

**Table 5.3.14a.** The ten fine-structure  $n = 2$  levels included in the calculation (92Z1) and their calculated and observed energies in rydbergs (85S1) for Fe xxiii. The index  $i$  is used in Table 5.3.14b for transition keys.

$i$	Level	Observed	Theory	$i$	Level	Observed	Theory
1	$2s^2\ ^1S_0$	0.00000	0.00000	6	$2p^2\ ^3P_0$	8.71263	8.75346
2	$2s\ 2p\ ^3P_0^o$	3.17285	3.18393	7	$2p^2\ ^3P_1$	9.36054	9.39077
3	$2s\ 2p\ ^3P_1^o$	3.45489	3.46780	8	$2p^2\ ^3P_2$	9.76605	9.81506
4	$2s\ 2p\ ^3P_2^o$	4.29918	4.30822	9	$2p^2\ ^1D_2$	10.97348	11.05975
5	$2s\ 2p\ ^1P_1^o$	6.86038	6.98700	10	$2p^2\ ^1S_0$	12.96733	13.10207

**Table 5.3.14b.** The effective collision strengths  $\Upsilon(i, j)$  as a function of temperature  $T$ (K) for the transitions between the ten  $n = 2$  levels as specified in Table 5.3.14a for Fe XXIII (92Z1).

