

Table 5.3.12a. The 20 fine-structure $n = 2$ levels included in the calculation (96Z2) and their calculated and observed energies in rydbergs (85S1) for Fe XXI. The index i is used in Table 5.3.12b for transition keys.

i	Level	Observed	Theory	i	Level	Observed	Theory
1	$2p^2\ ^3P_0$	0.00000	0.00000	11	$2s\ 2p^3(2P)^3P^{\circ}_1$	8.42813	8.44762
2	$2p^2\ ^3P_1$	0.67297	0.67615	12	$2s\ 2p^3(2P)^3P^{\circ}_2$	8.58705	8.60964
3	$2p^2\ ^3P_2$	1.06940	1.07803	13	$2s\ 2p^3(4S)^3S^{\circ}_1$	9.98384	10.11770
4	$2p^2\ ^1D_2$	2.22859	2.24847	14	$2s\ 2p^3(2D)^1D^{\circ}_2$	10.26816	10.41071
5	$2p^2\ ^1S_0$	3.38900	3.35864	15	$2s\ 2p^3(2P)^1P^{\circ}_1$	11.49108	11.62571
6	$2s\ 2p^3(4S)^5S^{\circ}_2$	4.43742	4.32957	16	$2p^4\ ^3P_2$	15.00219	15.12820
7	$2s\ 2p^3(2D)^3D^{\circ}_1$	7.07854	7.10322	17	$2p^4\ ^3P_0$	15.81686	15.94688
8	$2s\ 2p^3(2D)^3D^{\circ}_2$	7.08373	7.10353	18	$2p^4\ ^3P_1$	15.86060	15.97580
9	$2s\ 2p^3(2D)^3D^{\circ}_3$	7.32595	7.34391	19	$2p^4\ ^1D_2$	16.56046	16.74414
10	$2s\ 2p^3(2P)^3P^{\circ}_0$	8.05367	8.36301	20	$2p^4\ ^1S_0$	18.66457	18.86922

Table 5.3.12b. The effective collision strengths $\Upsilon(i, j)$ as a function of temperature T (K) for the transitions between the 20 $n = 2$ levels as specified in Table 5.3.12a for Fe xxI (96Z2).

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	1.87[-2]	1.86[-2]	1.84[-2]	1.75[-2]	1.61[-2]	1.41[-2]	1.14[-2]	7.54[-3]
1	3	1.69[-2]	1.69[-2]	1.68[-2]	1.63[-2]	1.57[-2]	1.47[-2]	1.36[-2]	1.23[-2]
1	4	1.99[-3]	2.92[-3]	3.17[-3]	3.22[-3]	3.03[-3]	2.65[-3]	2.14[-3]	1.40[-3]
1	5	2.33[-4]	4.00[-4]	4.57[-4]	4.78[-4]	4.50[-4]	3.92[-4]	3.12[-4]	1.98[-4]
1	6	2.76[-3]	3.03[-3]	3.11[-3]	3.07[-3]	2.91[-3]	2.62[-3]	2.18[-3]	1.49[-3]
1	7	1.76[-1]	1.76[-1]	1.77[-1]	1.83[-1]	1.91[-1]	2.05[-1]	2.24[-1]	2.58[-1]
1	8	2.62[-3]	2.68[-3]	2.68[-3]	2.60[-3]	2.45[-3]	2.19[-3]	1.82[-3]	1.25[-3]
1	10	7.81[-5]	7.89[-5]	7.85[-5]	7.55[-5]	7.06[-5]	6.27[-5]	5.16[-5]	3.48[-5]
1	11	3.50[-2]	3.52[-2]	3.55[-2]	3.67[-2]	3.83[-2]	4.10[-2]	4.50[-2]	5.19[-2]
