Istituto Nazionale di Fisica Nucleare
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A. Cambi[x] and V. R. Manfredi: NUMERICAL EVALUATION OF THE STATIC QUADRUPOLE MOMENT OF THE FIRST EXCITED STATE Q_2 AND OF DEFORMATION PARAMETER β_{eff} IN THE DAVYDOV AND FILIPPOV MODEL.

In the Davydov and Filippov model[1] the static quadrupole moment Q_2 of the first excited state is related to the asymmetry parameter γ by means of the equation:

$$(*) \qquad Q_2 = - Q_o \frac{6\cos 3\gamma}{7\sqrt{9-8\ \mathrm{sen}^2 3\gamma}}$$

where Q_o is the intrinsic quadrupole moment.

As recently the Q_2 value of some nuclei has been measured[2] by means of Coulomb excitation and a good agreement with the theoretical value predicted by (*) has been found (3), we have evaluated the Q_2/Q_o ratio in the γ range $(0 \div 30)^o$.

We have also evaluated the deformation parameter β_{eff} of the first excited state in the case of an asymmetrical rotor for different values of γ according to the relation:

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2.

$$\beta_{eff} = \beta \sqrt{\frac{4 \operatorname{sen}^2 3\gamma}{9 - \sqrt{81 - 72 \operatorname{sen}^2 3\gamma}}}$$

In Table II the values of some reduced transition probabilities in $Q_o^2/16_\pi$ units are reported.

As it is known from the Mallmann and Kerman model[4], the energy of the n-th level with spin I is given by

$$E(^nI) = A(\beta)\, \varepsilon(^nI) \left[1 - b\, \varepsilon(^nI)\right]$$

Therefore, in Table III the quantities $\varepsilon(^nI)$ (eigenvalues of asymmetric rotor hamiltonian)[1] and $\left[1 - b\,\varepsilon(^nI)\right]$ are reported for I = 2, 3, 4, 5; for b the value 1.123×10^{-2} has been assumed. The quantity $\left[1 - b\,\varepsilon(^nI)\right]$ keeps into account the rotation-vibration coupling in first approximation[3, 4]. Our b value is the same used by Mukherjee, Shastry and Rustgi[5] and is slightly different from that used by Mallmann and Kerman, which assumed $b = 10^{-2}$.

The calculations were performed with the IBM 1620 Computer of the University of Florence.

REFERENCES -

(1) - A. S. Davydov and F. G. Filippov, Nuclear Phys. 8, 237 (1958).
(2) - J. de Boer and H. Eichler, Advances in Nuclear Phys. 1 (1968).
(3) - A. S. Davydov and A. A. Chaban, Nuclear Phys. 16, 105 (1960).
A. S. Davydov, Proc. Intern. Conf. on Nuclear Structure, Tokyo (1967) pag. 133;
A. S. Davydov, Nuclear Deformability and Quadrupole Moments, (Kiev, 1968).
(4) - C. A. Mallmann and A. K. Kerman, Nuclear Phys. 16, 105 (1960).
(5) - S. N. Mukherjee, S. Shastry and M. L. Rustgi, Nuovo Cimento 57B, 25 (1968).

