D2	0.333	0.917	1.500
5446.924	Fe I	15	5F2-5D2	1.250	1.000	1.500
5446.924	Fe I	37	3F2-3D3	2.000	0.667	1.333
5448.933	Ti I	259	3P1-3P1	1.500	1.500	1.500
5449.159	Ti I	107	3F3-5D3	1.292	1.083	1.500
5451.957	Ti I	265	3F2-3F3	1.500	0.667	1.083
5452.101	Fe I	870	3D2-5G3	0.667	1.167	0.917
5454.298	Co I	175	4D0.5-4F1.5	0.500	0.000	0.400
5453.236	Ni I	231	3F4-3F3	1.500	1.250	1.083
5453.650	Ti I	108	3F3-3G4	1.000	1.083	1.050
5453.996	Fe I p	1064	5D3-5P3	1.583	1.500	1.667
5454.580	Co I -	195	4F4.5-4F4.5	1.333	1.333	1.333
5455.095	Fe I p	627	3D3-5D3	1.417	1.333	1.500
5455.465	Fe I	1145	5G6-5G6	1.333	1.333	1.333
5455.624	Fe I	15	5F1-5D1	0.750	0.000	1.500
5456.528	Fe I	817	5P3-5F4	0.875	1.667	1.350
5457.474	Mn I	4	6D2.5-6P3.5	1.786	1.657	1.714
5460.513	Ti I	3	3F4-5D4	1.375	1.250	1.500
5460.888	Fe I	464	3P1-5P1	2.000	1.500	2.500
5461.559	Fe I	1145	5G2-5G3	1.500	0.333	0.917
5461.823	Fe I p	817	5P1-5F2	0.250	2.500	1.000
5462.501	Ni I	192	1F3-3F4	1.625	1.000	1.250
5462.970	Fe I	1163	3G3-3G3	0.750	0.750	0.750
5463.289	Fe I	1163	3G4-3G4	1.050	1.050	1.050
5463.972	Cr I	204	3G4-3F3	1.000	1.050	1.083
5464.288	Fe I	1030	3F3-1D2	1.167	1.083	1.000
5466.405	Fe I	1144	5G4-5D3	0.625	1.150	1.500
5466.405	(Y I)	12	4F4.5-4G5.5	1.136	1.333	1.273
5466.993	Fe I	784	1H5-3H4	1.400	1.000	0.800
5466.993	Fe I	817	5P2-5F3	0.667	1.833	1.250
5467.785	Fe I p-	741	1D2-5D2	1.250	1.000	1.500
5468.114	Ni I	192	1F3-3F3	1.042	1.000	1.083
5468.392	Ce II ?	24	4I7.5-4H6.5	1.100	1.200	1.231
5469.068	Fe I p	1131	1D2-3P2	1.250	1.000	1.500
5469.280	Co I	56	4P2.5-2D2.5	1.400	1.600	1.200
5469.280	Fe I p	1143	5G5-5F5	1.333	1.267	1.400
5470.093	Fe I	1144	5G2-5D1	-0.250	0.333	1.500
5470.446	Co I	175	4D1.5-4F2.5	0.900	1.200	1.029
5470.48	Ti I	108	3F3-3G3	0.917	1.083	0.750
5470.636	Mn I	4	6D2.5-6P2.5	1.771	1.657	1.886
5471.205	Ti I	106	3F3-3D3	1.208	1.083	1.333
5472.304	Ce II	24	4I6.5-4H5.5	1.038	1.108	1.133
5472.713	Ti I -	107	3F3-5D2	0.667	1.083	1.500
5472.713	Fe I	1108	3P2-5D1	1.500	1.500	1.500
5473.168	Fe I	1064	5D2-5P2	1.667	1.500	1.833
5473.394	Y II	27	3P1-3P2	1.500	1.500	1.500
5473.553	Ti I	259	3P1-3P0	1.500	1.500	0/0
5473.910	Fe I	1062	5D3-5D3	1.500	1.500	1.500

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g- value		Note
5474.094	Fe I p	1314	5F5-5G4	1.900	1.400	1.150	
5474.232	Ti I	108	3F4-3G5	1.100	1.250	1.200	
5474.467	Ti I	259	3P2-3P1	1.500	1.500	1.500	
5475.440	Ni I	159	3D1-3P1	1.000	0.500	1.500	
5476.295	Fe I	1029	3F3-3G4	1.000	1.083	1.050	1
5476.576	Fe I	1062	5D4-5D4	1.500	1.500	1.500	
5476.921	Ni I	59	1S0-1P1	1.000	0/0	1.000	
5477.090	Co I	175	4D2.5-4F3.5	1.071	1.371	1.238	
5477.502	Cr II ?	50	4G2.5-4F2.5	0.800	0.571	1.029	
5477.705	Ti I	265	3F4-3F4	1.250	1.250	1.250	1
5477.791	Zr II ?	115	2D2.5-2D1.5	1.500	1.200	0.800	1
5478.378	Cr II	50	4G5.5-4F4.5	1.136	1.273	1.333	1
5478.464	Fe I	1062	5D2-5D2	1.500	1.500	1.500	1
5480.518	Cr I	204	3G5-5F4	0.900	1.200	1.350	2
5480.761	Y II	27	3P0-3P1	1.500	0/0	1.500	1,2
5480.761	Ni I	191	1F3-3D3	1.167	1.000	1.333	1,2
5480.865	-Fe I	1062	5D1-5D0	1.500	1.500	0/0	1,2
5480.865	(Sr I)	9	3D3-3D3	1.333	1.333	1.333	1,2
5481.252	Fe I	1058	5D4-7G4	1.400	1.500	1.300	
5481.443	Ti I	265	3F3-3F3	1.083	1.083	1.083	2
5481.443	Mn I -	4	6D2.5-6P1.5	1.100	1.657	2.400	2
5481.443	Fe I	1061	5D2-3D1	2.000	1.500	0.500	2
5481.873	Ti I	106	3F2-3D2	0.917	0.667	1.167	
5481.999	Sc I	16	2F3.5-2F3.5	1.143	1.143	1.143	
5482.264	Fe I p	873	3D1-3S1	1.250	0.500	2.000	
5483.108	Fe I	1061	5D3-3D2	1.833	1.500	1.167	
5483.364	Co I	39	4P2.5-4D3.5	1.214	1.600	1.429	
5483.912	-Co I	175	4D3.5-4F4.5	1.167	1.429	1.333	
5484.646	Sc I	16	2F2.5-2F2.5	0.857	0.857	0.857	
5485.706	Nd II	79	6K8.5-6K8.5	1.207	1.207	1.207	
5486.965	-VII	53	3D1-5F1	0.250	0.500	0.000	
5487.153	Fe I	1143	5G3-5F3	1.083	0.917	1.250	
5487.524	Fe I p	870	3D3-5G4	0.875	1.333	1.150	2
5487.524	Fe I p	1064	5D2-5P1	1.000	1.500	2.500	2
5487.755	Fe I	1025	3F3-5D2	0.667	1.083	1.500	
5487.934	VI	129	2H5.5-2G4.5	1.045	1.091	1.111	
5488.170	Fe I p-	1183	3F3-3F2	1.500	1.083	0.667	2
5488.170	Ti I	265	3F2-3F2	0.667	0.667	0.667	2
5489.868	Fe I p	1148	5G2-3D2	0.750	0.333	1.167	
5490.159	Ti I	107	3F4-5D3	0.875	1.250	1.500	
5490.840	Ti I	3	3F4-5D3	0.875	1.250	1.500	
5491.845	Fe I	1031	3F2-3D3	2.000	0.667	1.333	
5493.354	Fe I p	873	3D2-3S1	0.750	1.167	2.000	
5493.506	Fe I	1061	5D4-3D3	1.750	1.500	1.333	
5493.857	Fe I	464	3P2-5P3	1.833	1.500	1.667	2
5493.857	Fe I	1062	5D1-5D1	1.500	1.500	1.500	2
5494.474	Fe I	1024	3F4-3H5	0.600	1.250	1.033	
5494.706	Ti I	108	3F4-3G4	1.150	1.250	1.050	
5494.888	Ni I	231	3F3-3F3	1.083	1.083	1.083	
5495.706	Co I ?	166	2D2.5-2D2.5	1.200	1.200	1.200	
5496.573	Fe I p	1281	5D4-5D3	1.500	1.500	1.500	
5497.356	Y II	27	3P2-3P2	1.500	1.500	1.500	1

Table 1.(continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value	Note	
5497.526	Fe I	15	5F1-5D2	2.250	0.000	1.500	1
5497.98	Ti I ?p	51	1D2-3D2	1.083	1.000	1.167	
5498.189	Fe II p	24	4P2.5-6D1.5	1.400	1.660	1.867	2
5499.434	Ni I	176	3G4-3G5	1.500	1.050	1.200	
5499.598	Fe I p	1159	3G3-5F2	0.500	0.750	1.000	
5501.477	Fe I	15	5F3-5D4	1.875	1.250	1.500	
5502.092	Cr II	50	4G4.5-4F3.5	1.056	1.172	1.238	
5503.240	Cr II	50	4G2.5-4F1.5	0.700	0.571	0.400	
5503.904	Ti I	287	1H5-1G4	1.000	1.000	1.000	
5504.106	Ni I	175	3G5-5F4	0.900	1.200	1.350	
5504.227	Mn I	31	4G5.5-6F4.5	0.909	1.273	1.434	
5505.728	Fe I p	1162	3G3-5H4	1.125	0.750	0.900	
5505.889	Mn I -	4	6D1.5-6P2.5	1.900	1.867	1.886	2
5505.889	Fe I	1145	5G3-5G4	1.500	0.917	1.150	2
5506.510	Mo I	4	5S2-5P3	1.333	2.000	1.667	
5506.791	Fe I	15	5F2-5D3	2.000	1.000	1.500	
5507.771	VI	129	2H4.5-2G3.5	0.944	0.909	0.889	
5508.633	Cr II	50	4G3.5-4F2.5	0.929	0.984	1.029	
5509.909	Y II	19	3F2-1D2	0.833	0.667	1.000	
5510.020	Ni I	190	1F3-3G4	1.125	1.000	1.050	
5510.237	Fe I p	1023	3F4-5F5	1.700	1.250	1.400	
5510.730	Cr II -	23	4P2.5-4P1.5	1.500	1.600	1.733	
5511.802	Ti I	108	3F4-3G3	2.000	1.250	0.750	2
5511.802	Ti I	275	1P1-1S0	1.000	1.000	0/0	2
5512.062	Ce II	24	4I4.5-4H3.5	0.833	0.727	0.667	
5512.265	Fe I	1143	5G4-5F4	1.250	1.150	1.350	
5512.408	Fe I p	1148	5G3-3D3	1.125	0.917	1.333	
5512.535	Ti I	106	3F4-3D3	1.125	1.250	1.333	
5512.715	Cr I	121	5D3-5D2	1.500	1.500	1.500	
5512.989	Ca I	48	1P1-1S0	1.000	1.000	0/0	
5513.850	Fe I p	925	1G4-5F4	1.175	1.000	1.350	
5514.221	Sc I	15	2F2.5-2G3.5	0.929	0.857	0.889	
5514.353	Ti I	106	3F2-3D1	0.750	0.667	0.500	
5514.544	Ti I	106	3F3-3D2	1.000	1.083	1.167	
5514.689	WI	1	5D2-7D1	0.750	1.500	3.000	
5514.802	Ni I	189	1F3-3P2	0.500	1.000	1.500	
5516.300	Fe I p	1057	5D4-5G3	2.375	1.500	0.917	2
5516.738	Mn I	4	6D1.5-6P1.5	2.133	1.867	2.400	1
5517.075	Fe I	1109	3P2-5P2	1.667	1.500	1.833	
5518.095	Ti I p	265	3F3-3F2	1.500	1.083	0.667	
5518.545	Fe I p	1314	5F4-5G3	2.000	1.350	0.917	
5519.858	Fe II p-	52	2P0.5-4D1.5	1.333	0.667	1.200	2
5520.226	Fe I ?p	1144	5G2-5D2	0.917	0.333	1.500	
5520.511	Sc I	15	2F3.5-2G4.5	1.056	1.143	1.111	
5521.139	Fe I	839	1I6-5G5	0.333	1.000	1.267	2
5521.302	Fe I p	1162	3G4-5H5	1.200	1.050	1.100	
5521.437	Ni I	175	3G4-5F4	1.200	1.050	1.350	
5521.590	Y II	27	3P1-3P1	1.500	1.500	1.500	2
5521.791	Sr I ?	9	3D1-3D1	0.500	0.500	0.500	
5522.454	Fe I	1108	3P2-5D2	1.500	1.500	1.500	
5523.261	Co I	112	2P0.5-2D1.5	0.833	0.667	0.800	1
5524.268	Fe I	1059	5D3-5F3	1.375	1.500	1.250	

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value	Note	
5524.999	Co I	192	4G3.5-4G4.5	1.500	0.984	1.172	
5525.135	Fe II ?p	56	2H4.5-4D3.5	0.000	0.909	1.429	
5525.552	Fe I	1062	5D0-5D1	1.500	0/0	1.500	
5526.821	Sc II	31	1G4-1F3	1.000	1.000	1.000	
5527.580	Y I -	12	4F3.5-4G4.5	1.056	1.238	1.172	2
5527.580	Ti I	265	3F4-3F3	1.500	1.250	1.083	2
5528.418	Mg I	9	1P1-1D2	1.000	1.000	1.000	
5528.905	Fe I p	1161	3G3-5G3	0.833	0.750	0.917	
5529.171	Fe I	872	3D3-1G4	0.500	1.333	1.000	
5529.791	Fe I p	344	3P0-5F1	0.000	0/0	0.000	
5530.786	Co I	38	4P2.5-2F3.5	0.857	1.600	1.143	
5531.985	Fe I	1281	5D4-5D4	1.500	1.500	1.500	
5532.751	Fe I	783	1H5-3F4	0.500	1.000	1.250	
5533.039	Mo I	4	5S2-5P2	1.917	2.000	1.833	
5534.676	Fe I	1063	5D3-7S3	1.750	1.500	2.000	2
5534.848	Fe II	55	2H5.5-4F4.5	0.545	1.091	1.333	
5535.425	Fe I	626	3D3-5F2	1.667	1.333	1.000	1,2
5535.425	Fe I	1029	3F2-3G3	0.833	0.667	0.750	1,2
5535.51	Ba I	2	1S0-1P1	1.000	0/0	1.000	1
5536.598	Fe I p	345	3P2-5S2	1.750	1.500	2.000	
5537.119	Ni I	188	1F3-5F4	1.875	1.000	1.350	
5537.718	Mn I	4	6D0.5-6P1.5	2.167	3.333	2.400	1
5538.522	Fe I	839	1I6-5G6	1.167	1.000	1.333	2
5538.522	Fe I	1064	5D1-5P2	2.000	1.500	1.833	2
5539.832	Fe I	1130	1D2-3D2	1.083	1.000	1.167	
5541.592	Fe I p	627	3D2-5D2	1.333	1.167	1.500	
5543.046	Fe I p	926	1G4-3G5	1.600	1.000	1.200	2
5543.046	Fe I p	1064	5D2-5F3	1.833	1.500	1.667	2
5543.199	Fe I	926	1G4-3G3	1.375	1.000	0.750	
5543.944	Fe I	1062	5D1-5D2	1.500	1.500	1.500	
5545.275	Fe II p	24	4P2.5-6D2.5	1.629	1.600	1.657	
5545.936	VI	38	4D2.5-6D3.5	1.857	1.371	1.587	2
5545.936	Co I	191	4G3.5-4F3.5	1.111	0.984	1.238	2
5546.032	Y II	27	3P2-3P1	1.500	1.500	1.500	
5546.514	Fe I	1145	5G4-5G5	1.500	1.150	1.267	
5547.000	Fe I	1061	5D1-3D1	1.000	1.500	0.500	1
5547.06	VI	38	4D3.5-6D4.5	1.778	1.429	1.556	1
5549.532	Fe I p	1159	3G5-5F4	0.900	1.200	1.350	
5549.656	Fe I p	1314	5F5-5G5	1.333	1.400	1.267	
5549.958	Fe I	926	1G4-3G4	1.025	1.000	1.050	
5551.311	Fe I p	714	1P1-3D1	0.750	1.000	0.500	
5551.778	Fe I p	1059	5D4-5F5	1.200	1.500	1.400	
5552.237	Sc II	25	1S0-3P1	1.500	0/0	1.500	
5552.700	Fe I p	1281	5D3-5D2	1.500	1.500	1.500	
5552.855	Fe I p	344	3P2-5F3	1.000	1.500	1.250	
5553.235	Fe I p	1064	5D1-5P1	2.000	1.500	2.500	
5553.589	Fe I	1161	3G4-5G4	1.100	1.050	1.150	
5553.707	Ni I	69	3P2-3F2	1.083	1.500	0.667	
5554.900	Fe I	1183	3F4-3F4	1.250	1.250	1.250	1
5555.178	Fe I p	740	1D2-3S1	0.500	1.000	2.000	
5556.202	Cr I	121	5D2-5D1	1.500	1.500	1.500	2
5556.478	Yb I -	1	1S0-3P1	1.500	0/0	1.500	2



Table 1.(continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value	Note	
5557.070	Al I	6	2S0.5-2P1.5	1.167	2.000	1.333	
5557.482	VI ?	1	4F2.5-6D1.5	0.400	1.029	1.867	2
5557.916	Fe I p	464	3P0-5P1	2.500	0/0	2.500	1,2
5557.916	Fe I p	1164	3G3-3D2	0.333	0.750	1.167	1,2
5557.916	Al I	6	2S0.5-2P0.5	1.333	2.000	0.667	1,2
5557.995	Fe I	1163	3G3-3G4	1.500	0.750	1.050	1
5558.77	VI	77	2P1.5-2S0.5	1.167	1.333	2.000	
5558.850	Co I ?	166	2D1.5-2D1.5	0.800	0.800	0.800	
5560.220	Fe I	1164	3G4-3D3	0.625	1.050	1.333	
5560.552	VI	1	4F3.5-6D3.5	1.413	1.238	1.587	
5562.125	Fe I p	1162	3G5-5H6	1.250	1.200	1.214	
5562.716	Fe I	626	3D1-5F1	0.250	0.500	0.000	2
5562.716	Fe I	1163	3G4-3G5	1.500	1.050	1.200	2
5563.608	Fe I	1062	5D2-5D3	1.500	1.500	1.500	1
5563.702	Fe I p	112	3P1-3F2	0.250	1.500	0.667	1,2
5563.702	Fe I p	1023	3F3-5F4	1.750	1.083	1.350	1,2
5565.485	Ti I	229	3H4-1G4	0.900	0.800	1.000	
5565.713	Fe I	1183	3F3-3F3	1.083	1.083	1.083	
5566.814	Fe I p	625	3D3-5D2	1.167	1.333	1.500	2
5567.400	Fe I	209	3F2-3D1	0.750	0.667	0.500	
5568.075	Fe I p	1059	5D3-5F4	1.125	1.500	1.350	
5568.470	Fe I p	1058	5D3-7G3	1.333	1.500	1.167	
5568.705	Fe I p	1026	3F3-3F3	1.083	1.083	1.083	
5568.871	Fe I	869	3D1-3D1	0.500	0.500	0.500	
5569.631	Fe I	686	5F2-5D1	0.750	1.000	1.500	
5570.069	Fe I p	345	3P1-5S2	2.250	1.500	2.000	
5570.397	Mo I	4	5S2-5P1	1.750	2.000	2.500	
5572.851	Fe I	686	5F3-5D2	1.000	1.250	1.500	
5573.107	Fe I	1061	5D2-3D2	1.333	1.500	1.167	
5576.099	Fe I	686	5F1-5D0	0.000	0.000	0/0	
5577.028	Fe I	1314	5F4-5G4	1.250	1.350	1.150	
5578.729	Ni I	47	1D2-1D2	1.000	1.000	1.000	
5579.352	Fe I p	1061	5D0-3D1	0.500	0/0	0.500	
5581.979	Ca I	21	3D2-3D3	1.500	1.167	1.333	
5583.991	Fe I p	1059	5D2-5F2	1.250	1.500	1.000	
5584.514	VI	37	4D2.5-4D3.5	1.500	1.371	1.429	
5584.773	Fe I	782	1H5-5D4	0.000	1.000	1.500	2
5584.773	(VI)	85	4H6.5-4H6.5	1.231	1.231	1.231	2
5586.002	VI	85	4H5.5-4H5.5	1.133	1.133	1.133	
5586.771	Fe I	686	5F4-5D3	1.125	1.350	1.500	1
5587.369	Fe I p	583	3H5-5F5	1.217	1.033	1.400	
5587.581	Fe I	1026	3F3-3F4	1.500	1.083	1.250	
5587.868	Ni I	70	3P2-3D3	1.167	1.500	1.333	
5588.764	Ca I	21	3D3-3D3	1.333	1.333	1.333	
5589.010	Fe I p-	1160	3G3-5D2	0.000	0.750	1.500	
5589.366	Ni I	205	1D2-3D2	1.083	1.000	1.167	
5590.126	Ca I	21	3D1-3D2	1.500	0.500	1.167	
5590.706	Co I	90	2D1.5-2D1.5	0.800	0.800	0.800	
5591.369	Sc I -	18	4F4.5-4F4.5	1.333	1.333	1.333	2
5591.369	Fe II ?p	55	2H4.5-4F4.5	1.152	0.909	1.333	2
5592.152	Ni I	250	3D2-3F2	0.917	1.167	0.667	
5592.266	Ni I	69	3P1-3F2	0.250	1.500	0.667	