1	12	4.95[-4]	5.00[-4]	4.97[-4]	4.80[-4]	4.51[-4]	4.02[-4]	3.34[-4]	2.28[-4]
1	13	4.59[-2]	4.62[-2]	4.67[-2]	4.81[-2]	5.01[-2]	5.35[-2]	5.85[-2]	6.75[-2]
1	14	6.23[-4]	6.23[-4]	6.17[-4]	5.93[-4]	5.57[-4]	4.97[-4]	4.14[-4]	2.83[-4]
1	15	1.46[-4]	1.46[-4]	1.45[-4]	1.43[-4]	1.40[-4]	1.37[-4]	1.32[-4]	1.27[-4]
1	16	2.62[-4]	2.62[-4]	2.61[-4]	2.60[-4]	2.59[-4]	2.58[-4]	2.60[-4]	2.69[-4]
1	17	1.16[-4]	1.13[-4]	1.12[-4]	1.09[-4]	1.06[-4]	1.02[-4]	9.64[-5]	8.94[-5]
1	18	6.31[-6]	6.21[-6]	6.08[-6]	5.70[-6]	5.19[-6]	4.43[-6]	3.47[-6]	2.18[-6]
1	19	2.49[-5]	2.45[-5]	2.40[-5]	2.25[-5]	2.05[-5]	1.75[-5]	1.37[-5]	8.66[-6]
1	20	6.51[-6]	6.20[-6]	5.98[-6]	5.66[-6]	5.35[-6]	4.92[-6]	4.38[-6]	3.68[-6]
2	3	5.09[-2]	5.09[-2]	5.05[-2]	4.86[-2]	4.56[-2]	4.12[-2]	3.56[-2]	2.79[-2]
2	4	2.94[-2]	2.93[-2]	2.90[-2]	2.76[-2]	2.57[-2]	2.27[-2]	1.89[-2]	1.36[-2]
2	5	3.39[-3]	4.28[-3]	4.51[-3]	4.48[-3]	4.17[-3]	3.62[-3]	2.88[-3]	1.85[-3]
2	6	1.32[-2]	1.36[-2]	1.38[-2]	1.40[-2]	1.39[-2]	1.38[-2]	1.36[-2]	1.34[-2]
2	7	2.08[-2]	2.05[-2]	2.06[-2]	2.10[-2]	2.16[-2]	2.26[-2]	2.40[-2]	2.64[-2]
2	8	3.45[-1]	3.38[-1]	3.38[-1]	3.48[-1]	3.65[-1]	3.91[-1]	4.29[-1]	4.91[-1]
2	9	2.52[-3]	2.60[-3]	2.61[-3]	2.54[-3]	2.40[-3]	2.15[-3]	1.79[-3]	1.22[-3]
2	10	8.69[-2]	8.70[-2]	8.78[-2]	9.06[-2]	9.47[-2]	1.01[-1]	1.11[-1]	1.28[-1]
2	11	1.76[-1]	1.77[-1]	1.78[-1]	1.84[-1]	1.92[-1]	2.06[-1]	2.26[-1]	2.60[-1]
2	12	8.39[-3]	8.42[-3]	8.49[-3]	8.68[-3]	8.94[-3]	9.37[-3]	1.00[-2]	1.12[-2]
2	13	1.54[-1]	1.55[-1]	1.56[-1]	1.61[-1]	1.68[-1]	1.79[-1]	1.96[-1]	2.25[-1]
2	14	6.39[-3]	6.43[-3]	6.44[-3]	6.43[-3]	6.40[-3]	6.35[-3]	6.31[-3]	6.32[-3]
2	15	1.85[-2]	1.86[-2]	1.88[-2]	1.93[-2]	2.00[-2]	2.13[-2]	2.32[-2]	2.66[-2]
2	16	5.56[-4]	5.55[-4]	5.55[-4]	5.54[-4]	5.55[-4]	5.58[-4]	5.67[-4]	5.95[-4]
2	17	4.56[-5]	4.49[-5]	4.40[-5]	4.13[-5]	3.75[-5]	3.20[-5]	2.51[-5]	1.57[-5]
2	18	4.84[-4]	4.83[-4]	4.81[-4]	4.76[-4]	4.69[-4]	4.60[-4]	4.50[-4]	4.42[-4]