TABLE I

GAMMA	Q_2/Q_0	β_{eff}/β	GAMMA	Q_2/Q_0	β_{eff}/β
0 10	-2.85E-01	9.99E-01			
0 20	-2.85E-01	9.99E-01	10 10	-2.80E-01	9.69E-01
0 30	-2.85E-01	9.99E-01	10 20	-2.80E-01	9.68E-01
0 40	-2.85E-01	9.99E-01	10 30	-2.79E-01	9.67E-01
0 50	-2.85E-01	9.99E-01	10 40	-2.79E-01	9.65E-01
1 0	-2.85E-01	9.99E-01	10 50	-2.79E-01	9.64E-01
1 10	-2.85E-01	9.99E-01	11 0	-2.79E-01	9.63E-01
1 20	-2.85E-01	9.99E-01	11 10	-2.79E-01	9.62E-01
1 30	-2.85E-01	9.99E-01	11 20	-2.78E-01	9.61E-01
1 40	-2.85E-01	9.99E-01	11 30	-2.78E-01	9.60E-01
1 50	-2.85E-01	9.98E-01	11 40	-2.78E-01	9.59E-01
2 0	-2.85E-01	9.98E-01	11 50	-2.77E-01	9.58E-01
2 10	-2.85E-01	9.98E-01	12 0	-2.77E-01	9.57E-01
2 20	-2.85E-01	9.98E-01	12 10	-2.77E-01	9.56E-01
2 30	-2.85E-01	9.98E-01	12 20	-2.77E-01	9.54E-01
2 40	-2.85E-01	9.97E-01	12 30	-2.76E-01	9.53E-01
2 50	-2.85E-01	9.97E-01	12 40	-2.76E-01	9.52E-01
3 0	-2.85E-01	9.97E-01	12 50	-2.76E-01	9.51E-01
3 10	-2.85E-01	9.96E-01	13 0	-2.75E-01	9.49E-01
3 20	-2.85E-01	9.96E-01	13 10	-2.75E-01	9.48E-01
3 30	-2.85E-01	9.96E-01	13 20	-2.75E-01	9.47E-01
3 40	-2.85E-01	9.95E-01	13 30	-2.74E-01	9.46E-01
3 50	-2.85E-01	9.95E-01	13 40	-2.74E-01	9.44E-01
4 0	-2.84E-01	9.95E-01	13 50	-2.74E-01	9.43E-01
4 10	-2.84E-01	9.94E-01	14 0	-2.73E-01	9.42E-01
4 20	-2.84E-01	9.94E-01	14 10	-2.73E-01	9.40E-01
4 30	-2.84E-01	9.93E-01	14 20	-2.72E-01	9.39E-01
4 40	-2.84E-01	9.93E-01	14 30	-2.72E-01	9.38E-01
4 50	-2.84E-01	9.92E-01	14 40	-2.71E-01	9.36E-01
5 0	-2.84E-01	9.92E-01	14 50	-2.71E-01	9.35E-01
5 10	-2.84E-01	9.91E-01	15 0	-2.71E-01	9.34E-01
5 20	-2.84E-01	9.91E-01	15 10	-2.70E-01	9.32E-01
5 30	-2.84E-01	9.90E-01	15 20	-2.70E-01	9.31E-01
5 40	-2.84E-01	9.90E-01	15 30	-2.69E-01	9.29E-01
5 50	-2.84E-01	9.89E-01	15 40	-2.69E-01	9.28E-01
6 0	-2.84E-01	9.89E-01	15 50	-2.68E-01	9.27E-01
6 10	-2.83E-01	9.88E-01	16 0	-2.67E-01	9.25E-01
6 20	-2.83E-01	9.87E-01	16 10	-2.67E-01	9.24E-01
6 30	-2.83E-01	9.87E-01	16 20	-2.66E-01	9.22E-01
6 40	-2.83E-01	9.86E-01	16 30	-2.66E-01	9.21E-01
6 50	-2.83E-01	9.85E-01	16 40	-2.65E-01	9.19E-01
7 0	-2.83E-01	9.85E-01	16 50	-2.64E-01	9.18E-01
7 10	-2.83E-01	9.84E-01	17 0	-2.64E-01	9.16E-01
7 20	-2.83E-01	9.83E-01	17 10	-2.63E-01	9.15E-01
7 30	-2.83E-01	9.83E-01	17 20	-2.62E-01	9.13E-01
7 40	-2.82E-01	9.82E-01	17 30	-2.62E-01	9.12E-01