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-	value	Note
5592.427	VI	37	4D1.5-4D2.5	1.500	1.200	1.371	
5592.958	VI	1	4F3.5-6D2.5	0.714	1.238	1.657	
5593.746	NiI	206	1D2-3F3	1.167	1.000	1.083	
5594.471	CaI	21	3D2-3D2	1.167	1.167	1.167	2
5594.471	(NdII)	79	6K7.5-6K7.5	1.129	1.129	1.129	2
5594.666	FeI	1182	3F4-3H4	1.025	1.250	0.800	
5595.067	FeI p	1314	5F3-5G3	1.083	1.250	0.917	
5597.876	CrI	239	5F3-5D4	1.875	1.250	1.500	
5598.305	FeI	1183	3F2-3F2	0.667	0.667	0.667	
5598.491	CaI	21	3D1-3D1	0.500	0.500	0.500	
5600.028	NiI	219	1P1-3F2	0.500	1.000	0.667	
5600.234	FeI	866	3D1-5D0	0.500	0.500	0/0	2
5600.234	FeI	1108	3P1-5D1	1.500	1.500	1.500	2
5601.286	CaI	21	3D3-3D2	1.500	1.333	1.167	
5602.562	FeI p	1281	5D3-5D3	1.500	1.500	1.500	
5602.773	FeI	1062	5D3-5D4	1.500	1.500	1.500	1
5602.864	CaI	21	3D2-3D1	1.500	1.167	0.500	1
5602.969	FeI	686	5F1-5D1	0.750	0.000	1.500	1
5604.198	VI	85	4H4.5-4H4.5	0.970	0.970	0.970	2
5604.956	VI	37	4D0.5-4D1.5	1.500	0.000	1.200	
5607.003	NiI	205	1D2-3D3	1.667	1.000	1.333	
5607.154	FeII ?p	24	4P2.5-6D3.5	1.571	1.600	1.587	
5607.669	FeI p	1058	5D3-7G4	1.000	1.500	1.300	
5608.981	FeI p	1108	3P2-5D3	1.500	1.500	1.500	
5609.180	CrI	223	7P3-7S3	1.958	1.917	2.000	
5609.987	FeI p	866	3D2-5D1	1.000	1.167	1.500	
5610.246	CeII	26	4G2.5-4H3.5	0.786	0.571	0.667	2
5611.368	FeI p	869	3D1-3D2	1.500	0.500	1.167	
5614.282	FeI p	1314	5F2-5G2	0.667	1.000	0.333	
5614.602	FeI ?p	739	1D2-5P1	0.250	1.000	2.500	
5614.781	NiI	250	3D3-3F3	1.208	1.333	1.083	
5615.163	FeI p	1143	5G4-5F5	1.900	1.150	1.400	1
5615.308	FeI	209	3F3-3D2	1.000	1.083	1.167	1
5615.658	FeI	686	5F5-5D4	1.200	1.400	1.500	1
5617.148	FeI p	1088	5F4-5P3	0.875	1.350	1.667	1
5617.236	FeI	626	3D3-5F4	1.375	1.333	1.350	1
5618.642	FeI	1107	3P2-3D2	1.333	1.500	1.167	
5619.239	FeI ?p	923	1G4-5G4	1.075	1.000	1.150	
5619.609	FeI	1161	3G5-5G6	1.667	1.200	1.333	
5620.030	FeI	1026	3F3-3F2	1.500	1.083	0.667	2
5620.030	FeI	1205	5P3-3H4	-0.500	1.667	0.800	2
5620.177	ZrI	25	3P2-3S1	1.250	1.500	2.000	
5620.496	FeI	1061	5D3-3D3	1.417	1.500	1.333	
5620.647	NdII	86	6I8.5-6I8.5	1.294	1.294	1.294	
5622.231	SiI	11	3P1-3S1	1.750	1.500	2.000	
5623.639	FeI p	625	3D1-5D2	2.000	0.500	1.500	
5624.030	FeI	1160	3G5-5D4	0.600	1.200	1.500	
5624.558	FeI -	686	5F2-5D2	1.250	1.000	1.500	2
5624.558	VI	37	4D2.5-4D2.5	1.371	1.371	1.371	2
5624.880	VI	37	4D1.5-4D1.5	1.200	1.200	1.200	
5625.328	NiI	221	1P1-1D2	1.000	1.000	1.000	
5626.027	VI	37	4D0.5-4D0.5	0.000	0.000	0.000	

Table 1.(continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g- value		Note
5627.097	Fe I p	1084	5F5-5F4	1.500	1.400	1.350	
5627.502	Fe II p	57	2F3.5-4F2.5	1.286	1.143	1.029	
5627.642	VI	37	4D3.5-4D3.5	1.429	1.429	1.429	
5628.354	Ni I	215	1P1-5F1	0.500	1.000	0.000	
5628.650	Cr I	203	3G3-3H4	0.875	0.750	0.800	
5630.101	Y I ?	12	4F1.5-4G2.5	0.700	0.400	0.571	2
5631.693	Fe I	1159	3G3-5F3	1.000	0.750	1.250	
5632.455	VI	1	4F4.5-6D3.5	0.889	1.333	1.587	
5633.953	Fe I	1314	5F5-5G6	1.167	1.400	1.333	
5634.523	Fe I p	1281	5D2-5D2	1.500	1.500	1.500	2
5635.831	Fe I	1088	5F3-5P2	0.667	1.250	1.833	
5636.003	Fe I p	1058	5D2-7G2	1.167	1.500	0.833	
5636.234	Ru I	10	5D3-5D4	1.500	1.500	1.500	
5636.705	Fe I	868	3D2-3F3	1.000	1.167	1.083	
5637.123	Ni I	218	1P1-3D1	0.750	1.000	0.500	
5637.707	-Co I ?	195	4F3.5-4F3.5	1.238	1.238	1.238	
5638.271	Fe I	1087	5F4-5D3	1.125	1.350	1.500	
5638.758	Ni I	203	1D2-3P1	0.750	1.000	1.500	
5640.502	Fe I	1202	5P3-5H3	1.083	1.667	0.500	
5640.989	Sc II	29	3P1-3P2	1.500	1.500	1.500	
5641.131	Ni I	230	3F3-3F2	1.500	1.083	0.667	
5641.448	Fe I	1087	5F3-5D2	1.000	1.250	1.500	
5641.893	Ni I	234	3F3-1F3	1.042	1.083	1.000	
5642.381	Cr I	239	5F4-5D4	1.425	1.350	1.500	
5642.623	Ni I	203	1D2-3P2	1.250	1.000	1.500	
5642.761	Fe I p	1184	3F3-3P2	0.667	1.083	1.500	
5643.087	Ni I	259	1G4-3F3	0.875	1.000	1.083	
5643.934	Fe I p	1021	3F4-1F3	1.625	1.250	1.000	
5644.146	Ti I	240	1G4-1G4	1.000	1.000	1.000	
5644.350	Fe I p	1057	5D3-5G3	1.208	1.500	0.917	
5645.618	Si I	10	3P1-3P2	1.500	1.500	1.500	
5646.111	VI	37	4D1.5-4D0.5	1.500	1.200	0.000	
5646.689	Fe I p	1109	3P1-5P2	2.000	1.500	1.833	
5647.241	Co I	112	2P1.5-2D2.5	1.100	1.333	1.200	
5648.279	Cr I	239	5F2-5D2	1.250	1.000	1.500	
5648.578	Ti I	269	3D3-3F4	1.125	1.333	1.250	
5648.914	Fe I p	625	3D3-5D3	1.417	1.333	1.500	
5649.390	Cr I	239	5F3-5D3	1.375	1.250	1.500	
5649.682	Fe I -	838	1I6-3H5	0.917	1.000	1.033	2
5649.682	Ni I	231	3F2-3F3	1.500	0.667	1.083	2
5649.996	Fe I	1314	5F1-5G2	0.500	0.000	0.333	
5650.285	Fe I p	1180	3F4-3G3	2.000	1.250	0.750	
5650.694	Fe I	1314	5F2-5G3	0.833	1.000	0.917	
5651.477	Fe I p	1161	3G3-5G4	1.750	0.750	1.150	
5651.742	Co I ?	56	4P1.5-4D2.5	1.100	1.733	1.371	2
5652.029	Fe I p	1059	5D1-5F2	0.750	1.500	1.000	
5652.327	Fe I	1108	3P1-5D2	1.500	1.500	1.500	
5653.874	Fe I	1159	3G5-5F5	1.300	1.200	1.400	
5655.183	Fe I	1314	5F3-5G4	1.000	1.250	1.150	
5655.500	Fe I	1107	3P1-3D1	1.000	1.500	0.500	2
5655.500	Fe I	1314	5F4-5G5	1.100	1.350	1.267	2
5657.450	VI	37	4D2.5-4D1.5	1.500	1.371	1.200	

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value	Note	
5657.880	ScII	29	3P2-3P2	1.500	1.500	1.500	
5658.346	ScII	29	3P0-3P1	1.500	0/0	1.500	
5658.542	FeI	686	5F1-5D2	2.250	0.000	1.500	1
5658.668	FeI p	1087	5F2-5D1	0.750	1.000	1.500	1
5658.830	FeI	686	5F3-5D3	1.375	1.250	1.500	1
5659.112	TiI ?	50	1D2-3S1	0.500	1.000	2.000	
5659.16	CoI	82	2G4.5-2G3.5	1.500	1.111	0.889	
5660.809	FeI	869	3D2-3D3	1.500	1.167	1.333	
5661.025	FeI p	1234	3F2-3G3	0.833	0.667	0.750	
5661.354	FeI	1108	3P0-5D1	1.500	0/0	1.500	
5661.986	FeI p	1109	3P1-5P1	2.000	1.500	2.500	
5662.159	TiI	249	5D4-5F5	1.200	1.500	1.400	
5662.524	FeI	1087	5F5-5D4	1.200	1.400	1.500	
5662.939	FeI	924	1G4-1G4	1.000	1.000	1.000	2
5662.939	TiI -	269	3D2-3F3	1.000	1.167	1.083	2
5662.939	YII	38	1G4-1F3	1.000	1.000	1.000	2
5664.009	NiI	272	1D2-3F3	1.167	1.000	1.083	2
5664.009	CrI	203	3G4-3H5	1.000	1.050	1.033	2
5664.52	ZrI	47	1D2-1D2	1.000	1.000	1.000	
5665.563	SiI	10	3P0-3P1	1.500	0/0	1.500	
5666.794	FeI	1053	5D3-7F3	1.500	1.500	1.500	
5666.794	FeI	1060	5D3-5S2	1.000	1.500	2.000	
5667.153	ScII	29	3P1-3P1	1.500	1.500	1.500	
5668.369	VI	37	4D3.5-4D2.5	1.500	1.429	1.371	
5668.916	CeII -	23	4I4.5-4I4.5	0.727	0.727	0.727	2
5669.040	ScII	29	3P1-3P0	1.500	1.500	0/0	
5669.950	NiI	250	3D1-3F2	0.750	0.500	0.667	
5670.858	VI	36	4D3.5-2G4.5	0.556	1.429	1.111	
5671.826	ScI	12	4F4.5-4G5.5	1.136	1.333	1.172	
5672.266	FeI	1234	3F3-3G3	0.917	1.083	0.750	
5675.092	FeI p	583	3H4-5F5	2.600	0.800	1.400	
5675.434	TiI	249	5D3-5F4	1.125	1.500	1.350	2
5677.695	FeI p	1057	5D4-5G5	0.800	1.500	1.267	
5678.063	FeI p	1290	7P3-5D3	1.708	1.917	1.500	
5678.390	FeI p	982	3D3-3F2	2.000	1.333	0.667	
5678.609	FeI p	113	3P1-5P2	2.000	1.500	1.833	
5679.032	FeI	1183	3F2-3F3	1.500	0.667	1.083	
5679.933	TiI	269	3D1-3F2	0.750	0.500	0.667	
5680.248	FeI	1026	3F2-3F3	1.500	0.667	1.083	
5680.91	ZrI	25	3P1-3S1	1.750	1.500	2.000	
5682.208	NiI	232	3F3-1G4	0.875	1.083	1.000	
5682.493	CrI	239	5F3-5D2	1.000	1.250	1.500	
5682.647	NaI	6	2P0.5-2D1.5	0.833	0.667	0.800	
5684.198	ScII	29	3P2-3P1	1.500	1.500	1.500	
5684.493	SiI	11	3P2-3S1	1.250	1.500	2.000	
5685.881	FeI p	1281	5D2-5D3	1.500	1.500	1.500	
5686.540	FeI	1182	3F4-3H5	0.600	1.250	1.033	
5686.839	ScI	12	4F3.5-4G4.5	1.056	1.238	1.172	
5688.217	NaI	6	2P1.5-2D2.5	1.100	1.333	1.200	2
5688.217	(NaI)	6	2P1.5-2D1.5	1.067	1.333	0.800	2
5688.535	NdII	79	6K6.5-6K6.5	1.015	1.015	1.015	1
5688.598	CoI	90	2D2.5-2D1.5	1.500	1.200	0.800	1,2

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value		Note
5689.477	Ti I	249	5D2-5F3	1.000	1.500	1.250	
5690.070	Fe I p	1281	5D1-5D2	1.500	1.500	1.500	
5690.433	Si I	10	3P1-3P1	1.500	1.500	1.500	
5691.505	Ni I -	228	3F3-3G3	0.917	1.083	0.750	2
5691.505	Fe I	1087	5F1-5D0	0.000	0.000	0/0	2
5691.699	Fe I p	1084	5F4-5F3	1.500	1.350	1.250	
5694.744	Cr I	239	5F4-5D3	1.125	1.350	1.500	
5694.991	Ni I	220	1P1-1P1	1.000	1.000	1.000	
5696.099	Fe I p	1179	3F4-5H4	1.075	1.250	0.900	2
5696.099	Fe II p	18	2D1.5-6D2.5	2.300	0.800	1.657	2
5698.027	Fe I	867	3D2-3P1	1.000	1.167	1.500	
5698.340	Cr I	239	5F5-5D4	1.200	1.400	1.500	2
5698.340	Fe I	1130	1D2-3D1	1.250	1.000	0.500	2
5698.530	VI	35	4D2.5-4F3.5	1.071	1.371	1.238	
5700.186	Sc I	12	4F2.5-4G3.5	0.929	1.029	0.984	1
5700.284	Cu I	2	2D1.5-2P1.5	1.067	0.800	1.333	1
5700.524	Cr I	203	3G5-3H5	1.117	1.200	1.033	2
5700.524	Cr I	228	3D3-3D3	1.333	1.333	1.333	2
5701.108	Si I	10	3P1-3P0	1.500	1.500	0/0	
5701.557	Fe I	209	3F4-3D3	1.125	1.250	1.333	
5702.328	Cr I	203	3G5-3H6	1.083	1.200	1.167	
5702.661	Ti I	249	5D1-5F2	0.750	1.500	1.000	
5703.090	Fe I p	1053	5D2-7F2	1.500	1.500	1.500	
5703.587	VI	35	4D1.5-4F2.5	0.900	1.200	1.029	
5705.309	Fe I p	1058	5D1-7G2	0.500	1.500	0.833	2
5705.473	Fe I	1087	5F1-5D1	0.750	0.000	1.500	
5706.008	Fe I	1183	3F3-3F4	1.500	1.083	1.250	
5706.108	Fe I p	1088	5F2-5P2	1.417	1.000	1.833	
5706.982	VI	35	4D0.5-4F1.5	0.500	0.000	0.400	1
5707.048	Fe I	868	3D3-3F4	1.125	1.333	1.250	1
5707.245	Fe I p	866	3D3-5D2	1.167	1.333	1.500	
5707.713	Fe I p	1056	5D4-7P3	0.875	1.500	1.917	
5708.102	Fe I	1161	3G4-5G5	1.700	1.050	1.267	
5708.214	Ti I	249	5D4-5F4	1.425	1.500	1.350	
5708.405	Si I	10	3P2-3P2	1.500	1.500	1.500	
5708.663	Sc I	12	4F4.5-4G4.5	1.253	1.333	1.172	
5709.386	Fe I	686	5F4-5D4	1.425	1.350	1.500	
5709.555	Ni I	46	1D2-1F3	1.000	1.000	1.000	
5709.929	Fe I p	1088	5P3-5P3	1.667	1.667	1.667	
5711.095	Mg I	8	1P1-1S0	1.000	1.000	0/0	
5711.76	Sc I	12	4F1.5-4G2.5	0.700	0.400	0.571	
5711.884	Fe I	1087	5F2-5D2	1.250	1.000	1.500	2
5711.884	Ni I	69	3P2-3F3	0.667	1.500	1.083	2
5712.138	Fe I	686	5F2-5D3	2.000	1.000	1.500	
5712.778	Cr I	119	5D4-5D4	1.500	1.500	1.500	
5713.896	Ti I	249	5D0-5F1	0.000	0/0	0.000	
5714.901	Fe I p	552	5D3-7D2	1.000	1.500	2.000	
5715.094	Ni I	231	3F4-3F4	1.250	1.250	1.250	2
5715.094	Fe I	1061	5D2-3D3	1.167	1.500	1.333	2
5715.094	Fe I	1086	5F2-3D1	1.250	1.000	0.500	2
5715.094	Ti I	228	3H6-3H6	1.167	1.167	1.167	2
5715.471	Fe I p	1054	5D3-7D2	1.000	1.500	2.000	