2	19	1.82[-4]	1.80[-4]	1.77[-4]	1.69[-4]	1.58[-4]	1.42[-4]	1.22[-4]	9.73[-5]
2	20	1.74[-5]	1.72[-5]	1.68[-5]	1.57[-5]	1.43[-5]	1.22[-5]	9.60[-6]	6.03[-6]
3	4	6.50[-2]	6.48[-2]	6.42[-2]	6.19[-2]	5.84[-2]	5.31[-2]	4.66[-2]	3.78[-2]
3	5	5.85[-3]	7.50[-3]	7.94[-3]	8.00[-3]	7.65[-3]	6.99[-3]	6.13[-3]	5.01[-3]
3	6	1.71[-2]	1.79[-2]	1.82[-2]	1.84[-2]	1.84[-2]	1.83[-2]	1.81[-2]	1.79[-2]
3	7	2.83[-3]	2.84[-3]	2.85[-3]	2.86[-3]	2.88[-3]	2.89[-3]	2.91[-3]	2.96[-3]
3	8	4.82[-3]	5.01[-3]	5.05[-3]	4.95[-3]	4.69[-3]	4.25[-3]	3.61[-3]	2.61[-3]
3	9	3.57[-1]	3.50[-1]	3.51[-1]	3.60[-1]	3.76[-1]	4.02[-1]	4.39[-1]	5.00[-1]
3	10	1.15[-3]	1.18[-3]	1.18[-3]	1.14[-3]	1.07[-3]	9.55[-4]	7.92[-4]	5.39[-4]
3	11	4.34[-2]	4.34[-2]	4.38[-2]	4.51[-2]	4.69[-2]	4.98[-2]	5.41[-2]	6.15[-2]
3	12	4.21[-1]	4.21[-1]	4.25[-1]	4.39[-1]	4.59[-1]	4.91[-1]	5.38[-1]	6.20[-1]
3	13	4.16[-1]	4.18[-1]	4.23[-1]	4.36[-1]	4.55[-1]	4.87[-1]	5.34[-1]	6.16[-1]
3	14	8.94[-2]	9.00[-2]	9.09[-2]	9.34[-2]	9.70[-2]	1.03[-1]	1.12[-1]	1.28[-1]
3	15	3.77[-3]	3.77[-3]	3.75[-3]	3.67[-3]	3.55[-3]	3.36[-3]	3.10[-3]	2.73[-3]
3	16	1.02[-3]	1.03[-3]	1.03[-3]	1.02[-3]	1.01[-3]	9.89[-4]	9.74[-4]	9.69[-4]
3	17	1.79[-4]	1.80[-4]	1.81[-4]	1.86[-4]	1.93[-4]	2.04[-4]	2.21[-4]	2.51[-4]

Table 5.3.12b. (continued)

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
3	18	3.67[-4]	3.68[-4]	3.69[-4]	3.73[-4]	3.80[-4]	3.92[-4]	4.12[-4]	4.51[-4]
3	19	6.61[-4]	6.53[-4]	6.44[-4]	6.24[-4]	5.99[-4]	5.63[-4]	5.20[-4]	4.66[-4]
3	20	4.77[-5]	4.70[-5]	4.61[-5]	4.35[-5]	4.00[-5]	3.49[-5]	2.85[-5]	2.00[-5]
4	5	2.03[-2]	2.12[-2]	2.14[-2]	2.15[-2]	2.15[-2]	2.16[-2]	2.20[-2]	2.33[-2]
4	6	2.59[-3]	2.81[-3]	2.89[-3]	2.95[-3]	2.97[-3]	2.97[-3]	2.95[-3]	2.91[-3]
4	7	1.45[-2]	1.45[-2]	1.45[-2]	1.47[-2]	1.49[-2]	1.52[-2]	1.56[-2]	1.64[-2]
4	8	1.01[-2]	1.05[-2]	1.06[-2]	1.06[-2]	1.03[-2]	9.84[-3]	9.11[-3]	7.99[-3]
4	9	1.15[-1]	1.12[-1]	1.12[-1]	1.14[-1]	1.18[-1]	1.25[-1]	1.36[-1]	1.53[-1]
4	10	2.62[-4]	2.73[-4]	2.76[-4]	2.69[-4]	2.53[-4]	2.26[-4]	1.88[-4]	1.28[-4]