7 50	-2.82E-01	9.81E-01	17 40	-2.61E-01	9.10E-01
8 0	-2.82E-01	9.80E-01	17 50	-2.60E-01	9.08E-01
8 10	-2.82E-01	9.79E-01	18 0	-2.59E-01	9.07E-01
8 20	-2.82E-01	9.79E-01	18 10	-2.58E-01	9.05E-01
8 30	-2.82E-01	9.78E-01	18 20	-2.57E-01	9.04E-01
8 40	-2.82E-01	9.77E-01	18 30	-2.57E-01	9.02E-01
8 50	-2.81E-01	9.76E-01	18 40	-2.56E-01	9.01E-01
9 0	-2.81E-01	9.75E-01	18 50	-2.55E-01	8.99E-01
9 10	-2.81E-01	9.74E-01	19 0	-2.54E-01	8.97E-01
9 20	-2.81E-01	9.73E-01	19 10	-2.53E-01	8.96E-01
9 30	-2.81E-01	9.72E-01	19 20	-2.52E-01	8.94E-01
9 40	-2.80E-01	9.71E-01	19 30	-2.50E-01	8.92E-01
9 50	-2.80E-01	9.71E-01	19 40	-2.49E-01	8.91E-01
10 0	-2.80E-01	9.70E-01	19 50	-2.48E-01	8.89E-01
			20 0	-2.47E-01	8.88E-01

TABLE I (cont.)

GAMMA	Q_2/Q_0	β_{eff}/β
20 10	-2.46E-01	8.86E-01
20 20	-2.44E-01	8.84E-01
20 30	-2.43E-01	8.83E-01
20 40	-2.42E-01	8.81E-01
20 50	-2.40E-01	8.79E-01
21 0	-2.39E-01	8.78E-01
21 10	-2.37E-01	8.76E-01
21 20	-2.35E-01	8.74E-01
21 30	-2.34E-01	8.73E-01
21 40	-2.32E-01	8.71E-01
21 50	-2.30E-01	8.69E-01
22 0	-2.28E-01	8.68E-01
22 10	-2.26E-01	8.66E-01
22 20	-2.24E-01	8.65E-01
22 30	-2.22E-01	8.63E-01
22 40	-2.20E-01	8.61E-01
22 50	-2.18E-01	8.60E-01
23 0	-2.15E-01	8.58E-01
23 10	-2.13E-01	8.57E-01
23 20	-2.10E-01	8.55E-01
23 30	-2.08E-01	8.53E-01
23 40	-2.05E-01	8.52E-01
23 50	-2.02E-01	8.50E-01
24 0	-1.99E-01	8.49E-01
24 10	-1.96E-01	8.47E-01
24 20	-1.93E-01	8.46E-01
24 30	-1.89E-01	8.44E-01
24 40	-1.86E-01	8.43E-01
24 50	-1.82E-01	8.41E-01
25 0	-1.79E-01	8.40E-01
25 10	-1.75E-01	8.39E-01
25 20	-1.71E-01	8.37E-01
25 30	-1.66E-01	8.36E-01
25 40	-1.62E-01	8.35E-01
25 50	-1.58E-01	8.33E-01
26 0	-1.53E-01	8.32E-01
26 10	-1.48E-01	8.31E-01
26 20	-1.43E-01	8.30E-01
26 30	-1.38E-01	8.29E-01
26 40	-1.33E-01	8.28E-01
26 50	-1.28E-01	8.27E-01
27 0	-1.22E-01	8.25E-01
27 10	-1.16E-01	8.25E-01
27 20	-1.11E-01	8.24E-01
27 30	-1.04E-01	8.23E-01
27 40	-9.87E-02	8.22E-01
27 50	-9.24E-02	8.21E-01
28 0	-8.59E-02	8.20E-01
28 10	-7.92E-02	8.20E-01
28 20	-7.25E-02	8.19E-01
28 30	-6.56E-02	8.18E-01
28 40	-5.86E-02	8.18E-01
28 50	-5.15E-02	8.18E-01
29 0	-4.43E-02	8.17E-01
29 10	-3.71E-02	8.17E-01
29 20	-2.97E-02	8.16E-01
29 30	-2.23E-02	8.16E-01
29 40	-1.49E-02	8.16E-01
29 50	-7.47E-03	8.16E-01
30 0	.00E-99	8.16E-01