Levels		$T(\times 10^6 \text{ K})$							
$i$	$j$	0.05	0.25	0.5	1.25	2.5	5.0	10.0	25.0
1	2	1.17[-3]	1.28[-3]	1.31[-3]	1.29[-3]	1.23[-3]	1.11[-3]	9.36[-4]	6.52[-4]
1	3	1.04[-2]	1.06[-2]	1.06[-2]	1.08[-2]	1.10[-2]	1.13[-2]	1.17[-2]	1.23[-2]
1	4	6.20[-3]	6.47[-3]	6.51[-3]	6.36[-3]	6.02[-3]	5.42[-3]	4.55[-3]	3.16[-3]
1	5	2.94[-1]	3.00[-1]	3.05[-1]	3.16[-1]	3.31[-1]	3.56[-1]	3.91[-1]	4.54[-1]
1	6	1.22[-4]	1.22[-4]	1.21[-4]	1.18[-4]	1.12[-4]	1.04[-4]	9.39[-5]	7.92[-5]
1	7	1.79[-4]	1.79[-4]	1.76[-4]	1.66[-4]	1.52[-4]	1.31[-4]	1.04[-4]	6.65[-5]
1	8	4.37[-4]	4.36[-4]	4.34[-4]	4.28[-4]	4.19[-4]	4.06[-4]	3.93[-4]	3.82[-4]
1	9	6.14[-4]	6.16[-4]	6.18[-4]	6.27[-4]	6.40[-4]	6.62[-4]	6.98[-4]	7.65[-4]
1	10	3.54[-4]	3.53[-4]	3.53[-4]	3.51[-4]	3.48[-4]	3.43[-4]	3.37[-4]	3.27[-4]
2	3	1.53[-2]	1.53[-2]	1.51[-2]	1.44[-2]	1.33[-2]	1.17[-2]	9.57[-3]	6.43[-3]
2	4	1.00[-2]	1.00[-2]	9.94[-3]	9.76[-3]	9.49[-3]	9.11[-3]	8.69[-3]	8.23[-3]
2	5	3.17[-3]	3.41[-3]	3.45[-3]	3.35[-3]	3.13[-3]	2.74[-3]	2.23[-3]	1.48[-3]
2	6	8.90[-4]	9.08[-4]	9.06[-4]	8.79[-4]	8.29[-4]	7.44[-4]	6.23[-4]	4.31[-4]
2	7	1.41[-1]	1.43[-1]	1.46[-1]	1.51[-1]	1.58[-1]	1.71[-1]	1.87[-1]	2.17[-1]
2	8	2.42[-3]	2.44[-3]	2.43[-3]	2.35[-3]	2.21[-3]	1.99[-3]	1.66[-3]	1.15[-3]
2	9	5.32[-4]	5.34[-4]	5.30[-4]	5.12[-4]	4.82[-4]	4.32[-4]	3.62[-4]	2.51[-4]
2	10	8.25[-5]	8.22[-5]	8.12[-5]	7.78[-5]	7.26[-5]	6.43[-5]	5.29[-5]	3.56[-5]
3	4	4.05[-2]	4.05[-2]	4.01[-2]	3.89[-2]	3.70[-2]	3.42[-2]	3.07[-2]	2.59[-2]
3	5	9.64[-3]	1.05[-2]	1.07[-2]	1.04[-2]	9.79[-3]	8.72[-3]	7.29[-3]	5.21[-3]
3	6	1.50[-1]	1.52[-1]	1.54[-1]	1.59[-1]	1.68[-1]	1.81[-1]	1.99[-1]	2.30[-1]
3	7	1.07[-1]	1.09[-1]	1.11[-1]	1.15[-1]	1.20[-1]	1.29[-1]	1.41[-1]	1.62[-1]
3	8	1.85[-1]	1.88[-1]	1.91[-1]	1.98[-1]	2.07[-1]	2.22[-1]	2.43[-1]	2.80[-1]
3	9	1.07[-2]	1.09[-2]	1.10[-2]	1.12[-2]	1.15[-2]	1.19[-2]	1.24[-2]	1.36[-2]
3	10	6.84[-4]	6.87[-4]	6.86[-4]	6.81[-4]	6.71[-4]	6.55[-4]	6.37[-4]	6.19[-4]
4	5	1.39[-2]	1.68[-2]	1.75[-2]	1.74[-2]	1.64[-2]	1.45[-2]	1.18[-2]	7.96[-3]
4	6	5.47[-4]	5.67[-4]	5.70[-4]	5.56[-4]	5.27[-4]	4.75[-4]	3.99[-4]	2.78[-4]
4	7	1.90[-1]	1.91[-1]	1.94[-1]	2.00[-1]	2.11[-1]	2.28[-1]	2.50[-1]	2.87[-1]
4	8	4.11[-1]	4.17[-1]	4.24[-1]	4.39[-1]	4.61[-1]	4.96[-1]	5.45[-1]	6.30[-1]
4	9	1.39[-1]	1.42[-1]	1.44[-1]	1.48[-1]	1.54[-1]	1.64[-1]	1.78[-1]	2.03[-1]
4	10	1.74[-3]	1.74[-3]	1.72[-3]	1.66[-3]	1.56[-3]	1.39[-3]	1.15[-3]	7.88[-4]
5	6	1.25[-2]	1.00[-2]	9.26[-3]	8.92[-3]	9.23[-3]	1.01[-2]	1.12[-2]	1.31[-2]
5	7	5.81[-3]	5.98[-3]	6.03[-3]	6.07[-3]	6.10[-3]	6.15[-3]	6.20[-3]	6.26[-3]
5	8	1.66[-1]	1.58[-1]	1.56[-1]	1.59[-1]	1.67[-1]	1.82[-1]	2.03[-1]	2.36[-1]
5	9	6.52[-1]	6.48[-1]	6.53[-1]	6.74[-1]	7.10[-1]	7.70[-1]	8.52[-1]	9.80[-1]
5	10	2.41[-1]	2.45[-1]	2.49[-1]	2.58[-1]	2.71[-1]	2.92[-1]	3.21[-1]	3.72[-1]
6	7	1.62[-2]	1.62[-2]	1.60[-2]	1.53[-2]	1.42[-2]	1.25[-2]	1.03[-2]	6.93[-3]
6	8	1.52[-2]	1.52[-2]	1.51[-2]	1.47[-2]	1.42[-2]	1.33[-2]	1.24[-2]	1.11[-2]
6	9	2.00[-3]	2.76[-3]	2.97[-3]	3.00[-3]	2.83[-3]	2.49[-3]	2.02[-3]	1.34[-3]
6	10	5.50[-4]	5.83[-4]	5.86[-4]	5.63[-4]	5.18[-4]	4.47[-4]	3.55[-4]	2.26[-4]
7	8	4.50[-2]	4.49[-2]	4.44[-2]	4.29[-2]	4.05[-2]	3.70[-2]	3.24[-2]	2.58[-2]
7	9	9.34[-3]	1.88[-2]	2.15[-2]	2.27[-2]	2.19[-2]	2.00[-2]	1.70[-2]	1.27[-2]
7	10	3.25[-3]	3.55[-3]	3.60[-3]	3.49[-3]	3.24[-3]	2.81[-3]	2.26[-3]	1.46[-3]
8	9	5.83[-2]	5.81[-2]	5.77[-2]	5.58[-2]	5.31[-2]	4.89[-2]	4.35[-2]	3.62[-2]
8	10	6.85[-3]	7.35[-3]	7.45[-3]	7.35[-3]	7.05[-3]	6.56[-3]	5.94[-3]	5.15[-3]
9	10	1.96[-2]	1.96[-2]	1.95[-2]	1.95[-2]	1.95[-2]	1.96[-2]	2.00[-2]	2.11[-2]