4	11	9.88[-3]	9.83[-3]	9.86[-3]	1.00[-2]	1.02[-2]	1.05[-2]	1.09[-2]	1.15[-2]
4	12	1.72[-2]	1.73[-2]	1.74[-2]	1.74[-2]	1.73[-2]	1.71[-2]	1.68[-2]	1.63[-2]
4	13	3.51[-3]	3.53[-3]	3.55[-3]	3.62[-3]	3.71[-3]	3.86[-3]	4.09[-3]	4.49[-3]
4	14	7.30[-1]	7.32[-1]	7.40[-1]	7.63[-1]	7.97[-1]	8.54[-1]	9.36[-1]	1.08
4	15	4.05[-1]	4.08[-1]	4.12[-1]	4.25[-1]	4.44[-1]	4.74[-1]	5.20[-1]	6.00[-1]
4	16	5.77[-4]	5.86[-4]	5.88[-4]	5.78[-4]	5.56[-4]	5.21[-4]	4.77[-4]	4.16[-4]
4	17	6.96[-5]	6.86[-5]	6.73[-5]	6.34[-5]	5.80[-5]	5.02[-5]	4.04[-5]	2.73[-5]
4	18	3.74[-4]	3.71[-4]	3.66[-4]	3.53[-4]	3.35[-4]	3.10[-4]	2.80[-4]	2.43[-4]
4	19	1.40[-3]	1.41[-3]	1.42[-3]	1.44[-3]	1.47[-3]	1.52[-3]	1.60[-3]	1.75[-3]
4	20	1.89[-4]	1.90[-4]	1.90[-4]	1.91[-4]	1.94[-4]	1.99[-4]	2.07[-4]	2.24[-4]
5	6	2.17[-5]	2.17[-5]	2.15[-5]	2.07[-5]	1.93[-5]	1.72[-5]	1.42[-5]	9.55[-6]
5	7	6.48[-3]	6.11[-3]	6.04[-3]	6.15[-3]	6.43[-3]	6.91[-3]	7.63[-3]	8.83[-3]
5	8	1.87[-4]	2.09[-4]	2.15[-4]	2.14[-4]	2.04[-4]	1.84[-4]	1.53[-4]	1.06[-4]
5	10	1.28[-3]	1.37[-3]	1.39[-3]	1.36[-3]	1.29[-3]	1.16[-3]	9.69[-4]	6.66[-4]
5	11	1.02[-2]	1.01[-2]	1.02[-2]	1.03[-2]	1.05[-2]	1.07[-2]	1.11[-2]	1.18[-2]
5	12	3.32[-3]	3.51[-3]	3.56[-3]	3.49[-3]	3.30[-3]	2.96[-3]	2.47[-3]	1.70[-3]
5	13	1.25[-2]	1.23[-2]	1.23[-2]	1.27[-2]	1.32[-2]	1.41[-2]	1.54[-2]	1.76[-2]
5	14	7.60[-4]	7.79[-4]	7.81[-4]	7.59[-4]	7.15[-4]	6.40[-4]	5.33[-4]	3.66[-4]
5	15	1.61[-1]	1.62[-1]	1.63[-1]	1.68[-1]	1.76[-1]	1.88[-1]	2.07[-1]	2.38[-1]
5	16	2.02[-5]	2.00[-5]	1.96[-5]	1.84[-5]	1.68[-5]	1.44[-5]	1.14[-5]	7.37[-6]
5	17	5.11[-5]	5.14[-5]	5.12[-5]	4.97[-5]	4.71[-5]	4.30[-5]	3.80[-5]	3.10[-5]
5	18	5.71[-5]	5.64[-5]	5.52[-5]	5.18[-5]	4.71[-5]	4.02[-5]	3.15[-5]	1.97[-5]
5	19	1.87[-4]	1.87[-4]	1.88[-4]	1.91[-4]	1.96[-4]	2.04[-4]	2.17[-4]	2.40[-4]
5	20	2.81[-4]	2.87[-4]	2.90[-4]	2.91[-4]	2.89[-4]	2.85[-4]	2.80[-4]	2.71[-4]
6	7	1.33[-2]	1.62[-2]	1.69[-2]	1.68[-2]	1.57[-2]	1.38[-2]	1.11[-2]	7.36[-3]
6	8	1.95[-2]	2.54[-2]	2.70[-2]	2.72[-2]	2.56[-2]	2.25[-2]	1.84[-2]	1.25[-2]