TABLE II

GAMMA	b(E2;^{1}2→0)	b(E2;^{2}2→0)	b(E2;^{2}2→^{1}2)	b(E2;3→^{2}2)	b(E2;3→^{1}2)
0 10	1.00E+00	8.50E-06	1.21E-05	1.79E+00	1.52E-05
0 20	1.00E+00	3.38E-05	4.84E-05	1.79E+00	6.04E-05
0 30	1.00E+00	7.61E-05	1.09E-04	1.79E+00	1.36E-04
0 40	1.00E+00	1.35E-04	1.94E-04	1.79E+00	2.42E-04
0 50	1.00E+00	2.11E-04	3.03E-04	1.79E+00	3.77E-04
1 0	1.00E+00	3.04E-04	4.36E-04	1.79E+00	5.43E-04
1 10	1.00E+00	4.14E-04	5.94E-04	1.78E+00	7.39E-04
1 20	9.99E-01	5.41E-04	7.76E-04	1.78E+00	9.66E-04
1 30	9.99E-01	6.84E-04	9.82E-04	1.78E+00	1.22E-03
1 40	9.99E-01	8.44E-04	1.21E-03	1.78E+00	1.51E-03
1 50	9.99E-01	1.02E-03	1.47E-03	1.78E+00	1.82E-03
2 0	9.99E-01	1.21E-03	1.75E-03	1.78E+00	2.17E-03
2 10	9.99E-01	1.42E-03	2.06E-03	1.78E+00	2.54E-03
2 20	9.98E-01	1.65E-03	2.39E-03	1.78E+00	2.95E-03
2 30	9.98E-01	1.89E-03	2.75E-03	1.78E+00	3.38E-03
2 40	9.98E-01	2.15E-03	3.13E-03	1.78E+00	3.84E-03
2 50	9.98E-01	2.43E-03	3.54E-03	1.78E+00	4.33E-03
3 0	9.97E-01	2.72E-03	3.97E-03	1.78E+00	4.86E-03
3 10	9.97E-01	3.03E-03	4.43E-03	1.78E+00	5.40E-03
3 20	9.97E-01	3.35E-03	4.92E-03	1.78E+00	5.98E-03
3 30	9.96E-01	3.69E-03	5.43E-03	1.78E+00	6.59E-03
3 40	9.96E-01	4.04E-03	5.97E-03	1.78E+00	7.22E-03
3 50	9.96E-01	4.42E-03	6.54E-03	1.78E+00	7.89E-03
4 0	9.95E-01	4.80E-03	7.14E-03	1.78E+00	8.58E-03
4 10	9.95E-01	5.20E-03	7.76E-03	1.78E+00	9.29E-03
4 20	9.94E-01	5.62E-03	8.41E-03	1.78E+00	1.00E-02
4 30	9.94E-01	6.05E-03	9.09E-03	1.77E+00	1.08E-02
4 40	9.93E-01	6.50E-03	9.80E-03	1.77E+00	1.16E-02
4 50	9.93E-01	6.96E-03	1.05E-02	1.77E+00	1.24E-02
5 0	9.93E-01	7.44E-03	1.13E-02	1.77E+00	1.33E-02
5 10	9.92E-01	7.93E-03	1.21E-02	1.77E+00	1.42E-02
5 20	9.92E-01	8.44E-03	1.29E-02	1.77E+00	1.51E-02
5 30	9.91E-01	8.96E-03	1.38E-02	1.77E+00	1.60E-02
5 40	9.91E-01	9.49E-03	1.47E-02	1.77E+00	1.69E-02
5 50	9.90E-01	1.00E-02	1.56E-02	1.77E+00	1.79E-02
6 0	9.89E-01	1.06E-02	1.66E-02	1.77E+00	1.89E-02
6 10	9.89E-01	1.12E-02	1.76E-02	1.77E+00	2.00E-02
6 20	9.88E-01	1.18E-02	1.86E-02	1.76E+00	2.10E-02
6 30	9.88E-01	1.24E-02	1.96E-02	1.76E+00	2.21E-02
6 40	9.87E-01	1.30E-02	2.07E-02	1.76E+00	2.32E-02
6 50	9.86E-01	1.36E-02	2.18E-02	1.76E+00	2.43E-02
7 0	9.86E-01	1.42E-02	2.30E-02	1.76E+00	2.54E-02
7 10	9.85E-01	1.49E-02	2.42E-02	1.76E+00	2.66E-02
7 20	9.84E-01	1.56E-02	2.54E-02	1.76E+00	2.78E-02
7 30	9.84E-01	1.62E-02	2.67E-02	1.76E+00	2.90E-02
7 40	9.83E-01	1.69E-02	2.80E-02	1.76E+00	3.02E-02
7 50	9.82E-01	1.76E-02	2.94E-02	1.75E+00	3.15E-02
8 0	9.82E-01	1.83E-02	3.08E-02	1.75E+00	3.27E-02
8 10	9.81E-01	1.90E-02	3.22E-02	1.75E+00	3.40E-02
8 20	9.80E-01	1.98E-02	3.37E-02	1.75E+00	3.53E-02
8 30	9.79E-01	2.05E-02	3.52E-02	1.75E+00	3.66E-02
8 40	9.79E-01	2.13E-02	3.68E-02	1.75E+00	3.80E-02
8 50	9.78E-01	2.20E-02	3.84E-02	1.75E+00	3.93E-02
9 0	9.77E-01	2.28E-02	4.01E-02	1.75E+00	4.07E-02
9 10	9.76E-01	2.36E-02	4.18E-02	1.74E+00	4.21E-02
9 20	9.76E-01	2.43E-02	4.35E-02	1.74E+00	4.35E-02
9 30	9.75E-01	2.51E-02	4.53E-02	1.74E+00	4.49E-02
9 40	9.74E-01	2.59E-02	4.72E-02	1.74E+00	4.63E-02
9 50	9.73E-01	2.67E-02	4.91E-02	1.74E+00	4.77E-02
10 0	9.72E-01	2.75E-02	5.10E-02	1.74E+00	4.92E-02