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g- value		Note
5715.821	Fe I p	1198	5P3-5F2	2.333	1.667	1.000	2
5716.455	Ti I	249	5D2-5F2	1.250	1.500	1.000	
5717.311	Sc I	12	4F3.5-4G3.5	1.111	1.238	0.984	
5717.841	Fe I	1107	3P0-3D1	0.500	0/0	0.500	
5718.122	Nd II ?	86	6I7.5-6I7.5	1.239	1.239	1.239	
5719.828	Cr I	119	5D3-5D4	1.500	1.500	1.500	
5720.450	Ti I	249	5D1-5F1	0.750	1.500	0.000	
5720.898	Fe I p	1178	3F4-5G3	1.750	1.250	0.917	
5721.706	Fe I p	1057	5D3-5G4	0.625	1.500	1.150	2
5721.706	Fe I p	1088	5F2-5P1	0.250	1.000	2.500	2
5723.671	Fe I	1160	3G3-5D3	1.125	0.750	1.500	1
5724.095	Sc I	12	4F2.5-4G2.5	0.800	1.029	0.571	
5724.466	Fe I	1109	3P0-5P1	2.500	0/0	2.500	
5725.658	VI	135	2F3.5-2G4.5	1.056	1.143	1.111	
5725.953	Fe II p-	57	2F2.5-4F2.5	0.943	0.857	1.029	2
5727.057	VI	35	4D3.5-4F4.5	1.167	1.429	1.333	
5727.661	VI	35	4D1.5-4F1.5	0.800	1.200	0.400	
5728.877	YII	34	1D2-3P2	1.250	1.000	1.500	2
5729.202	Cr I	257	3D3-3P2	1.167	1.333	1.500	
5731.220	VI	36	4D2.5-2G3.5	0.286	1.371	0.889	
5731.772	Fe I	1087	5F3-5D3	1.375	1.250	1.500	
5732.304	Fe I p	1313	5F5-5D4	1.200	1.400	1.500	
5732.730	Fe II p	57	2F3.5-4F3.5	1.190	1.143	1.238	
5732.881	Fe I p	1055	5D4-5D3	1.500	1.500	1.500	
5733.891	Gd II	94	10P4.5-10P5.5	1.500	1.960	1.818	
5734.048	VI	135	2F2.5-2G3.5	0.929	0.857	0.889	
5735.713	Zr I -	4	3F2-3D1	0.750	0.667	0.500	
5736.644	Cr I	228	3D2-3D2	1.167	1.167	1.167	
5737.073	VI	35	4D2.5-4F2.5	1.200	1.371	1.029	
5737.691	Fe II p	58	2F2.5-4D1.5	0.600	0.857	1.200	2
5738.240	Fe I	1084	5F4-5F4	1.350	1.350	1.350	
5738.552	Cr I	227	3D3-3F4	1.125	1.333	1.250	1
5739.061	Ti I p	249	5D3-5F2	2.000	1.500	1.000	
5739.483	Ti I	228	3H5-3H5	1.033	1.033	1.033	
5739.807	Fe I p	1057	5D2-5G3	0.333	1.500	0.917	2
5739.987	Ti I	228	3H4-3H4	0.800	0.800	0.800	
5740.875	Nd II ?	86	6I5.5-6I5.5	1.035	1.035	1.035	2
5741.219	Ti I	280	1D2-1F3	1.000	1.000	1.000	2
5741.856	Fe I	1086	5F3-3D2	1.333	1.250	1.167	
5742.968	Fe I	1084	5F5-5F5	1.400	1.400	1.400	
5743.432	VI	35	4D3.5-4F3.5	1.333	1.429	1.238	
5746.422	Cr I	243	3I7-3H6	1.071	1.143	1.167	
5747.858	Fe I p	343	3P2-5D2	1.500	1.500	1.500	2
5747.955	Fe I	1182	3F3-3H4	0.375	1.083	0.800	
5748.170	Fe I p	1290	7P4-5D3	2.125	1.750	1.500	
5748.361	Ni I	45	1D2-3D1	1.250	1.000	0.500	
5748.899	VI	92	4P1.5-4D2.5	1.100	1.733	1.371	
5749.298	Ni I	176	3G3-3G4	1.500	0.750	1.050	
5749.641	Fe I p	1160	3G4-5D4	1.275	1.050	1.500	
5751.42	Mo I ?	5	5D2-5P2	1.667	1.500	1.833	
5752.042	Fe I	1180	3F4-3G4	1.150	1.250	1.050	
5752.86	Ti I	214	3P1-3S1	1.750	1.500	2.000	1

Table 1.(continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value	Note	
5753.132	FeI	1107	3P1-3D2	1.000	1.500	1.167	
5753.396	FeI p	1084	5F3-5F2	1.500	1.250	1.000	
5753.990	FeI p	170	3H4-3F3	0.375	0.800	1.083	2
5754.235	SiI	10	3P2-3P1	1.500	1.500	1.500	
5754.411	FeI	866	3D3-5D3	1.417	1.333	1.500	
5754.666	NiI	68	3P2-1P1	1.750	1.500	1.000	
5754.922	FeI p	113	3P0-5P1	2.500	0/0	2.500	
5756.407	TiI	228	3H6-3H5	1.500	1.167	1.033	
5759.273	FeI	1184	3F2-3P2	1.083	0.667	1.500	
5759.545	FeI	1087	5F1-5D2	2.250	0.000	1.500	2
5759.545	FeI	1204	5P3-7D4	1.625	1.667	1.650	2
5760.359	FeI	867	3D3-3P2	1.167	1.333	1.500	
5760.532	FeI p	1054	5D3-7D3	1.625	1.500	1.750	
5760.701	FeI p	1056	5D3-7P2	0.667	1.500	2.333	2
5760.841	NiI	231	3F3-3F4	1.500	1.083	1.250	
5761.091	FeI p	1057	5D1-5G2	-0.250	1.500	0.333	
5761.270	FeI	867	3D1-3P0	0.500	0.500	0/0	2
5761.424	VI ?	35	4D2.5-4F1.5	2.100	1.371	0.400	
5762.266	TiI	309	5G2-5H3	0.667	0.333	0.500	
5762.423	FeI	866	3D3-5D4	1.750	1.333	1.500	
5762.845	FeI p	1086	5F1-3D1	0.250	0.000	0.500	
5763.002	FeI	1107	3P2-3D3	1.167	1.500	1.333	
5766.333	TiI	309	5G3-5H4	0.875	0.917	0.900	1
5768.902	CeII ?	32	2I5.5-2H4.5	0.955	0.923	0.909	
5769.335	FeI	1179	3F3-5H3	0.792	1.083	0.500	1
5772.149	SiI	17	1P1-1S0	1.000	1.000	0/0	
5772.415	VI	92	4P2.5-4D3.5	1.214	1.600	1.429	
5772.674	CrI	227	3D2-3F3	1.000	1.167	1.083	
5774.038	TiI	309	5G4-5H5	1.000	1.150	1.100	
5775.088	FeI	1087	5F4-5D4	1.425	1.350	1.500	
5776.744	VI ?-	36	4D3.5-2G3.5	1.159	1.429	0.889	
5777.762	CrI	257	3D2-3P1	1.000	1.167	1.500	
5778.463	FeI	209	3F3-3D3	1.208	1.083	1.333	
5778.811	FeI p	1203	5P3-3D2	2.167	1.667	1.167	2
5780.388	SiI	9	3P0-3D1	0.500	0/0	0.500	
5780.608	FeI	552	5D3-7D3	1.625	1.500	1.750	
5780.812	TiI -	214	3P2-3S1	1.250	1.500	2.000	2
5780.812	FeI	552	5D2-7D2	1.750	1.500	2.000	2
5780.812	FeI	922	1G4-3F3	0.875	1.000	1.083	2
5780.812	FeI	1159	3G4-5F5	2.100	1.050	1.400	2
5780.919	CrI	188	5P3-5D2	1.833	1.667	1.500	
5781.187	CrI	119	5D4-5D3	1.500	1.500	1.500	2
5781.187	CrI	188	5P2-5D1	2.000	1.833	1.500	2
5781.759	CrI	188	5P1-5D0	2.500	2.500	0/0	
5782.136	CuI	2	2D1.5-2P0.5	0.833	0.800	0.667	
5782.601	VI	35	4D3.5-4F2.5	1.929	1.429	1.029	2
5782.601	VI	127	2P1.5-2P0.5	1.500	1.333	0.667	2
5783.073	CrI	188	5P1-5D1	2.000	2.500	1.500	
5783.866	CrI	188	5P2-5D2	1.667	1.833	1.500	
5784.385	VI	141	4G5.5-4F4.5	1.136	1.273	1.333	
5784.666	FeI	686	5F3-5D4	1.875	1.250	1.500	
5784.976	CrI	188	5P3-5D3	1.583	1.667	1.500	

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value		Note
5785.285	Mg I	24	3S1-3P2	1.250	2.000	1.500	2
5785.735	Cr I	188	5P1-5D2	1.000	2.500	1.500	
5785.94	Cr I	17	5D1-7F2	1.500	1.500	1.500	2
5785.94	Cr I	17	5D2-7F3	1.500	1.500	1.500	2
5785.980	Ti I	309	5G5-5H6	1.083	1.267	1.214	
5786.159	VI	141	4G3.5-4F2.5	0.929	0.984	1.029	2
5786.159	VI	141	4G4.5-4F3.5	1.056	1.172	1.238	2
5787.021	Cr I	119	5D2-5D3	1.500	1.500	1.500	2
5787.021	Fe I p	1084	5F3-5F3	1.250	1.250	1.250	2
5787.275	Fe I p	625	3D3-5D4	1.750	1.333	1.500	
5787.926	Cr I	188	5P2-5D3	1.167	1.833	1.500	
5788.394	Cr I	119	5D3-5D3	1.500	1.500	1.500	
5788.61	VI	92	4P0.5-4D0.5	1.333	2.667	0.000	
5790.663	Cr I	17	5D3-7F4	1.500	1.500	1.500	
5790.990	Cr I	188	5P3-5D4	1.250	1.667	1.500	2
5790.990	Fe I	552	5D4-7D4	1.575	1.500	1.650	2
5791.533	Fe I p	1234	3F3-3G4	1.000	1.083	1.050	
5791.760	Cr I	243	3I6-3H5	1.000	1.024	1.033	
5793.079	Si I	9	3P1-3D2	1.000	1.500	1.167	
5793.922	Fe I	1086	5F4-3D3	1.375	1.350	1.333	
5796.092	Ni I	68	3P1-1P1	1.250	1.500	1.000	2
5796.671	Fe I p	1054	5D2-7D1	0.750	1.500	3.000	
5797.436	Ti I	309	5G4-5H4	1.025	1.150	0.900	
5797.55	Cr I ?p	185	7F1-7D2	2.250	1.500	2.000	1
5797.601	La II	4	3F4-3F4	1.250	1.250	1.250	
5797.751	Zr I	4	3F3-3D2	1.000	1.083	1.167	
5797.865	Si I	9	3P2-3D3	1.167	1.500	1.333	
5798.182	Fe I	982	3D2-3F2	0.917	1.167	0.667	2
5798.513	Cr I	17	5D4-7F5	1.500	1.500	1.500	
5804.038	Fe I	959	3F4-3F3	1.500	1.250	1.083	
5804.266	Ti I	309	5G6-5H7	1.143	1.333	1.286	
5804.462	Fe I	1087	5F2-5D3	2.000	1.000	1.500	
5805.226	Ni I	234	3F2-1F3	1.333	0.667	1.000	
5805.769	Fe I	1313	5F4-5D3	1.125	1.350	1.500	2
5805.769	(La II)	4	3F3-3F3	1.083	1.083	1.083	2
5806.732	Fe I	1180	3F3-3G3	0.917	1.083	0.750	
5807.14	VI	142	6F2.5-6G3.5	0.929	1.314	1.143	
5807.249	Fe I p	581	3H6-5H6	1.190	1.167	1.214	
5807.792	Fe I	552	5D0-7D1	3.000	0/0	3.000	
5807.992	Fe I p	1178	3F3-5G2	1.833	1.083	0.333	
5808.314	La II ?	4	3F2-3F2	0.667	0.667	0.667	
5809.224	Fe I	982	3D3-3F3	1.208	1.333	1.083	
5809.873	Fe I p	1084	5F2-5F1	1.500	1.000	0.000	
5811.919	Fe I	1022	3F3-1G4	0.875	1.083	1.000	
5812.839	Ti I	309	5G5-5H5	1.183	1.267	1.100	
5813.339	Fe I p	1054	5D2-7D2	1.750	1.500	2.000	
5813.670	Fe II	163	2F2.5-2D1.5	0.900	0.857	0.800	
5813.97	Ti I	73	3P2-5D3	1.500	1.500	1.500	
5814.815	Fe I	1086	5F2-3D2	1.083	1.000	1.167	
5815.224	Fe I	1055	5D3-5D2	1.500	1.500	1.500	2
5815.224	Fe I	1234	3F4-3G4	1.150	1.250	1.050	2
5815.448	Fe I p	1053	5D1-7F1	1.500	1.500	1.500	



Table 1.(continued)

Wave-length	ID`	RMT No.	Transition	Effective g-value	g- value	Note
5816.068	FeI ?p	1127	1D2-3G3	0.500	1.000	0.750
5816.380	FeI	1179	3F4-5H5	0.800	1.250	1.100
5817.080	VI -	92	4P1.5-4D1.5	1.467	1.733	1.200
5817.493	VI	142	6F3.5-6G4.5	1.056	1.397	1.273
5819.931	VII	99	3P2-5D3	1.500	1.500	1.500
5823.176	FeII	164	2F3.5-2G4.5	1.056	1.143	1.111
5823.695	TiI	239	1G4-3H4	0.900	1.000	0.800
5824.414	FeII p	58	2F2.5-4D2.5	1.114	0.857	1.371
5826.110	FeII ?p	182	2D1.5-2P1.5	1.067	0.800	1.333
5826.330	CoI	169	4F2.5-4F1.5	1.500	1.029	0.400
5826.646	FeI p	1084	5F2-5F2	1.000	1.000	1.000
5827.884	FeI p	552	5D1-7D2	2.250	1.500	2.000
5830.684	VI	142	6F4.5-6G5.5	1.136	1.434	1.343
5831.606	NiI	233	3F2-1D2	0.833	0.667	1.000
5831.606	NiI	250	3D2-3F3	1.000	1.167	1.083
5832.480	TiI	309	5G6-5H6	1.274	1.333	1.214
5833.937	FeI p	209	3F2-3D3	2.000	0.667	1.333
5835.109	FeI p	1084	5F3-5F4	1.500	1.250	1.350
5835.434	FeI p	1313	5F3-5D2	1.000	1.250	1.500
5835.588	FeI p	343	3P2-5D3	1.500	1.500	1.500
5837.709	FeI	1129	1D2-1D2	1.000	1.000	1.000
5838.381	-FeI	959	3F3-3F2	1.500	1.083	0.667
5838.678	CrI	119	5D1-5D2	1.500	1.500	1.500
5839.768	TiI	105	3F4-5F5	1.700	1.250	1.400
5842.385	NdII ?	86	6I6.5-6I6.5	1.159	1.159	1.159
5843.227	CrI	119	5D2-5D2	1.500	1.500	1.500
5844.608	CrI	119	5D3-5D2	1.500	1.500	1.500
5844.933	FeI	1056	5D3-7P3	1.708	1.500	1.917
5845.294	FeI p	1313	5F4-5D4	1.425	1.350	1.500
5846.272	-VI	142	6F5.5-6G6.5	1.192	1.455	1.385
5846.569	CoI	169	4F3.5-4F2.5	1.500	1.238	1.029
5847.006	NiI	44	1D2-3F2	0.833	1.000	0.667
5848.122	FeI	552	5D2-7D3	2.000	1.500	1.750
5848.122	FeI	1175	3F3-5F2	1.167	1.083	1.000
5849.691	FeI p	922	1G4-3F4	1.125	1.000	1.250
5852.228	FeI	1178	3F4-5G4	1.200	1.250	1.150
5853.161	FeI	35	3F4-5P3	0.625	1.250	1.667
5853.479	FeI ?p	1340	5S2-5D2	1.750	2.000	1.500
5853.688	Ball	2	2D1.5-2P1.5	1.067	0.800	1.333
5854.319	ScII ?p	21	1D2-3D2	1.083	1.000	1.167
5855.086	FeI	1179	3F3-5H4	0.625	1.083	0.900
5856.096	FeI	1128	1D2-1D2	1.000	1.000	1.000
5857.459	CaI	47	1P1-1D2	1.000	1.000	1.000
5857.758	NiI	228	3F2-3G3	0.833	0.667	0.750
5858.280	MoI	5	5D3-5P3	1.583	1.500	1.667
5858.280	FeI p	170	3H5-3F4	0.600	1.033	1.250
5858.785	FeI p	1084	5F4-5F5	1.500	1.350	1.400
5859.245	FeI	1084	5F1-5F1	0.000	0.000	0.000
5859.596	FeI	1181	3F4-3D3	1.125	1.250	1.333
5859.959	FeI p	1054	5D2-7D3	2.000	1.500	1.750
5861.111	FeI p	1084	5F2-5F3	1.500	1.000	1.250
5862.368	FeI	1180	3F4-3G5	1.100	1.250	1.200

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-	value	Note
5863.722	LaII ?	62	1G4-1F3	1.000	1.000	1.000	
5863.952	CrI	185	7F3-7D2	1.000	1.500	2.000	2
5863.952	NiI ?	253	3D1-1S0	0.500	0.500	0/0	2
5864.246	FeI	1086	5F1-3D2	1.750	0.000	1.167	
5864.531	FeII p	24	4P1.5-6D2.5	1.600	1.733	1.657	
5866.461	TiI	72	3P2-3D3	1.167	1.500	1.333	
5867.004	FeI p	1203	5P1-3D1	1.500	2.500	0.500	
5867.572	CaI	46	1P1-1S0	1.000	1.000	0/0	
5871.308	FeI	1055	5D3-5D3	1.500	1.500	1.500	2
5873.218	FeI	1087	5F3-5D4	1.875	1.250	1.500	
5876.296	FeI p	1084	5F1-5F2	1.500	0.000	1.000	
5876.556	CrI	119	5D0-5D1	1.500	0/0	1.500	
5877.797	FeI	1083	5F5-5G5	1.333	1.400	1.267	2
5879.493	FeI p	1201	5P2-5G3	0.000	1.833	0.917	
5879.79	ZrI	4	3F4-3D3	1.125	1.250	1.333	
5880.026	FeI	1201	5P3-5G4	0.375	1.667	1.150	
5880.270	TiI	71	3P1-3P2	1.500	1.500	1.500	
5881.279	FeI p	1178	3F3-5G3	1.000	1.083	0.917	
5881.722	FeI	63	5P3-5F2	2.333	1.667	1.000	
5883.070	FeI ?p	1124	1D2-5D2	1.250	1.000	1.500	
5883.442	CoI	90	2D1.5-2D2.5	1.500	0.800	1.200	
5883.814	FeI	982	3D1-3F2	0.750	0.500	0.667	1
5884.439	CrI	119	5D2-5D1	1.500	1.500	1.500	
5885.629	ZrI -	2	3F3-3F4	1.500	1.083	1.250	
5887.476	FeI p	1203	5P3-3D3	1.500	1.667	1.333	
5889.973	NaI (D2)	1	2S0.5-2P1.5	1.167	2.000	1.333	1
5890.495	CoI	82	2G4.5-2G4.5	1.111	1.111	1.111	2
5890.495	FeI p	1313	5F3-5D3	1.375	1.250	1.500	2
5891.178	FeI p	1179	3F2-5H3	0.333	0.667	0.500	2
5891.361	FeII	211	2G4.5-2F3.5	1.056	1.111	1.143	
5892.478	FeI p	1201	5P1-5G2	-0.750	2.500	0.333	
5892.700	FeI	1086	5F3-3D3	1.292	1.250	1.333	
5892.883	NiI	68	3P0-1P1	1.000	0/0	1.000	
5893.231	FeI p	1055	5D1-5D0	1.500	1.500	0/0	
5895.940	NaI (D1)	1	2S0.5-2P0.5	1.333	2.000	0.667	1
5897.542	VII	98	3P1-3D2	1.000	1.500	1.167	
5898.218	FeI	1259	3D3-3F3	1.208	1.333	1.083	1
5899.304	TiI	72	3P1-3D2	1.000	1.500	1.167	
5901.529	FeI p	1083	5F4-5G4	1.250	1.350	1.150	1
5902.143	(CrI)	119	5D1-5D0	1.500	1.500	0/0	2
5902.476	FeI	1234	3F4-3G5	1.100	1.250	1.200	
5903.332	TiI	71	3P2-3P1	1.500	1.500	1.500	
5905.680	FeI	1181	3F2-3D1	0.750	0.667	0.500	
5906.512	TiI	105	3F4-5F3	1.250	1.250	1.250	
5908.208	(FeI)	150	7D1-3F2	-0.500	3.000	0.667	2
5909.983	FeI	552	5D4-7D5	1.800	1.500	1.600	
5913.353	FeI p	781	1H5-5G5	1.133	1.000	1.267	
5913.719	TiI	2	3F3-5F4	1.750	1.083	1.350	
5914.120	FeI	1180	3F3-3G4	1.000	1.083	1.050	1
5914.213	FeI	1181	3F3-3D2	1.000	1.083	1.167	1
5915.565	CoI	82	2G3.5-2G3.5	0.889	0.889	0.889	
5916.024	CrI -	185	7F4-7D4	1.575	1.500	1.650	2