6	9	2.50[-2]	3.38[-2]	3.65[-2]	3.72[-2]	3.52[-2]	3.12[-2]	2.57[-2]	1.76[-2]
6	10	3.19[-3]	3.44[-3]	3.48[-3]	3.34[-3]	3.06[-3]	2.62[-3]	2.05[-3]	1.29[-3]
6	11	1.01[-2]	1.09[-2]	1.10[-2]	1.05[-2]	9.68[-3]	8.30[-3]	6.55[-3]	4.15[-3]
6	12	1.55[-2]	1.69[-2]	1.72[-2]	1.66[-2]	1.53[-2]	1.31[-2]	1.04[-2]	6.61[-3]
6	13	1.44[-3]	1.48[-3]	1.48[-3]	1.42[-3]	1.32[-3]	1.16[-3]	9.52[-4]	6.47[-4]
6	14	3.14[-4]	3.24[-4]	3.24[-4]	3.08[-4]	2.82[-4]	2.41[-4]	1.89[-4]	1.19[-4]
6	15	1.12[-4]	1.13[-4]	1.11[-4]	1.06[-4]	9.86[-5]	8.67[-5]	7.13[-5]	4.88[-5]
6	16	1.91[-2]	1.91[-2]	1.91[-2]	1.89[-2]	1.87[-2]	1.83[-2]	1.79[-2]	1.74[-2]
6	17	1.80[-3]	1.79[-3]	1.77[-3]	1.69[-3]	1.58[-3]	1.41[-3]	1.17[-3]	7.92[-4]
6	18	5.70[-3]	5.67[-3]	5.61[-3]	5.43[-3]	5.16[-3]	4.73[-3]	4.14[-3]	3.25[-3]
6	19	5.27[-4]	5.24[-4]	5.20[-4]	5.10[-4]	4.96[-4]	4.75[-4]	4.47[-4]	4.11[-4]
6	20	2.35[-5]	2.32[-5]	2.28[-5]	2.18[-5]	2.04[-5]	1.81[-5]	1.51[-5]	1.03[-5]
7	8	3.79[-2]	3.77[-2]	3.73[-2]	3.54[-2]	3.26[-2]	2.84[-2]	2.29[-2]	1.52[-2]
7	9	9.54[-3]	9.52[-3]	9.43[-3]	9.12[-3]	8.67[-3]	8.00[-3]	7.19[-3]	6.13[-3]
7	10	3.01[-3]	3.00[-3]	2.96[-3]	2.81[-3]	2.58[-3]	2.24[-3]	1.79[-3]	1.17[-3]

Table 5.3.12b. (continued)

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
7	11	1.02[-2]	1.81[-2]	2.02[-2]	2.14[-2]	2.13[-2]	2.06[-2]	1.96[-2]	1.84[-2]
7	12	7.13[-3]	1.15[-2]	1.27[-2]	1.35[-2]	1.34[-2]	1.30[-2]	1.25[-2]	1.19[-2]
7	13	4.20[-3]	5.01[-3]	5.23[-3]	5.22[-3]	4.95[-3]	4.46[-3]	3.81[-3]	2.90[-3]
7	14	6.11[-3]	7.92[-3]	8.48[-3]	8.55[-3]	8.05[-3]	7.10[-3]	5.78[-3]	3.85[-3]
7	15	1.66[-3]	1.97[-3]	2.06[-3]	2.03[-3]	1.89[-3]	1.63[-3]	1.30[-3]	8.25[-4]
7	16	6.25[-2]	6.27[-2]	6.33[-2]	6.51[-2]	6.76[-2]	7.18[-2]	7.79[-2]	8.85[-2]
7	17	8.74[-2]	8.79[-2]	8.89[-2]	9.16[-2]	9.56[-2]	1.02[-1]	1.12[-1]	1.29[-1]
7	18	1.08[-1]	1.09[-1]	1.10[-1]	1.13[-1]	1.18[-1]	1.26[-1]	1.38[-1]	1.59[-1]
7	19	2.91[-3]	2.92[-3]	2.89[-3]	2.79[-3]	2.62[-3]	2.35[-3]	1.97[-3]	1.38[-3]