TABLE II (cont.)

GAMMA	b(E2; $1_2 \rightarrow 0$)	b(E2; $2_2 \rightarrow 0$)	b(E2; $2_2 \rightarrow 1_2$)	b(E2; $3 \rightarrow 2_2$)	b(E2; $3 \rightarrow 1_2$)
10 10	9.72E-01	2.84E-02	5.30E-02	1.74E+00	5.06E-02
10 20	9.71E-01	2.92E-02	5.51E-02	1.73E+00	5.21E-02
10 30	9.70E-01	3.00E-02	5.72E-02	1.73E+00	5.36E-02
10 40	9.69E-01	3.09E-02	5.94E-02	1.73E+00	5.51E-02
10 50	9.68E-01	3.17E-02	6.16E-02	1.73E+00	5.66E-02
11 0	9.67E-01	3.25E-02	6.39E-02	1.73E+00	5.81E-02
11 10	9.67E-01	3.34E-02	6.63E-02	1.73E+00	5.96E-02
11 20	9.66E-01	3.42E-02	6.87E-02	1.72E+00	6.12E-02
11 30	9.65E-01	3.51E-02	7.12E-02	1.72E+00	6.27E-02
11 40	9.64E-01	3.60E-02	7.38E-02	1.72E+00	6.42E-02
11 50	9.63E-01	3.68E-02	7.64E-02	1.72E+00	6.57E-02
12 0	9.62E-01	3.77E-02	7.91E-02	1.72E+00	6.73E-02
12 10	9.61E-01	3.85E-02	8.19E-02	1.72E+00	6.88E-02
12 20	9.61E-01	3.94E-02	8.48E-02	1.72E+00	7.04E-02
12 30	9.60E-01	4.03E-02	8.77E-02	1.71E+00	7.19E-02
12 40	9.59E-01	4.11E-02	9.07E-02	1.71E+00	7.35E-02
12 50	9.58E-01	4.20E-02	9.38E-02	1.71E+00	7.50E-02
13 0	9.57E-01	4.29E-02	9.70E-02	1.71E+00	7.65E-02
13 10	9.56E-01	4.37E-02	1.00E-01	1.71E+00	7.81E-02
13 20	9.55E-01	4.46E-02	1.04E-01	1.71E+00	7.96E-02
13 30	9.55E-01	4.54E-02	1.07E-01	1.70E+00	8.11E-02
13 40	9.54E-01	4.63E-02	1.11E-01	1.70E+00	8.26E-02
13 50	9.53E-01	4.71E-02	1.14E-01	1.70E+00	8.41E-02
14 0	9.52E-01	4.79E-02	1.18E-01	1.70E+00	8.56E-02
14 10	9.51E-01	4.88E-02	1.22E-01	1.70E+00	8.71E-02
14 20	9.50E-01	4.96E-02	1.26E-01	1.70E+00	8.85E-02
14 30	9.50E-01	5.04E-02	1.30E-01	1.70E+00	9.00E-02
14 40	9.49E-01	5.12E-02	1.34E-01	1.69E+00	9.14E-02
14 50	9.48E-01	5.20E-02	1.38E-01	1.69E+00	9.29E-02
15 0	9.47E-01	5.28E-02	1.43E-01	1.69E+00	9.43E-02
15 10	9.46E-01	5.36E-02	1.47E-01	1.69E+00	9.56E-02
15 20	9.46E-01	5.43E-02	1.52E-01	1.69E+00	9.70E-02
15 30	9.45E-01	5.51E-02	1.57E-01	1.69E+00	9.83E-02
15 40	9.44E-01	5.58E-02	1.62E-01	1.69E+00	9.97E-02
15 50	9.43E-01	5.65E-02	1.67E-01	1.68E+00	1.01E-01
16 0	9.43E-01	5.72E-02	1.72E-01	1.68E+00	1.02E-01
16 10	9.42E-01	5.79E-02	1.78E-01	1.68E+00	1.03E-01
16 20	9.41E-01	5.86E-02	1.83E-01	1.68E+00	1.05E-01
16 30	9.41E-01	5.93E-02	1.89E-01	1.68E+00	1.06E-01
16 40	9.40E-01	5.99E-02	1.95E-01	1.68E+00	1.07E-01
16 50	9.39E-01	6.05E-02	2.01E-01	1.68E+00	1.08E-01
17 0	9.39E-01	6.11E-02	2.07E-01	1.68E+00	1.09E-01
17 10	9.38E-01	6.17E-02	2.13E-01	1.68E+00	1.10E-01
17 20	9.38E-01	6.22E-02	2.20E-01	1.67E+00	1.11E-01
17 30	9.37E-01	6.28E-02	2.27E-01	1.67E+00	1.12E-01
17 40	9.37E-01	6.33E-02	2.34E-01	1.67E+00	1.13E-01
17 50	9.36E-01	6.38E-02	2.41E-01	1.67E+00	1.14E-01
18 0	9.36E-01	6.42E-02	2.48E-01	1.67E+00	1.15E-01
18 10	9.35E-01	6.46E-02	2.56E-01	1.67E+00	1.15E-01
18 20	9.35E-01	6.50E-02	2.64E-01	1.67E+00	1.16E-01
18 30	9.35E-01	6.54E-02	2.72E-01	1.67E+00	1.17E-01
18 40	9.34E-01	6.57E-02	2.80E-01	1.67E+00	1.17E-01
18 50	9.34E-01	6.60E-02	2.89E-01	1.67E+00	1.18E-01
19 0	9.34E-01	6.62E-02	2.98E-01	1.67E+00	1.18E-01
19 10	9.34E-01	6.65E-02	3.07E-01	1.67E+00	1.19E-01
19 20	9.33E-01	6.66E-02	3.16E-01	1.67E+00	1.19E-01
19 30	9.33E-01	6.68E-02	3.26E-01	1.67E+00	1.19E-01
19 40	9.33E-01	6.69E-02	3.36E-01	1.67E+00	1.19E-01
19 50	9.33E-01	6.70E-02	3.47E-01	1.67E+00	1.20E-01
20 0	9.33E-01	6.70E-02	3.57E-01	1.67E+00	1.20E-01