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value	Note	
5916.257	Fe I -	170	3H4-3F4	1.025	0.800	1.250	
5916.772	Cr I	185	7F4-7D3	1.125	1.500	1.750	
5918.554	Ti I	71	3P2-3P2	1.500	1.500	1.500	
5918.959	Fe I	1083	5F3-5G3	1.083	1.250	0.917	2
5920.560	(Fe I)	581	3H6-5H5	1.333	1.167	1.100	2
5922.123	Ti I	72	3P0-3D1	0.500	0/0	0.500	
5923.963	Ni I	259	1G4-3F4	1.125	1.000	1.250	
5925.830	Ni I p	42	1D2-5F1	1.500	1.000	0.000	
5926.823	Fe I p	1231	3F2-3P1	0.250	0.667	1.500	2
5927.797	Fe I	1175	3F2-5F1	1.000	0.667	0.000	
5928.523	Fe I p	1055	5D1-5D1	1.500	1.500	1.500	
5928.888	VII	98	3P2-3D3	1.167	1.500	1.333	
5929.682	Fe I	1176	3F4-5D3	0.875	1.250	1.500	
5930.191	Fe I	1180	3F2-3G3	0.833	0.667	0.750	
5931.903	Fe I p	1017	3F4-3H4	1.025	1.250	0.800	
5933.803	Fe I p	1198	5P1-5F2	0.250	2.500	1.000	
5934.665	Fe I	982	3D2-3F3	1.000	1.167	1.083	
5935.186	Zr I	2	3F2-3F3	1.500	0.667	1.083	2
5935.402	Co I	55	4P2.5-4D3.5	1.214	1.600	1.429	
5937.814	Ti I	72	3P2-3D2	1.333	1.500	1.167	
5940.658	Ti I	2	3F4-5F5	1.700	1.250	1.400	
5940.997	Fe I	1083	5F5-5G6	1.167	1.400	1.333	
5941.764	Ti I	72	3P1-3D1	1.000	1.500	0.500	
5942.721	Fe I p	1233	3F2-1F3	1.333	0.667	1.000	2
5943.110	Fe I p	1021	3F2-1F3	1.333	0.667	1.000	
5943.592	Fe I p	63	5P2-5F2	1.417	1.833	1.000	2
5943.592	Fe I p	1085	5F3-5S2	0.500	1.250	2.000	2
5944.68	Ti I	2	3F2-5F1	1.000	0.667	0.000	
5946.466	Co I	169	4F1.5-4F1.5	0.400	0.400	0.400	
5947.284	Fe I p	1056	5D2-7P3	2.333	1.500	1.917	
5947.506	Fe I	1199	5P2-5D2	1.667	1.833	1.500	1
5948.548	Si I	16	1P1-1D2	1.000	1.000	1.000	
5949.346	Fe I	14	5F4-7P3	0.500	1.350	1.917	2
5949.346	Fe I	1176	3F3-5D2	0.667	1.083	1.500	2
5950.145	Fe I p	1200	5P3-5P2	1.500	1.667	1.833	2
5952.190	Fe I p	1313	5F2-5D3	2.000	1.000	1.500	
5952.522	Fe II ?p	182	2D2.5-2P1.5	1.100	1.200	1.333	
5952.726	Fe I	959	3F2-3F2	0.667	0.667	0.667	
5953.170	Ti I	154	3G5-3H6	1.083	1.200	1.167	
5955.113	Fe I p	1233	3F3-1F3	1.042	1.083	1.000	
5955.352	Zr I	3	3F2-5F1	1.000	0.667	0.000	
5955.671	Fe I	1106	3P1-5S2	2.250	1.500	2.000	
5956.706	Fe I	14	5F5-7P4	0.700	1.400	1.750	
5958.244	Fe I	14	5F3-7P2	0.167	1.250	2.333	2
5958.244	Fe I	1199	5P3-5D3	1.583	1.667	1.500	2
5958.344	Fe I p	63	5P3-5F3	1.458	1.667	1.250	
5959.90	Fe I	1020	3F3-3P2	0.667	1.083	1.500	
5961.894	Fe I p	1080	5F4-7D4	1.500	1.350	1.650	
5963.268	Fe I	63	5P1-5F1	1.250	2.500	0.000	2
5964.943	(Co I)	169	4F4.5-4F3.5	1.500	1.333	1.238	2
5965.835	Ti I	154	3G4-3H5	1.000	1.050	1.033	
5969.578	Fe I	1086	5F2-3D3	1.667	1.000	1.333	

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value	Note	
5973.356	FeI p	1175	3F2-5F2	0.833	0.667	1.000	
5973.67	NiI	226	3F2-5F2	0.833	0.667	1.000	
5974.596	FeI p	1055	5D2-5D3	1.500	1.500	1.500	
5975.353	FeI	1017	3F4-3H5	0.600	1.250	1.033	2
5975.353	FeI	1260	3D1-3F0	0.500	0.500	0/0	2
5975.824	CeII ?	30	4H4.5-4H4.5	0.970	0.970	0.970	
5976.168	FeI p	1125	1D2-3F3	1.167	1.000	1.083	
5976.787	FeI	959	3F3-3F3	1.083	1.083	1.083	
5978.144	FeI p	1199	5P1-5D1	2.000	2.500	1.500	
5978.549	TiI	154	3G3-3H4	0.875	0.750	0.800	
5978.910	SiII ?	4	2P1.5-2S0.5	1.167	1.333	2.000	1
5980.744	VI	49	4P1.5-4D2.5	1.100	1.733	1.371	
5980.822	TiI	72	3P2-3D1	2.000	1.500	0.500	
5981.392	FeI p	837	1I6-3I6	1.012	1.000	1.024	
5981.983	CrI	185	7F5-7D5	1.550	1.500	1.600	2
5982.537	TiI ?	264	3F3-3G4	1.000	1.083	1.050	
5982.877	CrI	185	7F5-7D4	1.200	1.500	1.650	
5983.688	FeI	1175	3F4-5F4	1.300	1.250	1.350	
5984.066	CoI	37	4P1.5-4D0.5	2.167	1.733	0.000	
5984.274	CoI	201	2F3.5-2G4.5	1.056	1.143	1.111	2
5984.594	TiI	2	3F3-5F2	1.167	1.083	1.000	2
5984.594	VI	49	4P0.5-4D1.5	0.833	2.667	1.200	2
5984.826	FeI	1260	3D3-3P2	1.167	1.333	1.500	
5987.070	FeI	1260	3D2-3P1	1.000	1.167	1.500	
5988.562	TiI	154	3G5-3H5	1.117	1.200	1.033	2
5991.378	FeII	46	4G5.5-6F4.5	0.909	1.273	1.434	
5991.569	FeI p	1232	3F3-1F3	1.042	1.083	1.000	
5991.90?	CoI	90	2D2.5-2D2.5	1.200	1.200	1.200	1
5992.677	FeI p	1080	5F5-7D5	1.500	1.400	1.600	
5995.698	TiI	311	1D2-1D2	1.000	1.000	1.000	
5995.944	FeI p	1198	5P2-5F3	0.667	1.833	1.250	
5996.033	TiI	154	3G4-3H4	0.925	1.050	0.800	
5996.505	FeI p	1083	5F2-5G3	0.833	1.000	0.917	
5996.740	NiI	249	3D2-3F2	0.917	1.167	0.667	
5997.604	NiI	252	3D2-1F3	0.833	1.167	1.000	
5997.782	FeI	1175	3F3-5F3	1.167	1.083	1.250	
5998.897	NiI ?-	226	3F3-5F3	1.167	1.083	1.250	
5999.047	TiI	198	3D3-3F4	1.125	1.333	1.250	
5999.698	TiI	227	3H4-1H5	1.400	0.800	1.000	2
6000.678	CoI	169	4F2.5-4F2.5	1.029	1.029	1.029	
6002.30	VI	49	4P2.5-4D3.5	1.214	1.600	1.429	
6002.648	VI	34	4D1.5-4P2.5	1.900	1.200	1.600	2
6003.022	FeI	959	3F4-3F4	1.250	1.250	1.250	
6005.009	CoI	37	4P2.5-4D1.5	1.486	1.600	1.371	
6005.551	FeI	207	3F3-3F2	1.500	1.083	0.667	2
6005.551	FeI	1079	5F5-7F6	1.750	1.400	1.500	2
6007.317	NiI	42	1D2-5F2	1.000	1.000	1.000	
6007.717	FeI p	581	3H5-5H5	1.067	1.033	1.100	1
6007.968	FeI	1178	3F2-5G3	1.167	0.667	0.917	
6008.566	FeI	982	3D3-3F4	1.125	1.333	1.250	
6009.848	FeI p	624	3D3-5P2	0.833	1.333	1.833	2
6012.770	FeI p-	1198	5P3-5F4	0.875	1.667	1.350	

Table 1.(continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value	Note	
6013.497	Mn I	27	6P1.5-6S2.5	1.700	2.400	2.000	
6015.253	Fe I p	63	5P1-5F2	0.250	2.500	1.000	
6016.647	Mn I	27	6P2.5-6S2.5	1.943	1.886	2.000	1
6016.925	Fe I p	1232	3F4-1F3	1.625	1.250	1.000	1
6017.56	Ti I ?p	257	3P1-3S1	1.750	1.500	2.000	
6017.92	VI ?	49	4P1.5-4D1.5	1.467	1.733	1.200	
6018.300	-Fe I p	1176	3F2-5D1	0.250	0.667	1.500	
6018.40	Ti I	198	3D1-3F2	0.750	0.500	0.667	
6018.66	Ti I	70	3P1-5S2	2.250	1.500	2.000	
6019.364	Fe I p	780	1H5-3G4	0.900	1.000	1.050	
6020.186	Fe I	1178	3F3-5G4	1.250	1.083	1.150	
6021.803	Mn I	27	6P3.5-6S2.5	1.357	1.714	2.000	
6023.42	Y I	3	2D1.5-4D1.5	1.000	0.800	1.200	
6024.068	Fe I	1178	3F4-5G5	1.300	1.250	1.267	1
6025.764	Ni I	251	3D2-1D2	1.083	1.167	1.000	
6027.059	Fe I	1018	3F4-3G5	1.100	1.250	1.200	
6028.276	VII ?-	97	3P1-5F2	0.750	1.500	1.000	2
6029.00	VII	125	3D3-3D3	1.333	1.333	1.333	
6029.286	Cr I	242	3I6-3I6	1.024	1.024	1.024	
6030.68	Mo I	5	5D4-5P3	1.250	1.500	1.667	
6031.016	-VII	97	3P2-5F3	1.000	1.500	1.250	
6031.718	Ti I	2	3F4-5F3	1.250	1.250	1.250	
6032.672	Fe I	1082	5F4-7P3	0.500	1.350	1.917	
6034.038	Fe I p	1142	5G5-5D4	0.800	1.267	1.500	
6035.350	Fe I ?p	1125	1D2-3F2	0.833	1.000	0.667	
6039.327	Ni I	248	3D2-3D1	1.500	1.167	0.500	
6039.736	VI	34	4D2.5-4P2.5	1.486	1.371	1.600	
6043.40	Ce II	30	4H3.5-4H3.5	0.667	0.667	0.667	
6045.492	Fe II	200	4F1.5-4F1.5	0.400	0.400	0.400	
6047.667	Cr I ?	242	3I5-3I5	0.833	0.833	0.833	
6049.124	Co I	201	2F2.5-2G3.5	0.929	0.857	0.889	
6051.032	Fe I p-	207	3F4-3F3	1.500	1.250	1.083	
6053.475	Cr II	105	4D3.5-4D3.5	1.429	1.429	1.429	
6053.693	Ni I	247	3D2-3G3	0.333	1.167	0.750	
6054.075	Fe I	1142	5G4-5D3	0.625	1.150	1.500	
6056.013	Fe I	1259	3D3-3F4	1.125	1.333	1.250	
6058.172	VI	34	4D0.5-4P1.5	2.167	0.000	1.733	
6058.76	Ti I p	70	3P2-5S2	1.750	1.500	2.000	
6059.271	Sc II ?p	20	1D2-3F2	0.833	1.000	0.667	
6060.824	Fe I p	1081	5F4-5D3	1.125	1.350	1.500	
6062.676	Cr I	185	7F6-7D5	1.250	1.500	1.600	
6062.856	Zr I	3	3F3-5F2	1.167	1.083	1.000	2
6062.856	Fe I	63	5P3-5F4	0.875	1.667	1.350	2
6064.626	Ti I	69	3P0-3S1	2.000	0/0	2.000	
6065.494	Fe I	207	3F2-3F2	0.667	0.667	0.667	
6065.808	Fe I p	581	3H4-5H4	0.850	0.800	0.900	
6067.638	Si I	15	1P1-3P2	1.750	1.000	1.500	
6078.499	Fe I	1259	3D2-3F3	1.000	1.167	1.083	
6079.016	Fe I	1176	3F2-5D2	1.083	0.667	1.500	
6081.448	VI	34	4D1.5-4P1.5	1.467	1.200	1.733	
6081.718	Fe I p	1142	5G3-5D2	0.333	0.917	1.500	
6081.838	Fe I p	1018	3F3-3G3	0.917	1.083	0.750	

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value	Note	
6082.35	Co I	169	4F4.5-4F4.5	1.333	1.333	1.363	
6082.718	Fe I	64	5P1-3P1	2.000	2.500	1.500	
6083.703	Fe I p-	981	3D3-5F3	1.292	1.333	1.250	
6084.105	Fe II	46	4G4.5-6F3.5	0.778	1.172	1.397	
6085.257	Ti I	69	3P1-3S1	1.750	1.500	2.000	2
6085.257	Fe I	269	3G3-3D2	0.333	0.750	1.167	2
6086.288	Ni I	249	3D1-3F2	0.750	0.500	0.667	
6086.673	Co I	165	2D2.5-2D2.5	1.200	1.200	1.200	
6087.50	VI	33	4D1.5-6F2.5	1.400	1.200	1.314	
6089.574	Fe I	1327	1F3-1G4	1.000	1.000	1.000	
6090.216	VI	34	4D3.5-4P2.5	1.214	1.429	1.600	
6090.510	VI p	33	4D2.5-6F3.5	1.429	1.371	1.397	
6091.177	Ti I	238	1G4-1H5	1.000	1.000	1.000	
6091.730	Fe I p	1200	5P2-5P2	1.833	1.833	1.833	
6092.818	Ti I	153	3G5-3G5	1.200	1.200	1.200	
6093.151	Co I	37	4P1.5-4D1.5	1.467	1.733	1.200	
6093.649	Fe I	1177	3F3-5P2	0.333	1.083	1.833	
6094.377	Fe I	1177	3F2-5P1	-0.250	0.667	2.500	
6096.671	Fe I	959	3F2-3F3	1.500	0.667	1.083	
6097.101	Fe I p	64	5P3-3P2	1.833	1.667	1.500	
6097.46	VI	33	4D3.5-6F4.5	1.444	1.429	1.434	
6098.250	Fe I p	1200	5P3-5P3	1.667	1.667	1.667	
6098.664	Ti I	304	1G4-1F3	1.000	1.000	1.000	2
6100.271	Fe I p	1199	5P2-5D3	1.167	1.833	1.500	2
6100.271	Fe I p	1199	5P3-5D4	1.250	1.667	1.500	2
6102.183	Fe I	1259	3D1-3F2	0.750	0.500	0.667	
6102.727	Ca I	3	3P0-3P1	1.500	0/0	1.500	
6103.190	Fe I	1260	3D1-3P1	1.000	0.500	1.500	1
6105.132	Fe I p	1175	3F4-5F5	1.700	1.250	1.400	
6106.441	Zr II	106	2G4.5-2F3.5	1.056	1.111	1.143	
6106.860	Fe I p	208	3F2-5P1	-0.250	0.667	2.500	
6106.98	VI	60	2G4.5-2F3.5	1.056	1.111	1.143	
6107.099	Fe I	1081	5F3-5D2	1.000	1.250	1.500	
6107.350	Fe I p	1015	3F4-3F3	1.500	1.250	1.083	
6108.125	Ni I	45	1D2-3D2	1.083	1.000	1.167	
6111.078	Ni I	230	3F4-3F4	1.250	1.250	1.250	
6111.652	VI	34	4D0.5-4P0.5	1.333	0.000	2.667	
6113.329	Fe II	46	4G3.5-6F2.5	0.571	0.984	1.314	
6114.391	Fe I p	981	3D2-5F2	1.083	1.167	1.000	
6114.801	Zr II	93	2D1.5-4F1.5	0.600	0.800	0.400	
6116.059	Fe II p	46	4G2.5-6F1.5	0.200	0.571	1.067	
6116.198	Ni I	218	1P1-3D2	1.250	1.000	1.167	1
6116.198	Ni I	251	3D1-1D2	1.250	0.500	1.000	1
6118.111	Ni I	230	3F4-3F3	1.500	1.250	1.083	
6119.532	VI	34	4D2.5-4P1.5	1.100	1.371	1.733	
6119.760	Ni I	244	3D1-5F1	0.250	0.500	0.000	
6120.249	Fe I	14	5F4-7P4	1.550	1.350	1.750	
6121.006	Ti I	153	3G4-3G4	1.050	1.050	1.050	
6122.226	Ca I	3	3P1-3S1	1.750	1.500	2.000	
6122.622	Co I	169	4F3.5-4F3.5	1.238	1.238	1.238	
6124.82	Zr I	24	3P0-3P1	1.500	0/0	1.500	
6125.026	Si I	30	3D1-3D2	1.500	0.500	1.167	

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value	Note
6126.224	Ti I	69	3P2-3S1	1.250	1.500	2.000
6127.475	Zr I	2	3F4-3F4	1.250	1.250	1.250
6127.912	Fe I	1017	3F3-3H4	0.375	1.083	0.800 2
6127.912	Fe I	1082	5F2-7P2	1.667	1.000	2.333 2
6128.33	VI	33	4D1.5-6F0.5	1.667	1.200	-0.667
6128.984	Ni I	42	1D2-5F3	1.500	1.000	1.250
6129.222	Cr II	105	4D2.5-4D2.5	1.371	1.371	1.371
6129.732	Fe II p	46	4G4.5-6F4.5	1.303	1.172	1.434
6130.141	Ni I	248	3D1-3D1	0.500	0.500	0.500
6130.352	Fe I p	624	3D3-5P3	1.500	1.333	1.667
6131.577	Si I	30	3D2-3D2	1.167	1.167	1.167
6131.858	Si I	30	3D2-3D3	1.500	1.167	1.333
6133.977	Ni I	229	3F4-3D3	1.125	1.250	1.333
6134.57	Zr I	2	3F2-3F2	0.667	0.667	0.667
6135.072	VI	60	2G3.5-2F2.5	0.929	0.889	0.857
6135.370	VI	34	4D1.5-4P0.5	0.833	1.200	2.667
6135.775	Cr I ?-	314	3D3-3D3	1.333	1.333	1.333
6136.624	Fe I	169	3H4-3G3	0.875	0.800	0.750
6137.002	Fe I	62	5P2-5D1	2.000	1.833	1.500
6137.506	Fe I p	685	5F5-7D4	0.900	1.400	1.650
6137.702	Fe I	207	3F3-3F3	1.083	1.083	1.083
6138.43	Ti I ?-	197	3D1-3F2	0.750	0.500	0.667 2
6138.43	Y I	3	2D2.5-4D2.5	1.286	1.200	1.371 2
6139.651	Fe I p	208	3F3-5P2	0.333	1.083	1.833
6140.46	Zr I	24	3P2-3P2	1.500	1.500	1.500
6141.727	Ba II -	2	2D2.5-2P1.5	1.100	1.200	1.333 2
6141.727	Fe I	816	5P3-5D2	1.833	1.667	1.500 2
6142.018	Ni I	244	3D3-5F3	1.292	1.333	1.250
6142.213	Si I p	30	3D3-3D2	1.500	1.333	1.167
6142.494	Si I	30	3D3-3D3	1.333	1.333	1.333
6143.183	Zr I	2	3F3-3F3	1.083	1.083	1.083
6145.020	Si I	29	3D2-3G3	0.333	1.167	0.750
6145.411	Fe I p	685	5F4-7D3	0.750	1.350	1.750
6146.235	Ti I	153	3G3-3G3	0.750	0.750	0.750
6147.173	Cr II ?	105	4D1.5-4D2.5	1.500	1.200	1.371
6147.742	Fe II	74	4D1.5-4P0.5	0.833	1.200	2.667 1
6147.834	Fe I	1016	3F4-3D3	1.125	1.250	1.333 1
6148.662	Fe I p	1141	5G6-5F5	1.167	1.333	1.400
6149.249	Fe II	74	4D0.5-4P0.5	1.333	0.000	2.667
6149.752	Ti I	197	3D2-3F3	1.000	1.167	1.083
6150.154	VI	20	6D4.5-6F5.5	1.227	1.556	1.455
6151.623	Fe I	62	5P3-5D2	1.833	1.667	1.500
6154.230	Na I	5	2P0.5-2S0.5	1.333	0.667	2.000
6155.142	Si I	29	3D3-3G4	0.625	1.333	1.050 1
6155.241	Fe II p	161	2F3.5-4H3.5	0.905	1.143	0.667 1
6155.706	Si I	29	3D3-3G3	1.042	1.333	0.750
6156.030	Ca I	20	3D1-3P2	2.000	0.500	1.500 2
6157.421	Fe I p	624	3D2-5P2	1.500	1.167	1.833
6157.733	Fe I	1015	3F4-3F4	1.250	1.250	1.250
6159.382	Fe I	1175	3F3-5F4	1.750	1.083	1.350
6160.753	Na I	5	2P1.5-2S0.5	1.167	1.333	2.000
6161.295	Ca I	20	3D2-3P2	1.333	1.167	1.500