7	20	2.20[-4]	2.21[-4]	2.22[-4]	2.25[-4]	2.30[-4]	2.39[-4]	2.53[-4]	2.80[-4]
8	9	5.42[-2]	5.41[-2]	5.36[-2]	5.15[-2]	4.81[-2]	4.30[-2]	3.66[-2]	2.78[-2]
8	10	1.53[-2]	1.65[-2]	1.68[-2]	1.70[-2]	1.69[-2]	1.70[-2]	1.72[-2]	1.79[-2]
8	11	3.67[-3]	6.30[-3]	7.03[-3]	7.45[-3]	7.44[-3]	7.26[-3]	7.00[-3]	6.73[-3]
8	12	1.06[-2]	1.95[-2]	2.20[-2]	2.34[-2]	2.32[-2]	2.21[-2]	2.07[-2]	1.89[-2]
8	13	4.83[-3]	6.28[-3]	6.71[-3]	6.75[-3]	6.34[-3]	5.58[-3]	4.54[-3]	3.05[-3]
8	14	1.41[-2]	1.66[-2]	1.73[-2]	1.72[-2]	1.62[-2]	1.44[-2]	1.20[-2]	8.47[-3]
8	15	3.93[-3]	4.15[-3]	4.16[-3]	3.99[-3]	3.67[-3]	3.16[-3]	2.51[-3]	1.61[-3]
8	16	2.38[-1]	2.39[-1]	2.41[-1]	2.49[-1]	2.59[-1]	2.77[-1]	3.02[-1]	3.47[-1]
8	17	8.21[-4]	8.28[-4]	8.22[-4]	7.92[-4]	7.42[-4]	6.60[-4]	5.46[-4]	3.70[-4]
8	18	1.60[-1]	1.61[-1]	1.63[-1]	1.68[-1]	1.75[-1]	1.87[-1]	2.04[-1]	2.35[-1]
8	19	1.24[-2]	1.25[-2]	1.25[-2]	1.25[-2]	1.24[-2]	1.24[-2]	1.23[-2]	1.25[-2]
8	20	2.09[-4]	2.07[-4]	2.03[-4]	1.95[-4]	1.82[-4]	1.61[-4]	1.33[-4]	9.03[-5]
9	11	2.07[-2]	2.34[-2]	2.41[-2]	2.44[-2]	2.44[-2]	2.44[-2]	2.47[-2]	2.57[-2]
9	12	3.30[-2]	4.55[-2]	4.88[-2]	5.07[-2]	5.06[-2]	4.98[-2]	4.90[-2]	4.87[-2]
9	13	7.27[-3]	8.69[-3]	9.04[-3]	8.96[-3]	8.42[-3]	7.47[-3]	6.21[-3]	4.43[-3]
9	14	2.50[-2]	2.90[-2]	3.01[-2]	2.98[-2]	2.81[-2]	2.51[-2]	2.10[-2]	1.53[-2]
9	15	6.37[-3]	6.77[-3]	6.81[-3]	6.53[-3]	6.00[-3]	5.15[-3]	4.08[-3]	2.61[-3]
9	16	5.55[-1]	5.56[-1]	5.61[-1]	5.79[-1]	6.04[-1]	6.47[-1]	7.08[-1]	8.15[-1]
9	18	2.03[-3]	2.05[-3]	2.04[-3]	1.97[-3]	1.85[-3]	1.65[-3]	1.37[-3]	9.29[-4]
9	19	6.68[-2]	6.72[-2]	6.77[-2]	6.89[-2]	7.06[-2]	7.34[-2]	7.76[-2]	8.54[-2]
10	11	1.48[-2]	1.48[-2]	1.46[-2]	1.39[-2]	1.28[-2]	1.12[-2]	9.03[-3]	5.97[-3]
10	12	6.89[-3]	6.88[-3]	6.82[-3]	6.64[-3]	6.37[-3]	6.00[-3]	5.56[-3]	5.05[-3]
10	13	1.91[-3]	1.91[-3]	1.89[-3]	1.80[-3]	1.65[-3]	1.43[-3]	1.14[-3]	7.37[-4]
10	14	8.51[-4]	1.52[-3]	1.71[-3]	1.76[-3]	1.66[-3]	1.45[-3]	1.15[-3]	7.48[-4]
10	15	1.34[-3]	2.00[-3]	2.22[-3]	2.30[-3]	2.18[-3]	1.93[-3]	1.57[-3]	1.04[-3]