TABLE II (cont.)

GAMMA	b(E2;^{1}2→0)	b(E2;^{2}2→0)	b(E2;^{2}2→^{1}2)	b(E2;3→^{2}2)	b(E2;3→^{1}2)
20 10	9.33E-01	6.70E-02	3.68E-01	1.67E+00	1.20E-01
20 20	9.33E-01	6.69E-02	3.79E-01	1.67E+00	1.19E-01
20 30	9.33E-01	6.68E-02	3.91E-01	1.67E+00	1.19E-01
20 40	9.33E-01	6.66E-02	4.03E-01	1.67E+00	1.19E-01
20 50	9.34E-01	6.64E-02	4.15E-01	1.67E+00	1.19E-01
21 0	9.34E-01	6.61E-02	4.28E-01	1.67E+00	1.18E-01
21 10	9.34E-01	6.58E-02	4.41E-01	1.67E+00	1.18E-01
21 20	9.35E-01	6.55E-02	4.55E-01	1.67E+00	1.17E-01
21 30	9.35E-01	6.50E-02	4.69E-01	1.67E+00	1.16E-01
21 40	9.35E-01	6.46E-02	4.83E-01	1.67E+00	1.15E-01
21 50	9.36E-01	6.40E-02	4.98E-01	1.67E+00	1.14E-01
22 0	9.37E-01	6.34E-02	5.13E-01	1.67E+00	1.13E-01
22 10	9.37E-01	6.28E-02	5.29E-01	1.67E+00	1.12E-01
22 20	9.38E-01	6.21E-02	5.45E-01	1.67E+00	1.11E-01
22 30	9.39E-01	6.13E-02	5.62E-01	1.68E+00	1.10E-01
22 40	9.40E-01	6.05E-02	5.79E-01	1.68E+00	1.08E-01
22 50	9.40E-01	5.96E-02	5.96E-01	1.68E+00	1.06E-01
23 0	9.41E-01	5.86E-02	6.14E-01	1.68E+00	1.05E-01
23 10	9.42E-01	5.76E-02	6.33E-01	1.68E+00	1.03E-01
23 20	9.43E-01	5.66E-02	6.52E-01	1.68E+00	1.01E-01
23 30	9.45E-01	5.54E-02	6.71E-01	1.69E+00	9.90E-02
23 40	9.46E-01	5.42E-02	6.91E-01	1.69E+00	9.68E-02
23 50	9.47E-01	5.30E-02	7.12E-01	1.69E+00	9.46E-02
24 0	9.48E-01	5.16E-02	7.33E-01	1.69E+00	9.22E-02
24 10	9.50E-01	5.02E-02	7.54E-01	1.70E+00	8.97E-02
24 20	9.51E-01	4.88E-02	7.76E-01	1.70E+00	8.72E-02
24 30	9.53E-01	4.73E-02	7.98E-01	1.70E+00	8.45E-02
24 40	9.54E-01	4.58E-02	8.21E-01	1.70E+00	8.17E-02
24 50	9.56E-01	4.42E-02	8.44E-01	1.71E+00	7.88E-02
25 0	9.58E-01	4.25E-02	8.68E-01	1.71E+00	7.59E-02
25 10	9.59E-01	4.08E-02	8.92E-01	1.71E+00	7.29E-02
25 20	9.61E-01	3.91E-02	9.16E-01	1.72E+00	6.97E-02
25 30	9.63E-01	3.73E-02	9.41E-01	1.72E+00	6.66E-02
25 40	9.65E-01	3.55E-02	9.65E-01	1.72E+00	6.33E-02
25 50	9.66E-01	3.36E-02	9.90E-01	1.73E+00	6.00E-02
26 0	9.68E-01	3.17E-02	1.02E+00	1.73E+00	5.67E-02
26 10	9.70E-01	2.99E-02	1.04E+00	1.73E+00	5.33E-02
26 20	9.72E-01	2.80E-02	1.07E+00	1.74E+00	4.99E-02
26 30	9.74E-01	2.60E-02	1.09E+00	1.74E+00	4.65E-02
26 40	9.76E-01	2.41E-02	1.12E+00	1.74E+00	4.31E-02
26 50	9.78E-01	2.23E-02	1.14E+00	1.75E+00	3.97E-02
27 0	9.80E-01	2.04E-02	1.17E+00	1.75E+00	3.64E-02
27 10	9.81E-01	1.85E-02	1.19E+00	1.75E+00	3.31E-02
27 20	9.83E-01	1.67E-02	1.21E+00	1.76E+00	2.99E-02
27 30	9.85E-01	1.50E-02	1.24E+00	1.76E+00	2.67E-02
27 40	9.87E-01	1.33E-02	1.26E+00	1.76E+00	2.37E-02
27 50	9.88E-01	1.16E-02	1.28E+00	1.76E+00	2.07E-02
28 0	9.90E-01	1.00E-02	1.30E+00	1.77E+00	1.79E-02
28 10	9.91E-01	8.55E-03	1.32E+00	1.77E+00	1.53E-02
28 20	9.93E-01	7.16E-03	1.34E+00	1.77E+00	1.28E-02
28 30	9.94E-01	5.87E-03	1.35E+00	1.78E+00	1.05E-02
28 40	9.95E-01	4.68E-03	1.37E+00	1.78E+00	8.36E-03
28 50	9.96E-01	3.62E-03	1.38E+00	1.78E+00	6.46E-03
29 0	9.97E-01	2.68E-03	1.39E+00	1.78E+00	4.79E-03
29 10	9.98E-01	1.87E-03	1.40E+00	1.78E+00	3.35E-03
29 20	9.99E-01	1.21E-03	1.41E+00	1.78E+00	2.15E-03
29 30	9.99E-01	6.81E-04	1.42E+00	1.78E+00	1.22E-03
29 40	1.00E+00	3.04E-04	1.42E+00	1.79E+00	5.43E-04
29 50	1.00E+00	7.61E-05	1.43E+00	1.79E+00	1.36E-04
30 0	1.00E+00	0.00E+99	1.43 00	1.79 00	0.00 99