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value	Note	
6162.180	Ca I	3	3P2-3S1	1.250	1.500	2.000	
6163.421	Ni I	230	3F3-3F4	1.500	1.083	1.250	
6163.554	Fe I	64	5P2-3P2	1.667	1.833	1.500	
6163.754	Ca I	20	3D1-3P1	1.000	0.500	1.500	
6165.363	Fe I	1018	3F3-3G4	1.000	1.083	1.050	
6166.440	Ca I	20	3D1-3P0	0.500	0.500	0/0	
6169.044	Ca I	20	3D2-3P1	1.000	1.167	1.500	
6169.564	Ca I	20	3D3-3P2	1.167	1.333	1.500	
6170.33	VI	20	6D3.5-6F4.5	1.167	1.587	1.434	
6170.516	Fe I	1260	3D2-3P2	1.333	1.167	1.500	2
6170.516	(Ni I)	228	3F4-3G4	1.150	1.250	1.050	2
6170.516	(Ni I)	230	3F3-3F3	1.083	1.083	1.083	2
6171.004	Fe I p	1256	3D3-5G2	2.333	1.333	0.333	
6173.065	Eu II	9	9D5-7P4	1.700	1.733	1.750	
6173.341	Fe I	62	5P1-5D0	2.500	2.500	0/0	
6175.162	Fe II	200	4F3.5-4F3.5	1.238	1.238	1.238	1
6175.370	Ni I	217	1P1-3P1	1.250	1.000	1.500	
6176.816	Ni I	228	3F4-3G5	1.100	1.250	1.200	
6177.253	Ni I	58	1S0-3D1	0.500	0/0	0.500	
6177.535	Ni I p	244	3D2-5F2	1.083	1.167	1.000	
6179.395	Fe II	163	2F3.5-2D2.5	1.071	1.143	1.200	
6180.209	Fe I	269	3G4-3D3	0.625	1.050	1.333	
6183.872	Ni I	226	3F2-5F3	1.833	0.667	1.250	
6186.14	Ti I	197	3D3-3F4	1.125	1.330	1.250	1
6186.717	Ni I	229	3F3-3D3	1.208	1.083	1.333	
6187.410	Fe I p	342	3P2-3D1	2.000	1.500	0.500	
6187.995	Fe I	959	3F3-3F4	1.500	1.083	1.250	
6188.998	Co I	37	4P2.5-4D2.5	1.486	1.600	1.371	
6189.383	VI	20	6D2.5-6F3.5	1.071	1.657	1.397	
6191.186	Ni I	45	1D2-3D3	1.667	1.000	1.333	
6191.571	Fe I	169	3H5-3G4	1.000	1.033	1.050	
6191.74	Y I	2	2D1.5-2D1.5	0.800	0.800	0.800	
6192.95	Zr I	24	3P1-3P1	1.500	1.500	1.500	
6193.69	Sc I	3	2D1.5-4D2.5	1.800	0.800	1.371	
6195.18	Cr II	105	4D1.5-4D1.5	1.200	1.200	1.200	
6196.68	Fe II p?	46	4G3.5-6F4.5	2.222	0.987	1.434	
6199.186	VI	19	6D3.5-6D4.5	1.500	1.587	1.556	
6199.508	Fe I	208	3F4-5P3	0.625	1.250	1.667	
6200.321	Fe I	207	3F2-3F3	1.500	0.667	1.083	
6204.610	Ni I	226	3F4-5F4	1.300	1.250	1.350	
6209.754	Fe I p	981	3D1-5F2	1.250	0.500	1.000	
6210.671	Sc I	2	2D1.5-2D1.5	0.800	0.800	0.800	
6212.067	Fe I	1142	5G4-5D4	1.325	1.150	1.500	
6213.12	Zr I	24	3P1-3P2	1.500	1.500	1.500	
6213.437	Fe I	62	5P1-5D1	2.000	2.500	1.500	
6213.866	VI	20	6D4.5-6F4.5	1.495	1.556	1.434	
6215.149	Fe I	1018	3F2-3G3	0.833	0.667	0.750	
6215.22	Ti I	293	3G5-3F4	1.100	1.200	1.250	
6216.358	VI	19	6D2.5-6D3.5	1.500	1.657	1.587	
6219.287	Fe I	62	5P2-5D2	1.667	1.833	1.500	
6219.522	Fe I p	685	5F2-7D2	1.500	1.000	2.000	
6220.488	Ti I	293	3G4-3F3	1.000	1.050	1.083	



Table 1.(continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value	Note	
6220.791	FeI	958	3F4-5F4	1.300	1.250	1.350	
6221.342	TiI	293	3G3-3F2	0.833	0.750	0.667	2
6221.342	FeI	981	3D2-5F3	1.333	1.167	1.250	2
6221.643	FeI	13	5F5-7F4	1.200	1.400	1.500	
6222.61	VI	2	2D1.5-2D2.5	1.500	0.800	1.200	
6223.990	NiI	228	3F3-3G4	1.000	1.083	1.050	
6224.196	FeI ?p	1257	3D3-5H4	0.250	1.333	0.900	
6224.506	VI	20	6D3.5-6F3.5	1.492	1.587	1.397	
6226.320	VII ?	124	3D2-5F2	1.083	1.167	1.000	
6226.740	FeI	981	3D3-5F4	1.375	1.333	1.350	
6229.232	FeI	342	3P1-3D1	1.000	1.500	0.500	
6230.098	NiI	227	3F3-3P2	0.667	1.083	1.500	
6230.736	FeI	207	3F4-3F4	1.250	1.250	1.250	2
6230.736	VI	19	6D1.5-6D2.5	1.500	1.867	1.657	2
6231.003	CoI	37	4P0.5-4D1.5	0.833	2.667	1.200	
6232.648	FeI	816	5P2-5D1	2.000	1.833	1.500	
6233.201	VI	20	6D2.5-6F2.5	1.486	1.657	1.314	
6237.328	SiI	28	3D1-3F2	0.750	0.500	0.667	
6238.390	FeII	74	4D1.5-4P1.5	1.467	1.200	1.733	2
6239.361	ScI	2	2D1.5-2D2.5	1.500	0.800	1.200	
6239.771	ScI	3	2D1.5-4D1.5	1.000	0.800	1.200	
6239.948	FeII	74	4D0.5-4P1.5	2.167	0.000	1.733	
6240.161	VI	20	6D1.5-6F1.5	1.467	1.867	1.067	
6240.318	FeI -	1015	3F3-3F2	1.500	1.083	0.667	
6240.653	FeI	64	5P1-3P2	1.000	2.500	1.500	
6242.838	VI	19	6D0.5-6D1.5	1.500	3.333	1.867	
6243.114	VI	19	6D4.5-6D4.5	1.556	1.556	1.556	
6243.823	SiI	28	3D2-3F3	1.000	1.167	1.083	
6244.118	SiI p	28	3D2-3F2	0.917	1.167	0.667	
6244.476	SiI	27	3D2-1D2	1.083	1.167	1.000	
6245.204	VI	20	6D0.5-6F0.5	1.333	3.333	-0.667	
6245.620	ScII	28	3P2-3D3	1.167	1.500	1.333	
6246.327	FeI	816	5P3-5D3	1.583	1.667	1.500	
6247.562	FeII	74	4D2.5-4P1.5	1.100	1.371	1.733	
6249.643	FeI	685	5F4-7D4	1.500	1.350	1.650	
6249.910	LaI	7	4F4.5-4G5.5	1.136	1.333	1.273	
6251.286	FeI p	1176	3F3-5D4	2.125	1.083	1.500	
6251.825	VI	19	6D3.5-6D3.5	1.587	1.587	1.587	
6252.565	FeI	169	3H6-3G5	1.083	1.167	1.200	
6253.834	FeI p	1256	3D3-5G3	1.125	1.333	0.917	
6254.173	SiI	28	3D3-3F4	1.125	1.333	1.250	1
6254.253	FeI	111	3P2-3P1	1.500	1.500	1.500	1
6254.845	SiI	28	3D3-3F3	1.208	1.333	1.083	
6256.367	FeI	169	3H4-3G4	0.925	0.800	1.050	2
6256.367	NiI	43	1D2-3P1	0.750	1.000	1.500	2
6256.887	VI	19	6D2.5-6D2.5	1.657	1.657	1.657	
6257.81	TiI	1	3F2-5G3	1.167	0.667	0.917	
6258.110	TiI	104	3F3-3G4	1.000	1.083	1.050	
6258.573	VI	19	6D0.5-6D0.5	3.333	3.333	3.333	
6258.713	TiI	104	3F4-3G5	1.100	1.250	1.200	
6258.936	ScI	3	2D2.5-4D2.5	1.286	1.200	1.371	
6259.594	NiI	216	1P1-3S1	1.500	1.000	2.000	

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value		Note
6261.106	Ti I	104	3F2-3G3	0.833	0.667	0.750	
6261.23	VI	20	6D1.5-6F0.5	2.500	1.867	-0.667	
6261.250	-LaII ?	33	3D3-3F4	1.125	1.333	1.250	
6264.807	Ti I	144	5P2-5D3	1.167	1.833	1.500	
6265.141	Fe I	62	5P3-5D3	1.583	1.667	1.500	
6266.015	Ti I	144	5P3-5D4	1.250	1.667	1.500	
6266.326	VI	20	6D2.5-6F1.5	2.100	1.657	1.067	
6267.845	Fe I	1123	1D2-1F3	1.000	1.000	1.000	
6268.53	Ti I	103	3F2-3D3	2.000	0.667	1.333	1
6268.872	VI	20	6D4.5-6F3.5	1.833	1.556	1.397	2
6268.872	VI	20	6D3.5-6F2.5	1.929	1.587	1.314	2
6270.231	Fe I	342	3P0-3D1	0.500	0/0	0.500	
6271.283	Fe I	685	5F5-7D5	1.500	1.400	1.600	
6271.495	Fe I p	1231	3F3-3P2	0.667	1.083	1.500	
6272.645	Ni I	244	3D1-5F2	1.250	0.500	1.000	
6273.39	Ti I	1	3F3-5G4	1.250	1.083	1.150	
6274.658	VI	19	6D1.5-6D0.5	1.500	1.867	3.333	
6276.32	Sc I	2	2D2.5-2D1.5	1.500	1.200	0.800	
6277.470	Ti I	144	5P1-5D2	1.000	2.500	1.500	1, 2
6279.740	Sc II	28	3P1-3D3	1.000	1.500	1.333	
6280.622	Fe I	13	5F5-7F5	1.450	1.400	1.500	
6282.599	Co I	37	4P1.5-4D2.5	1.100	1.733	1.371	
6284.001	Fe I p	624	3D2-5P3	2.167	1.167	1.667	
6285.165	VI	19	6D2.5-6D1.5	1.500	1.657	1.867	
6290.532	Fe I p	208	3F3-5P3	1.375	1.083	1.667	
6290.974	Fe I	1258	3D3-3D2	1.500	1.333	1.167	
6292.816	VI	19	6D3.5-6D2.5	1.500	1.587	1.657	
6293.933	Fe I p-	1260	3D1-3P2	2.000	0.500	1.500	
6295.28	Ti I	1	3F4-5G5	1.300	1.250	1.267	2
6295.28	Ti I	144	5P3-5D3	1.583	1.667	1.500	2
6296.495	VI	19	6D4.5-6D3.5	1.500	1.556	1.587	
6296.66	Ti I	1	3F2-5G2	0.500	0.667	0.333	
6297.799	Fe I	62	5P1-5D2	1.000	2.500	1.500	
6298.084	Ti I ?	144	5P1-5D1	2.000	2.500	1.500	
6300.311	[OI ]	1F	3P2-1D2	1.250	1.500	1.000	
6300.678	Sc II	28	3P2-3D2	1.333	1.500	1.167	
6301.508	Fe I	816	5P2-5D2	1.667	1.833	1.500	
6301.845	Fe I p	863	3D2-3D3	1.500	1.167	1.333	
6302.499	Fe I	816	5P1-5D0	2.500	2.500	0/0	
6303.461	Fe I	1140	5G6-5G5	1.500	1.333	1.267	
6303.767	Ti I	104	3F3-3G3	0.917	1.083	0.750	
6304.324	Zr I ?	24	3P1-3P0	1.500	1.500	0/0	
6305.314	Fe II	200	4F4.5-4F4.5	1.333	1.333	1.333	2
6305.667	Sc I	2	2D2.5-2D2.5	1.200	1.200	1.200	
6306.04	Sc I	3	2D2.5-4D1.5	1.200	1.200	1.200	
6306.218	Fe I p	1230	3F4-3I5	0.000	1.250	0.833	
6307.854	Fe I p	863	3D3-3D3	1.333	1.333	1.333	
6309.886	Sc II	28	3P0-3D1	0.500	0/0	0.500	
6311.239	Ti I ?	103	3F3-3D3	1.208	1.083	1.333	2
6311.504	Fe I	342	3P2-3D2	1.333	1.500	1.167	
6312.241	Ti I	104	3F4-3G4	1.150	1.250	1.050	
6313.03	Zr I	65	3G5-3H6	1.083	1.200	1.167	

Table 1.(continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value	Note
6314.668	Ni I	67	3P2-1D2	1.250	1.500	1.000
6314.668	Ni I	249	3D3-3F4	1.125	1.333	1.250
6315.314	Fe I	1015	3F3-3F3	1.083	1.083	1.083
6315.412	Fe I p	1016	3F3-3D2	1.000	1.083	1.167 2
6315.814	Fe I	1014	3F4-1G4	1.125	1.250	1.000
6316.584	Ni I	248	3D3-3D2	1.500	1.333	1.167
6318.027	Fe I	168	3H4-5G3	0.625	0.800	0.917 2
6318.027	(Ti I)	103	3F2-3D1	0.750	0.667	0.500 2
6318.61	Ca I	53	3F2-3G3	0.833	0.667	0.750
6318.708	Mg I	23	3S1-3P2	1.250	2.000	1.500
6320.429	La II	19	1D2-3F2	0.833	1.000	0.667
6320.843	Sc II	28	3P1-3D1	1.000	1.500	0.500
6322.169	Ni I	249	3D3-3F3	1.208	1.333	1.083
6322.694	Fe I	207	3F3-3F4	1.500	1.083	1.250
6325.165	Ti I	1	3F3-5G3	1.000	1.083	0.917
6326.823	VI	84	4H6.5-4G5.5	1.115	1.231	1.273
6327.604	Ni I	44	1D2-3F3	1.167	1.000	1.083
6330.096	Cr I	6	5S2-7P3	1.833	2.000	1.917
6330.852	Fe I	1254	3D3-5D2	1.167	1.333	1.500
6331.953	Fe II	199	4F2.5-4G3.5	0.929	1.029	0.984 2
6335.337	Fe I	62	5P2-5D3	1.167	1.833	1.500
6336.113	Ti I	103	3F3-3D2	1.000	1.083	1.167
6336.830	Fe I	816	5P1-5D1	2.000	2.500	1.500
6338.880	Fe I	1258	3D2-3D1	1.500	1.167	0.500
6339.118	Ni I	248	3D3-3D3	1.333	1.333	1.333
6339.975	Fe I p	685	5F3-7D4	2.250	1.250	1.650
6343.71	Ca I	53	3F3-3G4	1.000	1.083	1.050
6344.155	Fe I	169	3H5-5G5	1.150	1.033	1.267
6344.82	Sc I	1	2D1.5-4F2.5	1.200	0.800	1.029
6347.095	Si II	2	2S0.5-2P1.5	1.167	2.000	1.333
6347.860	Co I	200	2F3.5-4F3.5	1.190	1.143	1.238
6349.48	VI	84	4H4.5-4G3.5	0.944	0.970	0.984
6351.287	Fe I p	1140	5G5-5G6	1.500	1.267	1.333
6353.849	Fe I p	13	5F4-7F3	1.125	1.350	1.500
6355.035	Fe I	342	3P1-3D2	1.000	1.500	1.167
6357.29	VI	84	4H3.5-4G2.5	0.786	0.667	0.571
6358.687	Fe I	13	5F5-7F6	1.750	1.400	1.500
6359.91	Ti I	1	3F4-5G4	1.200	1.250	1.150
6360.818	Ni I	229	3F2-3D2	0.917	0.667	1.167
6361.94	Ca I	53	3F4-3G5	1.100	1.250	1.200
6362.350	Zn I	6	1P1-1D2	1.000	1.000	1.000
6362.876	Cr I	6	5S2-7P2	2.167	2.000	2.333 2
6362.876	Fe I	1019	3F2-1D2	0.833	0.667	1.000 2
6363.79	[OI]	1F	3P1-1D2	0.750	1.500	1.000
6364.369	Fe I	1253	3D2-5F1	1.750	1.167	0.000
6364.706	Fe I	1229	3F3-3D2	1.000	1.083	1.167
6366.356	Ti I	103	3F4-3D3	1.125	1.250	1.333
6366.491	Ni I	230	3F2-3F3	1.500	0.667	1.083
6369.463	Fe II	40	6S2.5-6D1.5	2.100	2.000	1.867
6370.357	Ni I	127	3P2-1D2	1.250	1.500	1.000
6371.355	Si II	2	2S0.5-2P0.5	1.333	2.000	0.667 1
6376.198	Fe I p	1140	5G6-5G6	1.333	1.333	1.333