10	16	1.60[-4]	1.65[-4]	1.66[-4]	1.61[-4]	1.52[-4]	1.36[-4]	1.13[-4]	7.76[-5]
10	17	8.53[-4]	8.68[-4]	8.67[-4]	8.40[-4]	7.90[-4]	7.06[-4]	5.87[-4]	4.02[-4]
10	18	5.94[-2]	5.94[-2]	6.00[-2]	6.19[-2]	6.46[-2]	6.92[-2]	7.59[-2]	8.73[-2]
10	19	1.70[-3]	1.72[-3]	1.71[-3]	1.66[-3]	1.56[-3]	1.39[-3]	1.16[-3]	7.92[-4]
10	20	2.78[-4]	2.77[-4]	2.73[-4]	2.62[-4]	2.44[-4]	2.17[-4]	1.78[-4]	1.20[-4]
11	12	2.98[-2]	2.97[-2]	2.93[-2]	2.79[-2]	2.57[-2]	2.23[-2]	1.80[-2]	1.18[-2]
11	13	3.46[-3]	3.46[-3]	3.44[-3]	3.28[-3]	3.01[-3]	2.62[-3]	2.11[-3]	1.38[-3]
11	14	8.53[-3]	8.51[-3]	8.40[-3]	7.95[-3]	7.26[-3]	6.24[-3]	4.95[-3]	3.17[-3]
11	15	6.69[-3]	8.12[-3]	8.52[-3]	8.48[-3]	7.97[-3]	7.05[-3]	5.82[-3]	4.06[-3]
11	16	1.19[-1]	1.17[-1]	1.17[-1]	1.21[-1]	1.26[-1]	1.36[-1]	1.49[-1]	1.71[-1]
11	17	8.31[-2]	8.31[-2]	8.38[-2]	8.64[-2]	9.03[-2]	9.66[-2]	1.06[-1]	1.22[-1]
11	18	4.64[-3]	4.70[-3]	4.71[-3]	4.64[-3]	4.51[-3]	4.28[-3]	3.97[-3]	3.50[-3]
11	19	2.20[-2]	2.22[-2]	2.23[-2]	2.28[-2]	2.34[-2]	2.43[-2]	2.58[-2]	2.83[-2]
11	20	6.83[-3]	6.87[-3]	6.93[-3]	7.06[-3]	7.25[-3]	7.57[-3]	8.07[-3]	8.99[-3]
12	13	6.61[-3]	6.60[-3]	6.52[-3]	6.20[-3]	5.70[-3]	4.96[-3]	4.00[-3]	2.68[-3]

Table 5.3.12b. (continued)

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
12	14	1.78[-2]	1.78[-2]	1.76[-2]	1.67[-2]	1.53[-2]	1.33[-2]	1.08[-2]	7.24[-3]
12	15	1.32[-2]	1.52[-2]	1.57[-2]	1.54[-2]	1.45[-2]	1.29[-2]	1.09[-2]	7.95[-3]
12	16	1.29[-1]	1.26[-1]	1.26[-1]	1.30[-1]	1.36[-1]	1.45[-1]	1.59[-1]	1.80[-1]
12	17	2.76[-4]	2.81[-4]	2.81[-4]	2.73[-4]	2.57[-4]	2.30[-4]	1.92[-4]	1.32[-4]
12	18	2.25[-1]	2.24[-1]	2.26[-1]	2.33[-1]	2.44[-1]	2.61[-1]	2.86[-1]	3.29[-1]
12	19	4.44[-2]	4.46[-2]	4.50[-2]	4.60[-2]	4.74[-2]	4.96[-2]	5.29[-2]	5.88[-2]
12	20	3.54[-3]	3.54[-3]	3.50[-3]	3.36[-3]	3.14[-3]	2.80[-3]	2.31[-3]	1.57[-3]
13	14	3.39[-2]	3.39[-2]	3.36[-2]	3.24[-2]	3.05[-2]	2.78[-2]	2.44[-2]	1.99[-2]
13	15	1.55[-2]	1.55[-2]	1.53[-2]	1.45[-2]	1.33[-2]	1.15[-2]	9.20[-3]	5.96[-3]
