

Table 5.3.1a. The lowest 10 fine-structure energy levels of the states of Fe I included in the calculation (97P1) and their observed energies in rydbergs (75R1). The index i is used in Table 5.3.1b for transition keys; J is the total angular momentum for specifying the fine-structure level.

i	LS Term	J	Energy	i	LS Term	J	Energy
1	$3d^6 4s^2 \ ^5D$	4	0.0	6	$3d^7 4s \ ^5F$	5	0.0760
2		3	0.0046	7		4	0.0810
3		2	0.0077	8		3	0.0848
4		1	0.0097	9		2	0.0876
5		0	0.0107	10		1	0.0895

Table 5.5.1b. The effective collision strengths $\Upsilon(i, j)$ as a function of temperature T (K) for the transitions between the first 10 metastable levels as specified in Table 5.3.1a for Fe I (97P1).

Levels		$\log T$				
i	j	2.0	2.4	2.8	3.2	3.6
1	2	2.010[-2]	3.380[-2]	7.050[-2]	2.440[-1]	7.650[-1]
1	3	4.270[-2]	9.470[-2]	1.550[-1]	2.280[-1]	3.440[-1]
1	4	1.060[-4]	4.300[-4]	1.740[-3]	1.310[-2]	3.350[-2]
1	5	2.390[-7]	1.140[-6]	3.720[-5]	1.020[-3]	2.720[-3]
1	6	2.620[-2]	7.720[-2]	1.830[-1]	4.300[-1]	8.240[-1]
1	7	1.840[-2]	4.320[-2]	9.150[-2]	1.920[-1]	3.320[-1]
1	8	8.610[-3]	1.840[-2]	3.790[-2]	7.780[-2]	1.260[-1]
1	9	2.560[-3]	5.960[-3]	1.250[-2]	2.380[-2]	3.440[-2]
1	10	6.730[-5]	2.000[-4]	4.860[-4]	1.020[-3]	1.500[-3]
2	3	1.760[-2]	4.750[-2]	1.070[-1]	2.730[-1]	7.200[-1]
2	4	1.090[-2]	2.160[-2]	3.410[-2]	8.070[-2]	2.350[-1]
2	5	3.970[-5]	1.710[-4]	8.710[-4]	1.060[-2]	3.380[-2]
2	6	9.050[-3]	2.560[-2]	5.690[-2]	1.310[-1]	2.640[-1]
2	7	1.510[-2]	3.490[-2]	7.380[-2]	1.640[-1]	3.040[-1]
2	8	1.720[-2]	3.760[-2]	7.980[-2]	1.670[-1]	2.780[-1]
2	9	9.570[-3]	2.190[-2]	4.630[-2]	9.650[-2]	1.570[-1]
2	10	2.310[-3]	6.130[-3]	1.280[-2]	2.460[-2]	3.680[-2]
3	4	7.720[-3]	2.250[-2]	5.390[-2]	1.460[-1]	4.020[-1]
3	5	2.110[-4]	9.840[-4]	4.390[-3]	3.240[-2]	1.450[-1]
3	6	2.560[-3]	6.770[-3]	1.310[-2]	2.540[-2]	4.820[-2]
3	7	7.910[-3]	1.880[-2]	4.170[-2]	1.000[-1]	2.030[-1]
3	8	1.500[-2]	2.960[-2]	5.510[-2]	1.080[-1]	1.830[-1]
3	9	1.510[-2]	3.600[-2]	7.620[-2]	1.450[-1]	2.180[-1]
3	10	6.070[-3]	1.650[-2]	3.590[-2]	7.630[-2]	1.270[-1]
4	5	1.860[-4]	5.940[-4]	2.420[-3]	2.060[-2]	9.760[-2]
4	6	8.990[-7]	2.910[-6]	8.260[-6]	2.460[-5]	5.720[-5]
4	7	5.550[-3]	1.160[-2]	2.040[-2]	3.720[-2]	6.550[-2]
4	8	4.430[-3]	1.010[-2]	2.370[-2]	5.780[-2]	1.130[-1]
4	9	1.210[-2]	2.440[-2]	4.360[-2]	8.000[-2]	1.290[-1]
4	10	9.670[-3]	2.740[-2]	5.820[-2]	1.050[-1]	1.520[-1]
5	6	3.660[-9]	3.480[-8]	2.970[-7]	1.400[-6]	4.130[-6]
5	7	2.850[-8]	1.640[-7]	1.210[-6]	7.800[-6]	2.660[-5]
5	8	4.490[-3]	8.310[-3]	1.400[-2]	2.560[-2]	4.460[-2]
5	9	1.930[-3]	5.200[-3]	1.290[-2]	3.070[-2]	5.700[-2]
5	10	1.890[-3]	4.770[-3]	9.320[-3]	1.840[-2]	3.100[-2]
6	7	2.470[-2]	5.410[-2]	1.020[-1]	2.000[-1]	3.750[-1]
6	8	8.890[-4]	2.180[-3]	5.530[-3]	1.460[-2]	2.910[-2]
6	9	1.100[-5]	4.390[-5]	1.860[-4]	7.270[-4]	1.770[-3]
6	10	1.300[-8]	1.410[-7]	2.240[-6]	2.710[-5]	1.020[-4]
7	8	5.530[-2]	1.080[-1]	1.870[-1]	3.270[-1]	5.330[-1]
7	9	8.570[-4]	2.250[-3]	5.790[-3]	1.560[-2]	3.160[-2]
7	10	6.360[-6]	2.810[-5]	1.230[-4]	5.270[-4]	1.380[-3]
8	9	5.730[-2]	1.190[-1]	2.120[-1]	3.700[-1]	5.890[-1]
8	10	4.440[-4]	1.440[-3]	3.970[-3]	1.120[-2]	2.310[-2]
9	10	2.930[-2]	7.640[-2]	1.490[-1]	2.780[-1]	4.490[-1]