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value		Note
6378.256	Ni I	247	3D3-3G4	0.625	1.333	1.050	
6378.85	Sc I	1	2D1.5-4F1.5	0.600	0.800	0.400	
6380.750	Fe I	1015	3F2-3F2	0.667	0.667	0.667	
6384.668	Mn I -	39	4D1.5-4D1.5	1.200	1.200	1.200	2
6384.668	Ni I	246	3D3-3P2	1.167	1.333	1.500	2
6385.726	Fe I p	1253	3D3-5F3	1.292	1.333	1.250	
6388.427	Fe I p	685	5F4-7D5	2.100	1.350	1.600	2
6390.493	La II	33	3D2-3F3	1.000	1.167	1.083	
6392.538	Fe I	109	3P2-5D1	1.500	1.500	1.500	
6393.612	Fe I	168	3H5-5G4	0.800	1.033	1.150	
6395.148	Co I	174	4D0.5-4F1.5	0.500	0.000	0.400	2
6396.388	Fe I p	921	5G4-3G4	1.100	1.150	1.050	2
6400.009	Fe I	816	5P3-5D4	1.250	1.667	1.500	
6400.323	Fe I	13	5F4-7F4	1.425	1.350	1.500	
6401.95	Y I	2	2D2.5-2D1.5	1.500	1.200	0.800	
6407.291	Fe II	74	4D1.5-4P2.5	1.900	1.200	1.600	2
6408.026	Fe I	816	5P1-5D2	1.000	2.500	1.500	
6408.47	Sr I	8	3D3-3F4	1.125	1.333	1.250	
6411.113	Fe I	1256	3D3-5G4	0.875	1.333	1.150	
6411.658	Fe I	816	5P2-5D3	1.167	1.833	1.500	
6412.233	Fe I	169	3H4-3G5	2.000	0.800	1.200	
6413.14	Ti I p	1	3F4-5G3	1.750	1.250	0.917	
6413.32	Sc I	1	2D2.5-4F2.5	1.114	1.200	1.029	
6414.594	Ni I	244	3D3-5F4	1.375	1.333	1.350	
6416.928	Fe II	74	4D2.5-4P2.5	1.486	1.371	1.600	
6419.09	Ti I	196	3D3-3P2	1.167	1.333	1.500	
6419.650	Fe I p	958	3F3-5F4	1.750	1.083	1.350	2
6419.956	Fe I	1258	3D3-3D3	1.333	1.333	1.333	
6421.360	Fe I	111	3P2-3P2	1.500	1.500	1.500	
6421.526	Ni I	258	1G4-3G5	1.600	1.000	1.200	
6424.862	Ni I	227	3F2-3P1	0.250	0.667	1.500	2
6429.902	Co I	81	2G3.5-2F2.5	0.929	0.889	0.857	
6430.50	VI	107	4F4.5-4F4.5	1.333	1.333	1.333	1
6430.856	Fe I	62	5P3-5D4	1.250	1.667	1.500	
6431.63	VI	107	4F3.5-4F3.5	1.238	1.238	1.238	
6432.023	Ni I	126	3P2-3D1	2.000	1.500	0.500	2
6432.683	Fe II	40	6S2.5-6D2.5	1.829	2.000	1.657	
6435.049	Y I	2	2D2.5-2D2.5	1.200	1.200	1.200	
6436.413	Fe I	1016	3F2-3D1	0.750	0.667	0.500	
6437.698	Eu II -	8	9D5-9P5	1.767	1.733	1.800	
6438.773	Fe I	1158	3G4-3D3	0.625	1.050	1.333	
6439.083	Ca I	18	3D3-3F4	1.125	1.333	1.250	
6440.934	Mn I	39	4D2.5-4D2.5	1.371	1.371	1.371	
6445.72?	Zr I	57	1G4-3F3	0.875	1.000	1.083	
6446.400	Fe II	199	4F3.5-4G4.5	1.056	1.238	1.172	
6449.820	Ca I	19	3D1-1D2	1.250	0.500	1.000	
6450.179	Co I	37	4P2.5-4D3.5	1.214	1.600	1.429	
6451.573	Ni I	257	1G4-5F4	1.175	1.000	1.350	2
6451.573	Fe I	921	1G4-3G5	1.600	1.000	1.200	2
6452.315	VI	48	4P1.5-4P2.5	1.500	1.733	1.600	
6452.688	Ni I ?	226	3F4-5F5	1.700	1.250	1.400	2
6455.001	Co I	174	4D3.5-4F4.5	1.167	1.429	1.333	

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value		Note
6455.605	Ca I	19	3D2-1D2	1.083	1.167	1.000	
6456.391	Fe II	74	4D3.5-4P2.5	1.214	1.429	1.600	
6456.865	Fe I p	1256	3D2-5G3	0.667	1.167	0.917	2
6462.570	Ca I	18	3D2-3F3	1.000	1.167	1.083	1
6462.749	Fe I	168	3H4-5G4	0.975	0.800	1.150	1,2
6462.749	Fe I	13	5F4-7F5	1.800	1.350	1.500	1,2
6464.679	Ca I	19	3D3-1D2	1.667	1.333	1.000	
6466.997	VI	32	4D1.5-2D2.5	1.200	1.200	1.200	
6468.834	Fe I p	1254	3D2-5D1	1.000	1.167	1.500	
6469.192	Fe I	1258	3D1-3D1	0.500	0.500	0.500	2
6469.192	Fe I	168	3H6-5G6	1.250	1.167	1.333	2
6470.23	Zr I	65	3G4-3H5	1.000	1.050	1.033	
6471.668	Ca I	18	3D3-3F3	1.208	1.333	1.083	
6472.144	Fe I p	1140	5G4-5G5	1.500	1.150	1.267	
6474.614	Fe I	861	3D1-5D1	1.000	0.500	1.500	
6475.632	Fe I	206	3F4-3G3	2.000	1.250	0.750	
6477.869	Co I	174	4D1.5-4F2.5	0.900	1.200	1.029	
6481.878	Fe I	109	3P2-5D2	1.500	1.500	1.500	
6482.185	Fe II ?	199	4F4.5-4G5.5	1.136	1.333	1.273	
6482.809	Ni I	66	3P2-1F3	0.500	1.500	1.000	
6483.940	Fe I p	34	3F4-5F3	1.250	1.250	1.250	2
6489.651	Zr I	65	3G3-3H4	0.875	0.750	0.800	
6490.376	Co I	81	2G4.5-2F3.5	1.050	1.111	1.143	
6491.582	Ti II	91	2P1.5-2D2.5	1.100	1.333	1.200	1
6491.666	Mn I	39	4D3.5-4D3.5	1.429	1.429	1.429	1
6493.788	Ca I	18	3D1-3F2	0.750	0.500	0.667	
6494.499	Fe I p	1255	3D3-5P2	0.833	1.333	1.833	
6494.994	Fe I	168	3H6-5G5	0.917	1.167	1.267	
6495.740	Fe I	1253	3D1-5F1	0.250	0.500	0.000	
6496.472	Fe I	1258	3D2-3D2	1.167	1.167	1.167	
6496.908	Ba II	2	2D1.5-2P0.5	0.833	0.800	0.667	
6497.68	Ti I	102	3F3-3F4	1.500	1.083	1.250	
6498.75	Ba I ?	6	3D3-3D3	1.333	1.333	1.333	
6498.945	Fe I	13	5F3-7F3	1.375	1.250	1.500	
6499.654	Ca I	18	3D2-3F2	0.917	1.167	0.667	
6501.203	Cr I -	16	5D2-7P2	1.917	1.500	2.333	2
6504.00	Sr I	8	3D2-3F3	1.000	1.167	1.083	
6504.186	VI	48	4P0.5-4P1.5	1.500	2.667	1.733	2
6508.154	Ti I	102	3F2-3F3	1.500	0.667	1.083	
6508.846	Ca I	18	3D3-3F2	2.000	1.333	0.667	
6509.608	Fe I p	1012	3F4-3G5	1.100	1.250	1.200	
6516.083	Fe II	40	6S2.5-6D3.5	1.071	2.000	1.587	
6518.373	Fe I	342	3P2-3D3	1.167	1.500	1.333	
6524.7	Fe I p-	1280	5D1-3P0	1.500	1.500	0/0	1
6526.95	La II ?	33	3D1-3F2	0.750	0.500	0.667	
6527.215	Si I	52	1D2-3F2	0.833	1.000	0.667	
6529.187	Cr I	265	5F5-5F5	1.400	1.400	1.400	
6531.429	VI	48	4P2.5-4P2.5	1.600	1.600	1.600	
6532.881	Ni I	64	3P2-3D1	2.000	1.500	0.500	
6533.940	Fe I	1197	5P3-5P2	1.500	1.667	1.833	1
6537.938	Cr I	16	5D3-7P3	1.708	1.500	1.917	
6543.51	VI	48	4P1.5-4P1.5	1.733	1.733	1.733	

Table 1.(continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g- value		Note
6546.252	Fe I	268	3G3-3F2	0.833	0.750	0.667	2
6546.252	Ti I	102	3F2-3F2	0.667	0.667	0.667	2
6550.26	Sr I	12	1P1-1D2	1.000	1.000	1.000	1
6551.701	Fe I p	13	5F2-7F1	0.750	1.000	1.500	
6552.77	Fe I	1325	1F3-1F3	1.000	1.000	1.000	2
6554.238	Ti I	102	3F3-3F3	1.083	1.083	1.083	
6555.466	Si I	62	3D2-3F3	1.000	1.167	1.083	
6555.856	Fe I p	1007	3F4-5F3	1.250	1.250	1.250	
6556.077	Ti I	102	3F4-3F4	1.250	1.250	1.250	
6556.806	Fe I -	1255	3D2-5P1	0.500	1.167	2.500	2
6557.37	Y I	1	2D1.5-4F2.5	1.200	0.800	1.029	
6558.03	VI	59	2G4.5-2G4.5	1.111	1.111	1.111	2
6558.03	Sc I ?	24	2F2.5-2D1.5	0.900	0.857	0.800	2
6559.576	Ti II	91	2P0.5-2D1.5	0.833	0.667	0.800	
6560.555	Si I	62	3D1-3F2	0.750	0.500	0.667	2
6563.41	Co I	80	2G4.5-2G4.5	1.111	1.111	1.111	
6565.90	VI	48	4P0.5-4P0.5	2.667	2.667	2.667	
6569.224	Fe I	1253	3D3-5F4	1.375	1.333	1.350	2
6571.18	Fe I	1121	1D2-3G3	0.500	1.000	0.750	
6572.795	Ca I	1	1S0-3P1	1.500	0/0	1.500	
6574.254	Fe I	13	5F2-7F2	1.250	1.000	1.500	
6575.037	Fe I	206	3F3-3G3	0.917	1.083	0.750	
6575.18	Ti I	286	1H5-1G4	1.000	1.000	1.000	
6578.96	VI	32	4D0.5-2D1.5	1.000	0.000	0.800	
6580.233	Ni I -	265	1F3-1F3	1.000	1.000	1.000	2
6580.99	Cr I	16	5D4-7P4	1.625	1.500	1.750	
6581.218	Fe I	34	3F4-5F4	1.300	1.250	1.350	
6586.319	Ni I	64	3P1-3D1	1.000	1.500	0.500	
6587.622	CI	22	1P1-1P1	1.000	1.000	1.000	
6591.326	Fe I	1229	3F4-3D3	1.125	1.250	1.333	
6592.522	Ni I	248	3D2-3D2	1.167	1.167	1.167	
6592.926	Fe I	268	3G4-3F3	1.000	1.050	1.083	2
6592.926	(Ti I p)	102	3F3-3F2	1.500	1.083	0.667	2
6593.884	Fe I	168	3H5-5G5	1.150	1.033	1.267	2
6595.887	Co I	174	4D2.5-4F3.5	1.071	1.371	1.238	
6597.571	Fe I	1253	3D2-5F3	1.333	1.167	1.250	2
6597.571	(Cr I)	282	5D3-5D4	1.500	1.500	1.500	2
6598.611	Ni I	249	3D2-3F3	1.000	1.167	1.083	
6599.113	Ti I	49	1D2-1F3	1.000	1.000	1.000	
6603.25	Fe I ?p	862	3D3-5S2	0.667	1.333	2.000	
6603.65	Fe I p	860	3D1-5D0	0.500	0.500	0/0	
6604.600	Sc II	19	1D2-1D2	1.000	1.000	1.000	
6605.924	VI	48	4P1.5-4P0.5	1.500	1.733	2.667	
6606.979	Ti II p	91	2P1.5-2D1.5	1.067	1.333	0.800	
6607.90	VI	59	2G3.5-2G3.5	0.889	0.889	0.889	
6608.044	Fe I	109	3P2-5D3	1.500	1.500	1.500	
6609.118	Fe I	206	3F4-3G4	1.150	1.250	1.050	
6609.693	Fe I p	13	5F2-7F3	2.000	1.000	1.500	
6612.237	Cr I	282	5D2-5D3	1.500	1.500	1.500	
6613.73	Y II	26	3P2-3D3	1.167	1.500	1.333	
6613.83	Fe I p	13	5F1-7F0	0.000	0.000	0/0	
6615.01	Fe I p	1155	3G3-7F4	2.625	0.750	1.500	

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g- value		Note
6617.14	Ni I	248	3D2-3D3	1.500	1.167	1.333	2
6617.27	Sr I	8	3D1-3F2	0.750	0.500	0.667	
6621.204	Ni I ?	97	5G2-3D1	0.250	0.333	0.500	
6622.402	Fe I p	1157	3G5-7P4	0.100	1.200	1.750	
6623.82	Fe I p	1010	3F4-5F3	0.625	1.250	1.667	1
6624.840	VI	48	4P2.5-4P1.5	1.500	1.600	1.733	
6625.039	Fe I	13	5F1-7F1	0.750	0.000	1.500	
6627.32	Fe II	210	2G3.5-2H4.5	0.944	0.889	0.909	
6627.560	Fe I	1174	3F4-5D3	0.875	1.250	1.500	
6630.032	Cr I	16	5D4-7P3	0.875	1.500	1.917	
6632.472	Co I	111	2P1.5-2D2.5	1.100	1.333	1.200	
6633.427	Fe I	1258	3D1-3D2	1.500	0.500	1.167	
6633.758	Fe I	1197	5P3-5P3	1.667	1.667	1.667	
6634.123	Fe I	1258	3D2-3D3	1.500	1.167	1.333	
6635.137	Ni I	264	1F3-1G4	1.000	1.000	1.000	
6635.702	Fe I p	1155	3G4-7F5	2.400	1.050	1.500	2
6639.717	Fe I p	1195	5P2-5D1	2.000	1.833	1.500	
6639.897	Fe I	1007	3F4-5F4	1.300	1.250	1.350	
6643.00	Cr I	256	3D3-3F4	1.125	1.333	1.250	
6643.638	Ni I	43	1D2-3F2	1.250	1.000	1.500	
6645.127	Eu II	8	9D6-9P5	1.333	1.667	1.800	
6646.966	Fe I	206	3F2-3G3	0.833	0.667	0.750	
6648.121	Fe I p	13	5F1-7F2	2.250	0.000	1.500	
6653.911	Fe I	1052	5D3-3F3	1.292	1.500	1.083	
6657.43	Cr I	282	5D2-5D2	1.500	1.500	1.500	2
6661.081	Cr I	282	5D4-5D4	1.500	1.500	1.500	
6661.341	Ni I	246	3D2-3P1	1.000	1.167	1.500	
6663.246	Fe I	1195	5P3-5D3	1.583	1.667	1.500	
6663.448	Fe I	111	3P1-3P0	1.500	1.500	0/0	
6665.83	Fe I p	34	3F3-5F2	1.167	1.083	1.000	
6666.540	Ti I	101	3F4-5G5	1.300	1.250	1.267	
6667.455	Fe I	168	3H4-5G5	2.200	0.800	1.267	
6667.740	Fe I	1228	3F3-3D3	1.208	1.083	1.333	
6669.310	Cr I	282	5D3-5D3	1.500	1.500	1.500	
6673.88	Fe I p	1254	3D3-5D4	1.750	1.333	1.500	
6676.89	Fe I p	1194	5P3-3D2	2.167	1.667	1.167	
6677.24	Ti I	274	1P1-1D2	1.000	1.000	1.000	
6677.54	Fe I p	1280	5D1-3P1	1.500	1.500	1.500	2
6677.997	Fe I	268	3G5-3F4	1.100	1.200	1.250	
6678.576	Ti I	213	3P2-3P2	1.500	1.500	1.500	
6678.849	Co I	54	4P1.5-4D0.5	2.167	1.733	0.000	
6680.155	Cr I	282	5D2-5D1	1.500	1.500	1.500	
6681.30	Fe I p	1155	3G5-7F6	2.250	1.200	1.500	2
6682.24	Fe I p	1008	3F4-3G5	1.100	1.250	1.200	
6687.508	Y I	1	2D1.5-4F1.5	0.600	0.800	0.400	
6690.825	Ni I	140	3F3-1D2	1.167	1.083	1.000	
6692.50	Fe I	1192	5P3-5F2	2.333	1.667	1.000	
6696.032	Al I	5	2S0.5-2P1.5	1.167	2.000	1.333	
6696.322	Fe I p	1255	3D1-5P1	1.500	0.500	2.500	
6698.669	Al I	5	2S0.5-2P0.5	1.333	2.000	0.667	
6699.136	Fe I	1228	3F4-3D3	1.125	1.250	1.333	
6700.919	Ni I	248	3D1-3D2	1.500	0.500	1.167	2

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value		Note
6700.919	Fe I p	1156	3G3-7D2	-0.500	0.750	2.000	2
6703.576	Fe I	268	3G3-3F3	0.917	0.750	1.083	
6704.500	Fe I	1052	5D1-3F2	0.250	1.500	0.667	
6705.105	Fe I	1197	5P2-5P2	1.833	1.833	1.833	2
6705.105	(Fe I p)	1280	5D3-3P2	1.500	1.500	1.500	2
6707.76	Li I	1	2S0.5-2P1.5	1.167	2.000	1.333	
6707.98	Li I	1	2S0.5-2P0.5	1.333	2.000	0.667	
6710.323	Fe I	34	3F4-5F5	1.700	1.250	1.400	
6711.282	Fe I p	1220	3F2-5D1	0.250	0.667	1.500	
6712.467	Fe I p	1279	5D2-3F3	0.667	1.500	1.083	
6713.044	Fe I	1195	5P2-5D2	1.667	1.833	1.500	
6713.207	Fe I	1013	3F3-3P2	0.667	1.083	1.500	
6713.745	Fe I	1255	3D2-5P2	1.500	1.167	1.833	
6715.386	Fe I	1174	3F3-5D2	0.667	1.083	1.500	2
6715.386	(Cr I)	282	5D3-5D2	1.500	1.500	1.500	2
6716.252	Fe I	1225	3F2-3G3	0.833	0.667	0.750	
6716.666	Ti I	273	1P1-1P1	1.000	1.000	1.000	
6717.527	Fe I	1194	5P2-3D1	2.500	1.833	0.500	
6717.687	Ca I	32	1D2-1P1	1.000	1.000	1.000	
6721.844	Si I	38	1P1-1D2	1.000	1.000	1.000	
6725.364	Fe I	1052	5D4-3F4	1.375	1.500	1.250	
6726.282	O I	2	5S2-3P2	1.750	2.000	1.500	
6726.674	Fe I	1197	5P2-5P1	1.500	1.833	2.500	
6729.745	Cr I	301	5D4-5F5	1.200	1.500	1.400	2
6732.068	Fe I	1225	3F3-3G3	0.917	1.083	0.750	
6733.153	Fe I	1195	5P1-5D0	2.500	2.500	0/0	
6734.272	Cr I ?-	282	5D4-5D3	1.500	1.500	1.500	
6735.025	Fe I p	1157	3G4-7P3	-0.250	1.050	1.917	
6736.546	Fe I p	1122	1D2-1D2	1.000	1.000	1.000	
6739.524	Fe I	34	3F3-5F3	1.167	1.083	1.250	
6743.127	Ti I	48	1D2-1D2	1.000	1.000	1.000	
6745.113	Fe I	1227	3F2-1D2	0.833	0.667	1.000	
6745.547	Ti I p	226	3H4-1F3	0.500	0.800	1.000	
6745.984	Fe I	1005	3F4-5G3	1.750	1.250	0.917	
6746.36	Ti I	152	3G5-3G5	1.200	1.200	1.200	
6746.975	Fe I	205	3F2-5G2	0.500	0.667	0.333	
6748.435	Ti I ?	152	3G4-3G4	1.050	1.050	1.050	2
6749.541	Fe I p	860	3D3-5D2	1.167	1.333	1.500	
6750.164	Fe I	111	3P1-3P1	1.500	1.500	1.500	
6751.440	Cr I	315	5G4-5G4	1.150	1.150	1.150	
6752.716	Fe I	1195	5P1-5D1	2.000	2.500	1.500	
6753.470	Fe I p	1196	5P3-7S3	1.833	1.667	2.000	
6756.568	Fe I p	1120	1D2-3F2	0.833	1.000	0.667	
6759.46	Ni I	245	3D2-3S1	0.750	1.167	2.000	
6761.011	Fe I p	1227	3F3-1D2	1.167	1.083	1.000	
6762.398	Zr I	1	3F2-5G2	0.500	0.667	0.333	
6764.11	Fe I p	1225	3F4-3G3	2.000	1.250	0.750	
6766.50	VI	31	4D2.5-4F3.5	1.071	1.371	1.238	
6767.784	Ni I	57	1S0-3P1	1.500	0/0	1.500	
6770.97	Co I	54	4P2.5-4D2.5	1.486	1.600	1.371	1
6772.321	Ni I	127	3P1-1D2	0.750	1.500	1.000	
6774.33	La II	2	3F3-1F3	1.042	1.083	1.000	