13	16	5.25[-1]	5.06[-1]	5.04[-1]	5.17[-1]	5.41[-1]	5.81[-1]	6.40[-1]	7.37[-1]
13	17	1.76[-1]	1.72[-1]	1.71[-1]	1.76[-1]	1.85[-1]	1.99[-1]	2.18[-1]	2.51[-1]
13	18	3.91[-1]	3.81[-1]	3.80[-1]	3.91[-1]	4.10[-1]	4.40[-1]	4.84[-1]	5.55[-1]
13	19	1.25[-3]	1.27[-3]	1.27[-3]	1.26[-3]	1.24[-3]	1.19[-3]	1.11[-3]	1.01[-3]
13	20	1.47[-2]	1.48[-2]	1.50[-2]	1.55[-2]	1.61[-2]	1.73[-2]	1.89[-2]	2.18[-2]
14	15	4.39[-2]	4.59[-2]	4.64[-2]	4.66[-2]	4.67[-2]	4.70[-2]	4.79[-2]	5.03[-2]
14	16	7.70[-2]	7.43[-2]	7.39[-2]	7.56[-2]	7.89[-2]	8.43[-2]	9.23[-2]	1.06[-1]
14	17	9.55[-4]	1.01[-3]	1.02[-3]	1.00[-3]	9.45[-4]	8.46[-4]	7.03[-4]	4.80[-4]
14	18	1.43[-2]	1.41[-2]	1.41[-2]	1.44[-2]	1.47[-2]	1.52[-2]	1.60[-2]	1.73[-2]
14	19	1.29	1.26	1.27	1.30	1.36	1.47	1.61	1.85
14	20	7.70[-4]	7.78[-4]	7.74[-4]	7.47[-4]	7.00[-4]	6.24[-4]	5.16[-4]	3.51[-4]
15	16	2.86[-2]	2.70[-2]	2.67[-2]	2.72[-2]	2.83[-2]	3.02[-2]	3.32[-2]	3.81[-2]
15	17	9.24[-4]	1.00[-3]	1.03[-3]	1.02[-3]	9.79[-4]	8.98[-4]	7.80[-4]	5.94[-4]
15	18	5.48[-2]	5.25[-2]	5.22[-2]	5.33[-2]	5.55[-2]	5.94[-2]	6.50[-2]	7.44[-2]
15	19	3.63[-1]	3.51[-1]	3.49[-1]	3.58[-1]	3.75[-1]	4.03[-1]	4.44[-1]	5.11[-1]
15	20	3.75[-1]	3.74[-1]	3.77[-1]	3.89[-1]	4.07[-1]	4.36[-1]	4.79[-1]	5.52[-1]
16	17	1.26[-2]	1.25[-2]	1.25[-2]	1.22[-2]	1.18[-2]	1.12[-2]	1.07[-2]	1.01[-2]
16	18	4.22[-2]	4.21[-2]	4.17[-2]	4.03[-2]	3.81[-2]	3.49[-2]	3.09[-2]	2.56[-2]
16	19	5.02[-2]	5.00[-2]	4.95[-2]	4.74[-2]	4.42[-2]	3.94[-2]	3.34[-2]	2.52[-2]
16	20	3.76[-3]	4.10[-3]	4.15[-3]	4.02[-3]	3.72[-3]	3.24[-3]	2.63[-3]	1.82[-3]
17	18	1.63[-2]	1.62[-2]	1.60[-2]	1.53[-2]	1.41[-2]	1.23[-2]	1.00[-2]	6.67[-3]
17	19	1.18[-2]	1.18[-2]	1.17[-2]	1.11[-2]	1.03[-2]	9.09[-3]	7.52[-3]	5.32[-3]
17	20	1.48[-3]	1.48[-3]	1.46[-3]	1.38[-3]	1.26[-3]	1.07[-3]	8.41[-4]	5.26[-4]
18	19	3.81[-2]	3.81[-2]	3.77[-2]	3.60[-2]	3.32[-2]	2.90[-2]	2.36[-2]	1.59[-2]
18	20	5.36[-3]	6.49[-3]	6.76[-3]	6.67[-3]	6.19[-3]	5.35[-3]	4.25[-3]	2.71[-3]
19	20	2.27[-2]	2.24[-2]	2.22[-2]	2.21[-2]	2.22[-2]	2.25[-2]	2.31[-2]	2.47[-2]