TABLE IV

GAMMA	$\varepsilon(^1 2)$	$1-b\varepsilon(^1 2)$	$\varepsilon(^2 2)$	$1-b\varepsilon(^2 2)$	$\varepsilon(3)$	$1-b\varepsilon(3)$
0 10	4.00E+00	9.55E-01	2.36E+05	-2.65E+03	2.36E+05	-2.65E+03
0 20	4.00E+00	9.55E-01	5.91E+04	-6.63E+02	5.91E+04	-6.63E+02
0 30	4.00E+00	9.55E-01	2.63E+04	-2.94E+02	2.63E+04	-2.94E+02
0 40	4.00E+00	9.55E-01	1.48E+04	-1.65E+02	1.48E+04	-1.65E+02
0 50	4.00E+00	9.55E-01	9.46E+03	-1.05E+02	9.46E+03	-1.05E+02
1 0	4.00E+00	9.55E-01	6.57E+03	-7.28E+01	6.57E+03	-7.28E+01
1 10	4.00E+00	9.55E-01	4.83E+03	-5.32E+01	4.83E+03	-5.32E+01
1 20	4.00E+00	9.55E-01	3.70E+03	-4.05E+01	3.70E+03	-4.05E+01
1 30	4.00E+00	9.55E-01	2.92E+03	-3.18E+01	2.92E+03	-3.18E+01
1 40	4.00E+00	9.55E-01	2.37E+03	-2.56E+01	2.37E+03	-2.56E+01
1 50	4.00E+00	9.54E-01	1.96E+03	-2.10E+01	1.96E+03	-2.10E+01
2 0	4.00E+00	9.54E-01	1.64E+03	-1.75E+01	1.65E+03	-1.75E+01
2 10	4.01E+00	9.54E-01	1.40E+03	-1.47E+01	1.40E+03	-1.48E+01
2 20	4.01E+00	9.54E-01	1.21E+03	-1.26E+01	1.21E+03	-1.26E+01
2 30	4.01E+00	9.54E-01	1.05E+03	-1.08E+01	1.06E+03	-1.09E+01
2 40	4.01E+00	9.54E-01	9.25E+02	-9.39E+00	9.29E+02	-9.43E+00
2 50	4.01E+00	9.54E-01	8.20E+02	-8.20E+00	8.24E+02	-8.25E+00
3 0	4.02E+00	9.54E-01	7.32E+02	-7.21E+00	7.36E+02	-7.26E+00
3 10	4.02E+00	9.54E-01	6.57E+02	-6.37E+00	6.61E+02	-6.42E+00
3 20	4.02E+00	9.54E-01	5.93E+02	-5.65E+00	5.97E+02	-5.70E+00
3 30	4.02E+00	9.54E-01	5.38E+02	-5.04E+00	5.42E+02	-5.08E+00
3 40	4.03E+00	9.54E-01	4.90E+02	-4.50E+00	4.94E+02	-4.55E+00
3 50	4.03E+00	9.54E-01	4.49E+02	-4.04E+00	4.53E+02	-4.08E+00
4 0	4.03E+00	9.54E-01	4.12E+02	-3.63E+00	4.16E+02	-3.67E+00
4 10	4.04E+00	9.54E-01	3.80E+02	-3.26E+00	3.84E+02	-3.31E+00
4 20	4.04E+00	9.54E-01	3.52E+02	-2.94E+00	3.56E+02	-2.99E+00
4 30	4.04E+00	9.54E-01	3.26E+02	-2.66E+00	3.30E+02	-2.70E+00
4 40	4.05E+00	9.54E-01	3.04E+02	-2.40E+00	3.08E+02	-2.45E+00
4 50	4.05E+00	9.54E-01	2.83E+02	-2.17E+00	2.87E+02	-2.22E+00
5 0	4.06E+00	9.54E-01	2.65E+02	-1.97E+00	2.69E+02	-2.01E+00
5 10	4.06E+00	9.54E-01	2.48E+02	-1.78E+00	2.52E+02	-1.83E+00
5 20	4.06E+00	9.54E-01	2.33E+02	-1.61E+00	2.37E+02	-1.66E+00
5 30	4.07E+00	9.54E-01	2.19E+02	-1.46E+00	2.23E+02	-1.50E+00
5 40	4.07E+00	9.54E-01	2.06E+02	-1.31E+00	2.11E+02	-1.36E+00
5 50	4.08E+00	9.54E-01	1.95E+02	-1.18E+00	1.99E+02	-1.23E+00
6 0	4.08E+00	9.54E-01	1.84E+02	-1.07E+00	1.88E+02	-1.11E+00
6 10	4.09E+00	9.54E-01	1.75E+02	-9.61E-01	1.79E+02	-1.00E+00
6 20	4.09E+00	9.53E-01	1.66E+02	-8.61E-01	1.70E+02	-9.07E-01
6 30	4.10E+00	9.53E-01	1.57E+02	-7.68E-01	1.62E+02	-8.14E-01
6 40	4.10E+00	9.53E-01	1.50E+02	-6.81E-01	1.54E+02	-7.28E-01
6 50	4.11E+00	9.53E-01	1.43E+02	-6.01E-01	1.47E+02	-6.48E-01
7 0	4.12E+00	9.53E-01	1.36E+02	-5.27E-01	1.40E+02	-5.73E-01
7 10	4.12E+00	9.53E-01	1.30E+02	-4.58E-01	1.34E+02	-5.04E-01
7 20	4.13E+00	9.53E-01	1.24E+02	-3.94E-01	1.28E+02	-4.40E-01
7 30	4.13E+00	9.53E-01	1.19E+02	-3.33E-01	1.23E+02	-3.80E-01
7 40	4.14E+00	9.53E-01	1.14E+02	-2.77E-01	1.18E+02	-3.24E-01
7 50	4.15E+00	9.53E-01	1.09E+02	-2.24E-01	1.13E+02	-2.71E-01
8 0	4.15E+00	9.53E-01	1.05E+02	-1.75E-01	1.09E+02	-2.21E-01
8 10	4.16E+00	9.53E-01	1.01E+02	-1.28E-01	1.05E+02	-1.75E-01
8 20	4.17E+00	9.53E-01	9.66E+01	-8.49E-02	1.01E+02	-1.31E-01
8 30	4.17E+00	9.53E-01	9.29E+01	-4.37E-02	9.71E+01	-9.06E-02
8 40	4.18E+00	9.52E-01	8.95E+01	-4.36E-03	9.37E+01	-5.18E-02
8 50	4.19E+00	9.52E-01	8.62E+01	3.17E-02	9.04E+01	-1.53E-02
9 0	4.20E+00	9.52E-01	8.31E+01	6.64E-02	8.73E+01	1.92E-02
9 10	4.20E+00	9.52E-01	8.02E+01	9.92E-02	8.44E+01	5.19E-02
9 20	4.21E+00	9.52E-01	7.75E+01	1.30E-01	8.17E+01	8.28E-02
9 30	4.22E+00	9.52E-01	7.48E+01	1.59E-01	7.91E+01	1.12E-01
9 40	4.23E+00	9.52E-01	7.23E+01	1.87E-01	7.66E+01	1.39E-01
9 50	4.24E+00	9.52E-01	7.00E+01	2.14E-01	7.42E+01	1.66E-01
10 0	4.25E+00	9.52E-01	6.77E+01	2.39E-01	7.20E+01	1.91E-01

TABLE IV (cont.)