Table 1.(continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value	Note	
6777.406	Fe I	1010	3F3-5P2	0.333	1.083	1.833	2
6777.406	Fe I	1013	3F2-3P1	0.250	0.667	1.500	2
6783.28	Fe I p	206	3F4-3G5	1.100	1.250	1.200	
6783.714	Fe I	205	3F3-5G3	1.000	1.083	0.917	
6785.00	VI	31	4D1.5-4F2.5	0.900	1.200	1.029	
6785.76	Fe I	1226	3F3-1D2	1.167	1.083	1.000	
6785.88	Fe I p	1007	3F4-5F5	1.700	1.250	1.400	
6786.860	Fe I	1052	5D2-3F3	0.667	1.500	1.083	
6787.16	Zr II ?	135	2P1.5-2S0.5	1.667	1.333	2.000	
6787.604	Fe I p	1156	3G3-7D4	3.000	0.750	1.650	
6793.273	Fe I	1005	3F4-5G4	1.200	1.250	1.150	
6793.628	Y I	1	2D2.5-4F2.5	1.114	1.200	1.029	2
6794.623	Fe I p	1279	5D3-3F4	0.875	1.500	1.250	
6795.428	Y II	26	3P0-3D1	0.500	0/0	0.500	2
6795.428	Y II	26	3P1-3D2	1.000	1.500	1.167	2
6796.128	Fe I	1007	3F3-5F3	1.167	1.083	1.250	
6798.467	Ca I	31	1D2-3P1	0.750	1.000	1.550	
6801.849	Fe I p	34	3F2-5F1	1.000	0.667	0.000	
6803.27	Fe I p	1192	5P3-5F4	1.250	1.667	1.350	
6803.854	Fe I p	1191	5P3-7G3	1.417	1.667	1.167	
6804.010	Fe I	1174	3F2-5D1	0.250	0.667	1.500	
6804.297	Fe I	1225	3F3-3G4	1.000	1.083	1.050	
6806.856	Fe I	268	3G4-3F4	1.150	1.050	1.250	
6808.769	Fe I p	340	3P2-3F2	1.083	1.500	0.667	
6810.267	Fe I	1197	5P2-5P3	1.500	1.833	1.667	
6812.356	VI ?	31	4D0.5-4F1.5	0.500	0.000	0.400	
6813.54	Fe I ?p	1288	7P3-3P2	2.333	1.917	1.500	
6813.616	Ni I	288	3G5-5H6	1.250	1.200	1.214	
6814.961	Co I	54	4P1.5-4D1.5	1.467	1.733	1.200	
6819.49	Fe I p	463	3P2-3D1	2.000	1.500	0.500	
6819.595	Fe I	1051	5D4-5F3	1.875	1.500	1.250	
6820.374	Fe I	1197	5P1-5P2	1.500	2.500	1.833	
6822.042	Fe I	110	3P0-5F1	0.000	0/0	0.000	2
6822.042	Fe I	1220	3F3-5D2	0.667	1.083	1.500	2
6824.857	Fe I p	1280	5D2-3P2	1.500	1.500	1.500	
6828.193	CI	21	1P1-1D2	1.000	1.000	1.000	
6828.596	Fe I	1195	5P1-5D2	1.000	2.500	1.500	
6830.04	VI ?	31	4D3.5-4F3.5	1.333	1.429	1.238	
6831.478	Fe I ?p	550	5D4-1F3	2.250	1.500	1.000	
6832.474	VI ?	31	4D2.5-4F2.5	1.200	1.371	1.029	2
6832.474	Y II ?	26	3P2-3D2	1.333	1.500	1.167	2
6833.08	Zr I ?	1	3F3-5G3	1.000	1.083	0.917	
6833.248	Fe I	1194	5P1-3D1	1.500	2.500	0.500	
6837.013	Fe I	1225	3F4-3G4	1.150	1.250	1.050	
6839.835	Fe I	205	3F4-5G4	1.200	1.250	1.150	
6841.341	Fe I	1195	5P2-5D3	1.167	1.833	1.500	
6841.85	VI ?	31	4D1.5-4F1.5	0.800	1.200	0.400	
6842.043	Ni I	126	3P1-3D1	1.000	1.500	0.500	
6842.40	Si I p	61	3D3-3D2	1.500	1.333	1.167	
6842.689	Fe I	1197	5P1-5P1	2.500	2.500	2.500	
6843.655	Fe I	1173	3F4-3D3	1.125	1.250	1.333	
6844.683	Fe I	34	3F3-5F4	1.750	1.083	1.350	

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value		Note
6845.22	Y I	16	4P2.5-4D3.5	1.214	1.600	1.429	2
6845.98	Fe I p	1190	5P3-5G2	3.000	1.667	0.333	2
6847.603	Fe I	1078	5F3-3F2	1.833	1.250	0.667	2
6848.566	Si I	37	1P1-1P1	1.000	1.000	1.000	
6848.87	Fe I p	1192	5P2-5F1	2.750	1.833	0.000	
6850.439	Ni I	157	3D3-1D2	1.667	1.333	1.000	
6851.652	Fe I	34	3F2-5F2	0.833	0.667	1.000	
6855.166	Fe I	1195	5P3-5D4	1.250	1.667	1.500	
6855.723	Fe I	1194	5P2-3D2	1.500	1.833	1.167	
6857.251	Fe I	1006	3F4-1G4	1.125	1.250	1.000	
6858.155	Fe I	1173	3F3-3D2	1.000	1.083	1.167	
6858.29	Y II ?	26	3P1-3D1	1.000	1.500	0.500	
6859.493	Fe I p	340	3P1-3F2	0.250	1.500	0.667	
6860.099	Fe I p	1255	3D1-5P2	2.500	0.500	1.833	
6860.327	Fe I	205	3F2-5G3	1.167	0.667	0.917	
6860.953	Fe I	341	3P2-5P1	1.000	1.500	2.500	
6861.268	Ni I	293	3F4-5G5	1.300	1.250	1.267	
6861.50	Ti I	237	1G4-1F3	1.000	1.000	1.000	
6861.945	Fe I	109	3P1-5D0	1.500	1.500	0/0	
6862.496	Fe I	1191	3P3-7G4	1.000	1.500	1.300	
6864.324	Fe I p	1186	5P3-7F2	1.833	1.667	1.500	
6872.44	Co I	54	4P0.5-4D0.5	1.333	2.667	0.000	
6875.45	Fe I	167	3H4-5F3	0.125	0.800	1.250	
6875.995	Fe I	1013	3F2-3P2	1.083	0.667	1.500	
6879.55	Fe I p-	1157	3G3-7P3	1.333	0.750	1.917	2
6880.637	Fe I	1051	5D3-5F2	2.000	1.500	1.000	
6881.054	Fe I p	1174	3F2-5D2	1.083	0.667	1.500	2
6881.716	Cr I	222	7P2-7D3	1.167	2.333	1.750	2
6882.502	Cr I	222	7P2-7D2	2.167	2.333	2.000	
6883.070	Cr I	222	7P2-7D1	2.000	2.333	3.000	
6885.754	(Fe I)	1173	3F2-3D1	0.750	0.667	0.500	2
6894.89	Mg I	34	1D2-1F3	1.000	1.000	1.000	
6898.307	Fe I	1078	5F4-3F3	1.750	1.350	1.083	
6911.522	Fe I	109	3P1-5D1	1.500	1.500	1.500	
6912.45	Fe I ?p	341	3P1-5P1	2.000	1.500	2.500	
6914.564	Ni I	62	3P1-3P0	1.500	1.500	0/0	
6916.686	Fe I	1052	5D3-3F4	0.875	1.500	1.250	
6917.505	(Fe I p)	1190	5P3-5G3	1.292	1.667	0.917	2
6920.168	Fe I p	1192	5P2-5F3	0.667	1.833	1.250	1
6925.280	Cr I	222	7P3-7D3	1.833	1.917	1.750	
6926.097	Cr I	222	7P3-7D2	1.833	1.917	2.000	
6928.330	Ni I ?	110	5F3-1D2	1.500	1.250	1.000	
6930.384	Fe I ?p	1186	5P3-7F4	1.250	1.667	1.500	
6930.605	Fe I	1221	3F2-3F3	1.500	0.667	1.083	2
6932.498	(Fe I p)	1220	3F2-5D3	2.333	0.667	1.500	2
6933.026	Fe I	1051	5D2-5F1	2.250	1.500	0.000	
6933.605	Fe I	167	3H5-5F4	0.400	1.033	1.350	2
6933.605	Fe I	1005	3F3-5G2	1.833	1.083	0.333	2
6936.496	Fe I	1196	5P2-7S3	2.167	1.833	2.000	
6942.84	Fe I ?p	1008	3F3-3G4	1.000	1.083	1.050	
6945.210	Fe I	111	3P1-3P2	1.500	1.500	1.500	
6946.330	Co I ?	110	2P1.5-2F2.5	0.500	1.333	0.857	

Table 1. (continued)

Wave-length	ID	RMT No.	Transition	Effective g-value	g-value		Note
6947.55	Fe I	1221	3F3-3F3	1.083	1.083	1.083	1
6951.237	Fe I	1186	5P3-7F3	1.583	1.667	1.500	2
6951.237	Fe I	1193	5P3-5S2	1.333	1.667	2.000	2
6951.656	Fe I	1078	5F2-3F2	0.833	1.000	0.667	2
6953.057	Fe I p-	815	5P3-7D3	1.708	1.667	1.750	
6955.040	Ni I	157	3D2-1D2	1.083	1.167	1.000	
6963.01	Fe I p	1007	3F2-5F3	1.833	0.667	1.250	
6965.408	Mg I	33	1D2-1F3	1.000	1.000	1.000	
6970.495	Fe I p	463	3P2-3D2	1.333	1.500	1.167	2
6971.917	Fe I	404	3G3-3D2	0.333	0.750	1.167	
6976.24	Fe I	1194	5P1-3D2	0.500	2.500	1.167	
6976.504	Si I	60	3D1-3F2	0.750	0.500	0.667	
6976.908	Fe I	1221	3F3-3F4	1.500	1.083	1.250	
6977.466	Fe I	1225	3F4-3G5	1.100	1.250	1.200	2
6978.383	Cr I	222	7P4-7D5	1.300	1.750	1.600	
6978.862	Fe I	111	3P0-3P1	1.500	0/0	1.500	
6979.156	Fe I p	340	3P2-3F3	0.667	1.500	1.083	1
6979.806	Cr I	222	7P4-7D4	1.700	1.750	1.650	
6980.910	Cr I	222	7P4-7D3	1.750	1.750	1.750	
6983.52	Fe I ?p	1220	3F4-5D3	0.875	1.250	1.500	
6988.533	Fe I	167	3H6-5F5	0.583	1.167	1.400	
6989.72	Fe I p	1191	5P2-7G3	0.500	1.833	1.167	
6996.634	Ti I	256	3P1-3P2	1.500	1.500	1.500	
6997.080	Fe I p	1273	5D3-5F2	2.000	1.500	1.000	
6999.885	Fe I	1051	5D4-5F4	1.425	1.500	1.350	

### 3. Determination of Sunspot Magnetic Field

As an application of the table made in the previous section sunspot spectra were analyzed to determine the magnetic field strength. The sunspot magnetic field is usually determined with the polarization technique or line profile analysis. In this paper we use a reasonable assumption that in the presence of a magnetic field spectral line widths are broader as their effective Lande factor,  $g_{eff}$ , increases. This statistical determination has not really been tried so far.

#### 3.1. Observation

Observations were made with the horizontal solar telescope ( $f = 20\text{m}$ , Nakai and Kubota 1964) of the Kwasan Observatory on July 24, 1991. A green spectral region which included large Lande factor lines was selected and photographed through the 15m spectrograph. For comparison a spectrogram obtained with the Domeless Solar Telescope (Nakai and Hattori 1985) in the Hida Observatory was used. These observed materials are listed in Table 2. The sunspots observed are denoted in the daily sketches of the National Observatory reproduced in Figure 1.

Table 2. Observed materials for analysis.

Date	Sunspot No. (NOAA)	Obs. Wavelength (Å)	Dispersion (Å/mm)	Emulsion	Exposure (sec)
July 24 1991	6734	5210–5330	0.53	TriX	1
Sept 11 1981	830	5540–5610	0.33	KODAK 5063	0.5

### 3.2. Measurement

Photographic density of the spectrograms was recorded with the PDS microdensitometer of the Kwasan Observatory (Nakai et al. 1986). On the recording chart the density was converted to the intensity with the calibration curves derived from step wedge spectrograms, and total half widths (Full Width at Half Maximum) of spectral lines were measured. The measurements were performed for three regions; photosphere (PH), penumbra (PU), and umbra (U). These regions were so chosen along the slit direction that, in the continuum, the minimum intensity for umbra, the intensity outside the sunspot for photosphere, and the intensity between the above values for penumbra were taken. The intensity contrasts relative to the photospheric intensity are given in the top line of Tables 3 and 4 to more specify the measured region. These tables give  $\Delta\lambda$  (FWHM) and the central line intensities relative to the continuum,  $I_o/I_c$ , the latter are necessary for the analysis, as well as  $g_{eff}$ .

### 3.3. Analysis

The line widths measured consist of magnetic and non-magnetic contributions. The latter is due to the Doppler broadening, the saturation effect of the absorption, and the instrumental effect. The magnetic contribution is due to the Zeeman shift proportional to  $g_{eff}$ . Since the saturation effect of the absorption depends on the line intensity, this is removed by plotting the line widths against their central intensity for each  $g_{eff}$ . Figure 2 shows this saturation curve of the photosphere where the scatter due to the different Lande factors is not recognized because of the weak magnetic field. The line width at the central intensity = 1 gives the one without the saturation effect. The saturation curves are different in the Kwasan and Hida data for the stronger lines. However, the saturation-free widths happen to be the same as 0.09Å. Since instrumental widths of the spectrographs due to the slit width (50 microns) and their spectral resolution are broader for the Kwasan data, the true widths corrected for them will be narrower for the Kwasan data. Adopting the theoretical spectral resolution, we have the corrected saturation-free widths of 1.76km/s (Kwasan) and 2.36km/s (Hida) in units of velocity, respectively. Consequently, the difference of the saturation curves will indicate that the photosphere selected in the Hida spectrogram was not quiet but active.

1971年 7月 24日

9時 20分

天気: 晴

透明度: 3~2

シンチレーション: 3

像の歪み: 3~2

$F = 17.32$   
 $b_0 = +3.11$   
 $b_1 = 14.16$   
 $d_1 = 0.18$   
 $L = 19.18$

	g	f	R
N	4	117	94.2
S	11	93	131.8
合計	15	210	216.0

写真:

11. 09 24 48 90 0.1  
 11. 07 03 51 75 -  
 11. 08 47 10 30 -  
 11. 09 48 05 4 -  
 11.

観測者: 藤下

Sept. 10, 1971  
 11 ~ 30

Weather: Cloudy

Transparency: 2

Scintillation: 3

Image motion: 3

Blurring: 1

Distortion: 3

Quality of Images: 1~2

$F = +23.13$   
 $b_0 = +7.25$   
 $b_1 = 66.88$   
 $d_1 = 1.32$   
 $L = 65.50$

	g	f	R
N	8	106	133.92
S	4	23	45.36
Total	12	129	179.28

Observer: J. Natori

写真: 11. 10 30 80  
 11. 11 22 110  
 11. 11 23 -  
 11. 11 38 -

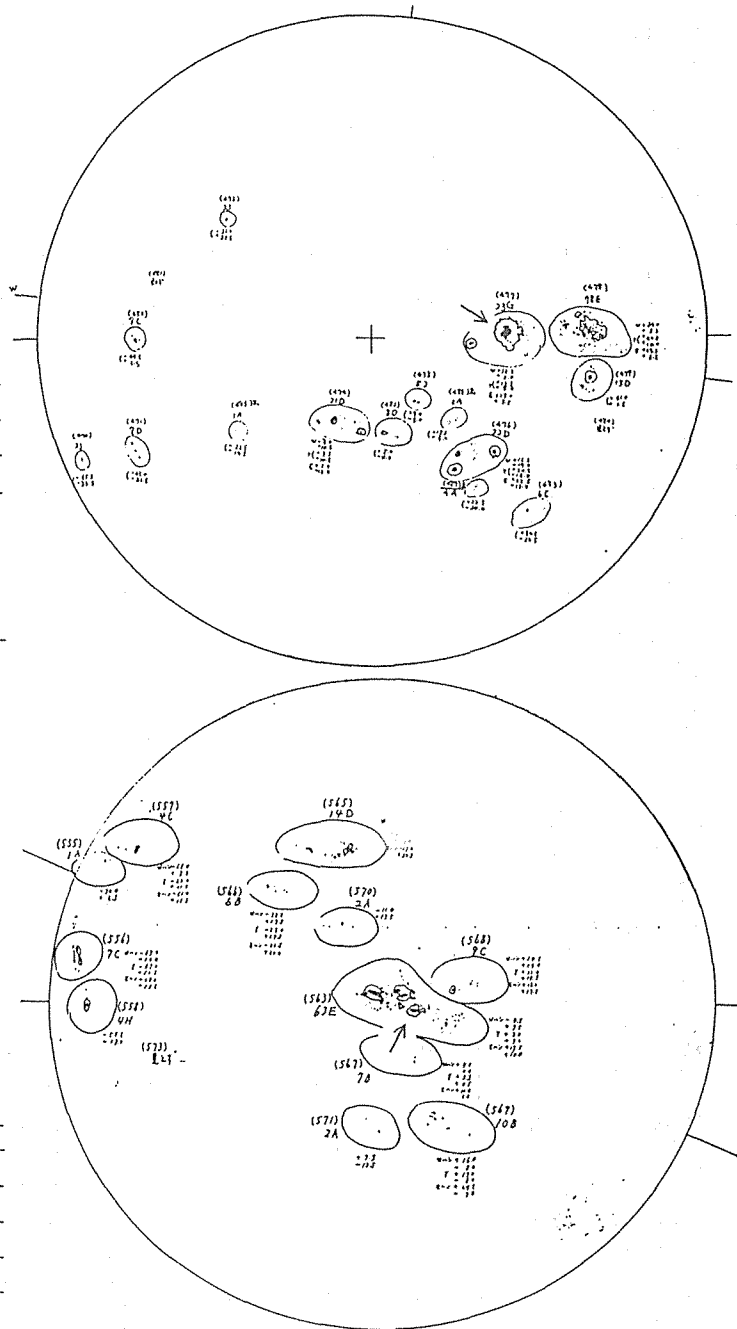


Figure 1. Observed sunspots indicated by the arrows.

Table 3. Line widths (FWHM) in the Kwasan spectrogram.

	Wavelength	ID	g-eff	PH		PU (0.66)		U (0.25)	
				Io/Ic	$\Delta \lambda$	Io/Ic	$\Delta \lambda$	Io/Ic	$\Delta \lambda$
1	5264.808	FeII	0.100	0.51	0.09	0.49	0.10	0.60	0.12
2	5273.389	Fe I	0.500	0.26	0.11	0.24	0.16	0.32	0.15
3	5275.284	Fe I p	0.500	0.46	0.10	0.39	0.13	0.48	
4	5223.190	Fe I	0.500			0.66	0.10	0.69	0.12
5	5284.112	FeII	0.643	0.46	0.12	0.45	0.12	0.54	0.12
6	5322.049	Fe I	0.667	0.42	0.11	0.37	0.15	0.54	0.11
7	5295.321	Fe I	0.708	0.68	0.09	0.62	0.10	0.72	
8	5226.545	TiII	0.800	0.32	0.14	0.32	0.14	0.41	0.13
9	5228.383	Fe I	0.875	0.51	0.11	0.48	0.12	0.52	0.13
10	5263.865	Fe I	0.900	0.62	0.10	0.44	0.11	0.62	0.12
11	5249.111	Fe I	0.917	0.69	0.09			0.71	
12	5321.114	Fe I	0.925	0.59	0.10	0.56	0.13	0.65	0.12
13	5234.630	FeII	0.929	0.31	0.14	0.38	0.13	0.50	0.12
14	5265.560	Ca I	1.000	0.22		0.17	0.19	0.21	
15	5296.702	Cr I	1.000	0.26	0.12	0.19	0.16	0.28	0.15
16	5261.708	Ca I	1.000	0.25	0.14	0.23	0.17	0.30	0.15
17	5242.500	Fe I	1.000	0.28	0.13	0.29	0.15	0.37	0.12
18	5288.533	Fe I	1.000	0.47	0.09	0.35	0.12	0.52	0.11
19	5239.823	ScII	1.000	0.51	0.10	0.48	0.11	0.55	0.12
20	5293.963	Fe I	1.000	0.71	0.08	0.63	0.09	0.66	0.12
21	5253.033	Fe I p	1.000	0.87		0.68	0.10	0.81	
22	5313.585	CrII -	1.029	0.74	0.09	0.68	0.10	0.68	0.12
23	5280.633	Co I	1.056	0.85		0.79		0.76	
24	5220.086	Cu I	1.067	0.62		0.85		0.79	
25	5294.553	Fe I	1.083	0.81		0.83		0.79	
26	5265.964	Ti I	1.100	0.68		0.51		0.59	0.13
27	5316.620	FeII	1.136	0.26		0.27		0.39	
28	5255.325	Mn I	1.136	0.74	0.10	0.58	0.12	0.66	
29	5220.296	Ni I	1.167	0.65	0.09	0.72	0.12	0.71	
30	5297.385	Cr I	1.250	0.36	0.11	0.28	0.16	0.40	0.13
31	5232.952	Fe I	1.300	0.15	0.31	0.14	0.37	0.19	0.31
32	5255.123	Cr I	1.300	0.63		0.52		0.58	
33	5237.325	CrII	1.333	0.51	0.11	0.56	0.12	0.60	0.12
34	5224.310	Ti I	1.400	0.58	0.09	0.52	0.12	0.56	0.13
35	5302.307	Fe I	1.500	0.21	0.15	0.19	0.22	0.23	0.21
36	5263.314	Fe I	1.500	0.24	0.17	0.21	0.21	0.29	
37	5250.654	Fe I	1.500	0.25	0.12	0.23	0.16	0.30	0.14
38	5273.170	Fe I	1.500	0.26	0.14	0.23	0.19	0.32	0.16
39	5307.369	Fe I	1.500	0.29	0.11	0.24	0.17	0.29	0.15
40	5253.468	Fe I	1.500	0.35	0.11	0.28	0.15	0.41	0.12
41	5243.783	Fe I	1.500	0.44	0.11	0.42	0.12	0.51	0.11
42	5219.706	Ti I	1.500	0.85	0.11	0.60	0.12	0.60	0.13
43	5265.153	Cr I	1.500	0.69		0.65	0.11	0.69	
44	5252.106	Ti I	1.500	0.81		0.66	0.12	0.72	
45	5228.103	Cr I	1.500	0.71	0.10	0.69		0.76	
46	5308.429	CrII	1.500	0.78		0.74	0.11	0.68	0.13
47	5279.877	CrII	1.500	0.78		0.85	0.08	0.81	
48	5305.866	CrII	1.629	0.74		0.66	0.11	0.72	
49	5298.283	Cr I	1.833	0.23	0.13	0.69	0.19	0.23	0.16
50	5298.023	Cr I	1.833	0.41	0.11	0.17	0.16	0.43	0.14
51	5300.751	Cr I	1.833	0.49	0.10	0.33	0.14	0.45	0.12
52	5312.863	Cr I	1.833	0.78		0.74	0.10	0.69	
53	5265.723	Cr I	2.000	0.30	0.11	0.28		0.32	
54	5247.058	Fe I	2.000	0.35	0.09	0.30	0.15	0.44	0.11
55	5260.390	Ca I	2.000	0.66	0.09	0.59	0.16	0.66	0.14
56	5275.759	Cr I	2.167	0.46	0.11	0.40	0.17	0.47	0.16
57	5225.534	Fe I	2.250	0.35	0.10	0.36	0.18	0.45	0.15
58	5247.574	Cr I	2.500	0.32	0.12	0.30	0.18	0.31	0.13
59	5250.216	Fe I	3.000	0.35	0.10	0.36	0.16	0.39	0.11

Table 4. Line widths (FWHM) in the Hida spectrogram.

	Wavelength	ID	$g_{\text{eff}}$	PH		PU (0.58)		U (0.19)	
				$I_0/I_c$	$\Delta \lambda$	$I_0/I_c$	$\Delta \lambda$	$I_0/I_c$	$\Delta \lambda$
1	5576.099	Fe I	0.000	0.35	0.13	0.28	0.13	0.34	0.19
2	5592.266	Ni I	0.250	0.54	0.11	0.48	0.12		
3	5598.491	Ca I	0.500	0.32	0.14	0.23	0.17	0.25	0.31
4	5560.220	Fe I	0.625	0.56	0.10	0.51	0.10	0.68	0.16
5	5598.305	Fe I	0.667	0.44	0.12	0.39	0.14	0.47	0.20
6	5567.400	Fe I	0.750	0.55	0.10	0.48	0.11	0.51	0.18
7	5569.631	Fe I	0.750	0.31	0.18	0.23	0.19	0.34	0.25
8	5565.485	Ti I	0.900			0.72	0.11	0.55	0.18
9	5592.152	Ni I	0.917	0.68	0.10	0.63	0.11		
10	5578.729	Ni I	1.000	0.56	0.08	0.56	0.12	0.58	0.17
11	5572.851	Fe I	1.000	0.29	0.22	0.21	0.24	0.30	0.31
12	5549.958	Fe I	1.025					0.85	0.17
13	5594.666	Fe I	1.025	0.52	0.10	0.52	0.14		
14	5589.366	Ni I	1.083	0.79	0.08			0.74	0.19
15	5565.713	Fe I	1.083	0.44	0.12	0.42	0.17	0.55	0.19
16	5595.067	Fe I	1.083					0.79	0.17
17	5553.707	Ni I	1.083	0.81	0.10	0.78	0.11		
18	5553.589	Fe I	1.100	0.69	0.08	0.66	0.12		
19	5593.746	Ni I	1.167	0.65	0.10	0.71	0.12		
20	5587.868	Ni I	1.167	0.52	0.10	0.51	0.14	0.63	0.17
21	5588.764	Ca I	1.333	0.26	0.17	0.19	0.20	0.22	0.41
22	5573.107	Fe I	1.333	0.59	0.11				
23	5543.199	Fe I	1.375	0.51	0.12	0.56	0.16	0.63	0.22
24	5587.581	Fe I	1.500	0.71	0.11	0.72	0.14		
25	5546.514	Fe I	1.500	0.62	0.10	0.62	0.16	0.74	0.22
26	5581.979	Ca I	1.500	0.38	0.12	0.32	0.18	0.33	0.29
27	5590.126	Ca I	1.500	0.40	0.12	0.34	0.18	0.34	0.30
28	5543.944	Fe I	1.500	0.51	0.11	0.35	0.17		
29	5601.286	Ca I	1.500	0.38	0.13	0.34	0.19	0.38	0.31

Figure 3 gives the saturation diagrams of the penumbra and umbra classified by  $g_{\text{eff}}$ . The data points of the Kwasan observation are many in the diagrams for  $g_{\text{eff}} \sim 1$  and 1.5 and fit to the photospheric saturation curve if they shift in the vertical direction. Accordingly, we assume that the shape of the saturation curve remains the same from photosphere to umbra. By fitting the photospheric saturation curve to the data points in each diagram, saturation-free widths of the various Lande factor lines are obtained. The saturation-free widths thus obtained are shown against  $g_{\text{eff}}$  in Figure 4. This width, which should be the sum of the Doppler and instrumental widths and Zeeman shift, increases with  $g_{\text{eff}}$  and indicates the existence of magnetic fields, except the umbral data obtained at the Kwasan Observatory. The latter must be seriously contaminated by stray light from the photosphere (e.g., Zwaan 1965). The linear relation between the width and  $g_{\text{eff}}$  is only clearly seen for the penumbral data obtained at the Kwasan Observatory and gives the field strength of 1000G. This value seems to be a little weaker and might be brought by the  $\pi$ -components which appear in the transverse magnetic field of the penumbra. The Hida observation made not for this purpose does not include large  $g_{\text{eff}}$  which will enable to safely determine the field strength.

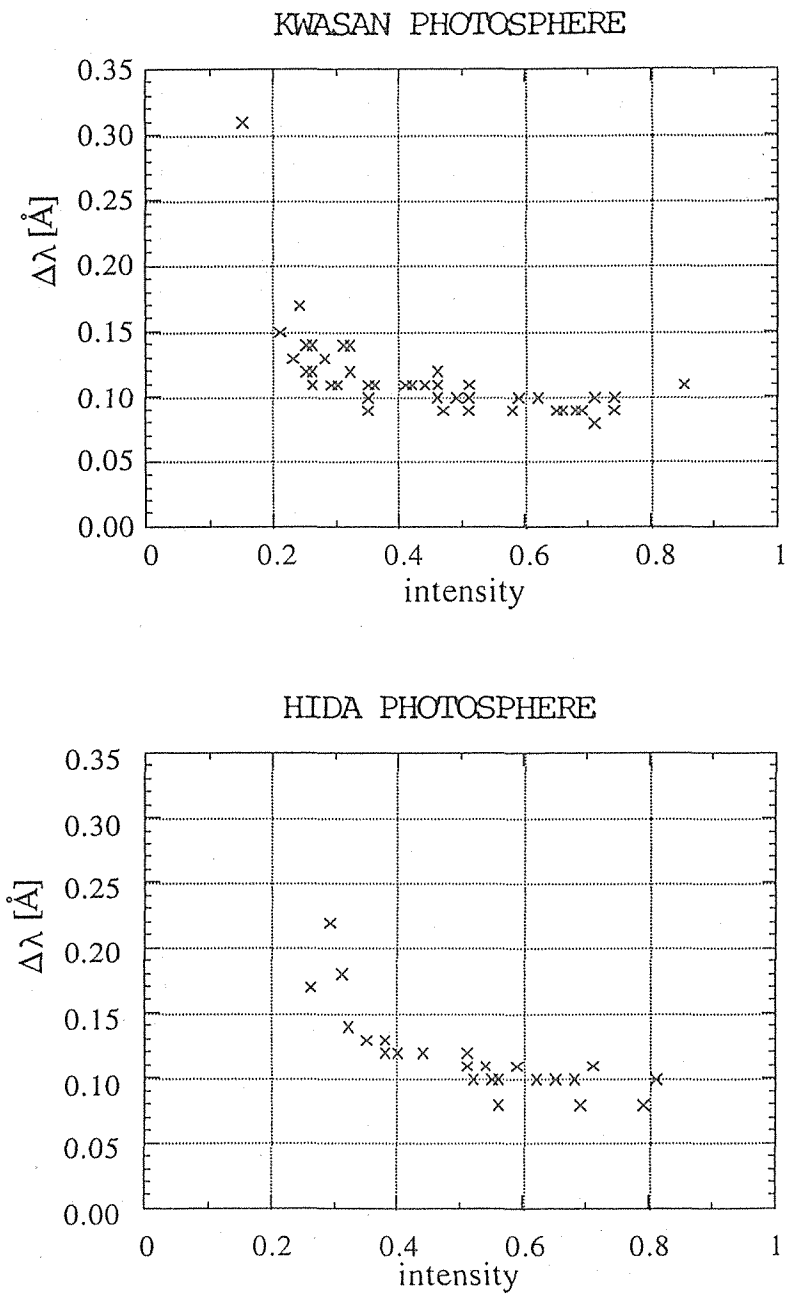


Figure 2. Photospheric line widths versus central line intensities.



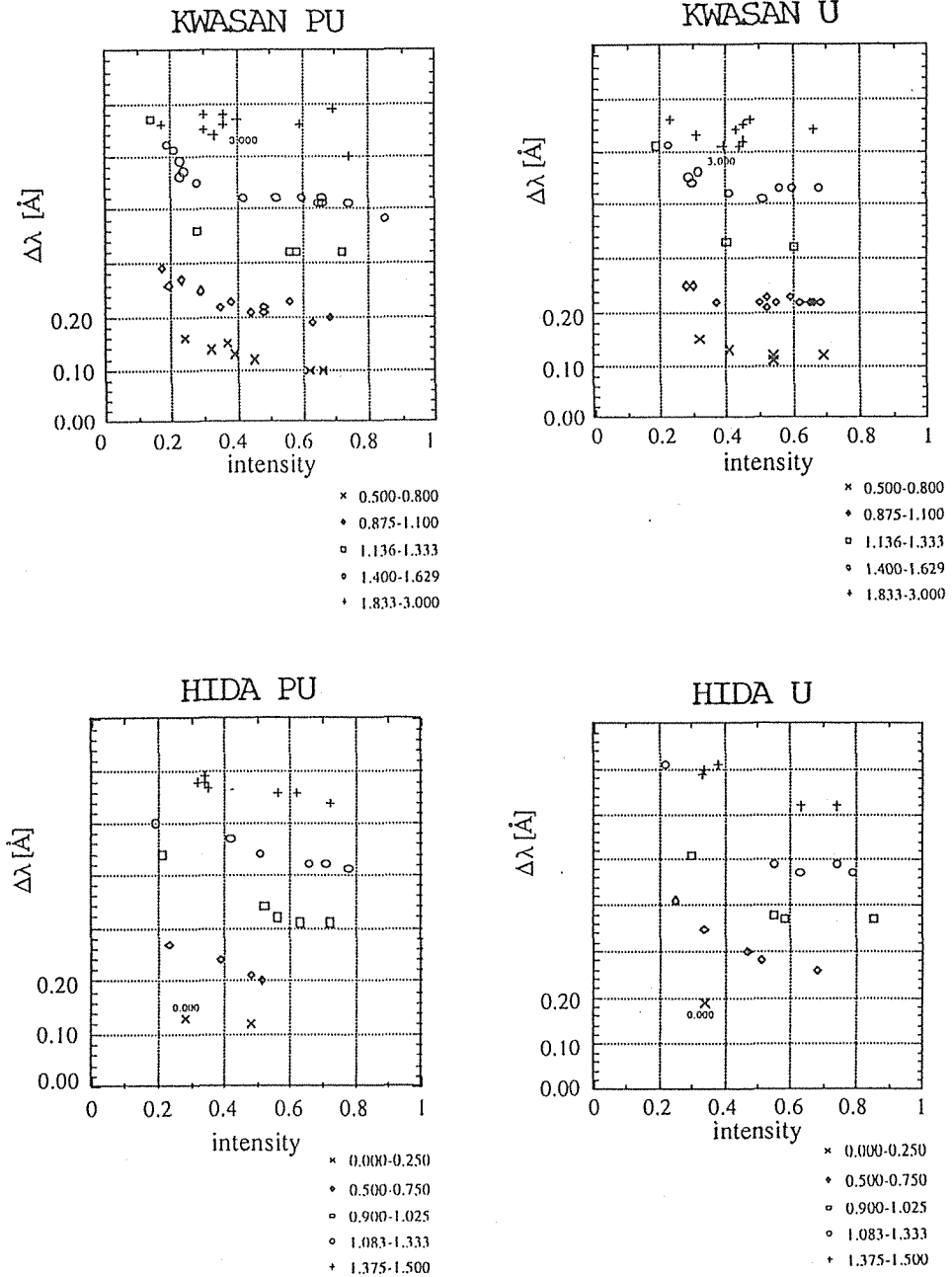


Figure 3. Penumbral and umbral line widths versus central line intensities for the Kwasan and Hida data. Different symbols refer to the different  $g_{eff}$  groups as indicated in the small table under each diagram. The origin of the line width is shifted to the next  $g_{eff}$  group upward by 0.1 Å.

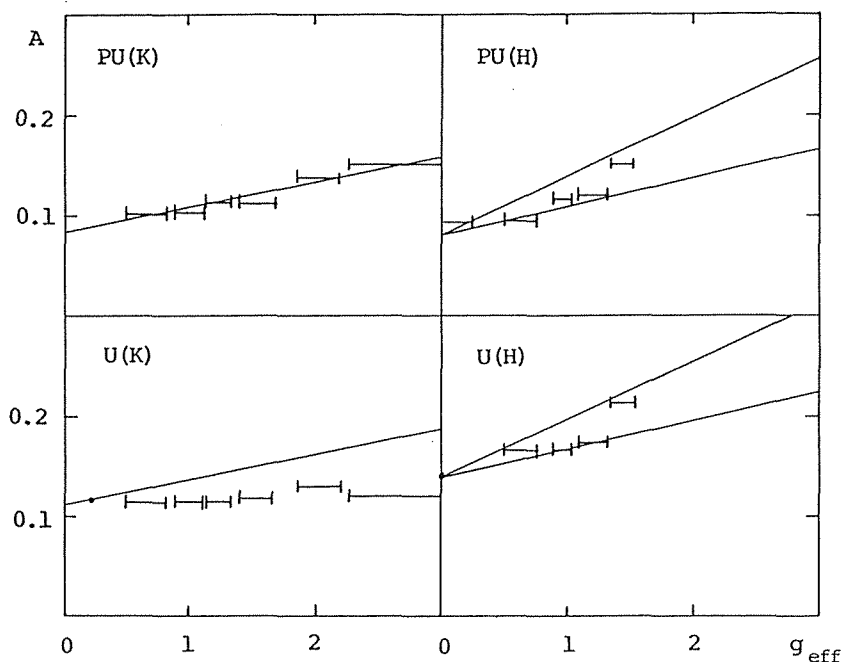


Figure 4. Dependence of the saturation free widths (ordinates) on the effective Lande factors (abscissa). Horizontal bars and dots show the saturation free widths obtained in the corresponding range of the effective Lande factor. Straight lines show the dependence in the case where the magnetic fields are 1 kG and 2 kG.

#### 4. Conclusion

We have presented the table of the effective Lande factor,  $g_{eff}$ , for the solar spectral lines in the wavelength range 5000Å–7000Å. Its application to the sunspot spectra proves that statistical determination of the magnetic field strength is possible if the  $g_{eff}$  covers from small to large values. The similar process will be promising to determine stellar magnetic fields.

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#### References

- Beckers, J. M., 1969, A Table of Zeeman Multiplets, Physical Sciences Research Papers No. 371, Air Force Cambridge Laboratories.

- Condon, E. U. and Shortley, G. H., 1935, *The Theory of Atomic Spectra*, Cambridge at the University Press.
- Moore, C. E., 1959, *A Multiplet Table of Astrophysical Interest*, NBS Technical Note 36.
- Moore, C. E., Minnaert, M. G. J. and Houtgast, J., 1966, *The Solar Spectrum 2935 to 8770A*, NBS Monograph 61, US Government Printing Office, Washington DC.
- Nakai, Y. and Kubota, J., 1964, *Mem. Faculty Sci. Kyoto Univ. Series A* 30, 323.
- Nakai, Y. and Hattori, A., 1985, *Mem. Faculty Sci. Kyoto Univ. Series A* 36, 385.
- Nakai, Y., Kitai, R., Asada, T. and Iwasaki, K., 1986, *Mem. Faculty Sci. Kyoto Univ. Series A* 37, 59.
- Stenflo, J. O. and Lindegren, L., 1977, *Astron. Astrophys.* 59, 367.
- Zwaan, C., 1965, *Rech. Astron. Obs. Utrecht* 17, part 4.