GAMMA	$\varepsilon(^1 2)$	$1-b\varepsilon(^1 2)$	$\varepsilon(^2 2)$	$1-b\varepsilon(^2 2)$	$\varepsilon(3)$	$1-b\varepsilon(3)$
10 10	4.25E+00	9.52E-01	6.56E+01	2.63E-01	6.99E+01	2.15E-01
10 20	4.26E+00	9.52E-01	6.36E+01	2.85E-01	6.79E+01	2.37E-01
10 30	4.27E+00	9.51E-01	6.17E+01	3.07E-01	6.59E+01	2.59E-01
10 40	4.28E+00	9.51E-01	5.98E+01	3.28E-01	6.41E+01	2.80E-01
10 50	4.29E+00	9.51E-01	5.81E+01	3.48E-01	6.24E+01	2.99E-01
11 0	4.30E+00	9.51E-01	5.64E+01	3.66E-01	6.07E+01	3.18E-01
11 10	4.31E+00	9.51E-01	5.48E+01	3.84E-01	5.91E+01	3.36E-01
11 20	4.32E+00	9.51E-01	5.32E+01	4.02E-01	5.76E+01	3.53E-01
11 30	4.33E+00	9.51E-01	5.18E+01	4.18E-01	5.61E+01	3.69E-01
11 40	4.34E+00	9.51E-01	5.04E+01	4.34E-01	5.47E+01	3.85E-01
11 50	4.35E+00	9.51E-01	4.90E+01	4.49E-01	5.34E+01	4.00E-01
12 0	4.36E+00	9.50E-01	4.77E+01	4.63E-01	5.21E+01	4.14E-01
12 10	4.37E+00	9.50E-01	4.65E+01	4.77E-01	5.09E+01	4.28E-01
12 20	4.38E+00	9.50E-01	4.53E+01	4.91E-01	4.97E+01	4.41E-01
12 30	4.39E+00	9.50E-01	4.42E+01	5.03E-01	4.86E+01	4.54E-01
12 40	4.40E+00	9.50E-01	4.31E+01	5.16E-01	4.75E+01	4.66E-01
12 50	4.42E+00	9.50E-01	4.20E+01	5.28E-01	4.64E+01	4.78E-01
13 0	4.43E+00	9.50E-01	4.10E+01	5.39E-01	4.54E+01	4.89E-01
13 10	4.44E+00	9.50E-01	4.00E+01	5.50E-01	4.45E+01	5.00E-01
13 20	4.45E+00	9.49E-01	3.91E+01	5.60E-01	4.36E+01	5.10E-01
13 30	4.46E+00	9.49E-01	3.82E+01	5.70E-01	4.27E+01	5.20E-01
13 40	4.47E+00	9.49E-01	3.73E+01	5.80E-01	4.18E+01	5.30E-01
13 50	4.49E+00	9.49E-01	3.65E+01	5.90E-01	4.10E+01	5.39E-01
14 0	4.50E+00	9.49E-01	3.57E+01	5.99E-01	4.02E+01	5.48E-01
14 10	4.51E+00	9.49E-01	3.49E+01	6.07E-01	3.94E+01	5.57E-01
14 20	4.53E+00	9.49E-01	3.42E+01	6.16E-01	3.87E+01	5.65E-01
14 30	4.54E+00	9.48E-01	3.34E+01	6.24E-01	3.80E+01	5.73E-01
14 40	4.55E+00	9.48E-01	3.27E+01	6.32E-01	3.73E+01	5.81E-01
14 50	4.57E+00	9.48E-01	3.21E+01	6.39E-01	3.66E+01	5.88E-01
15 0	4.58E+00	9.48E-01	3.14E+01	6.47E-01	3.60E+01	5.95E-01
15 10	4.59E+00	9.48E-01	3.08E+01	6.54E-01	3.54E+01	6.02E-01
15 20	4.61E+00	9.48E-01	3.02E+01	6.61E-01	3.48E+01	6.09E-01
15 30	4.62E+00	9.48E-01	2.96E+01	6.67E-01	3.42E+01	6.15E-01
15 40	4.63E+00	9.47E-01	2.90E+01	6.74E-01	3.37E+01	6.22E-01
15 50	4.65E+00	9.47E-01	2.85E+01	6.80E-01	3.31E+01	6.28E-01
16 0	4.66E+00	9.47E-01	2.79E+01	6.86E-01	3.26E+01	6.33E-01
16 10	4.68E+00	9.47E-01	2.74E+01	6.92E-01	3.21E+01	6.39E-01
16 20	4.69E+00	9.47E-01	2.69E+01	6.97E-01	3.16E+01	6.45E-01
16 30	4.71E+00	9.47E-01	2.64E+01	7.03E-01	3.11E+01	6.50E-01
16 40	4.72E+00	9.46E-01	2.59E+01	7.08E-01	3.07E+01	6.55E-01
16 50	4.74E+00	9.46E-01	2.55E+01	7.13E-01	3.02E+01	6.60E-01
17 0	4.76E+00	9.46E-01	2.50E+01	7.18E-01	2.98E+01	6.65E-01
17 10	4.77E+00	9.46E-01	2.46E+01	7.23E-01	2.94E+01	6.69E-01
17 20	4.79E+00	9.46E-01	2.42E+01	7.28E-01	2.90E+01	6.74E-01
17 30	4.80E+00	9.46E-01	2.38E+01	7.32E-01	2.86E+01	6.78E-01
17 40	4.82E+00	9.45E-01	2.34E+01	7.37E-01	2.82E+01	6.83E-01
17 50	4.84E+00	9.45E-01	2.30E+01	7.41E-01	2.79E+01	6.87E-01
18 0	4.85E+00	9.45E-01	2.26E+01	7.45E-01	2.75E+01	6.91E-01
18 10	4.87E+00	9.45E-01	2.23E+01	7.49E-01	2.72E+01	6.95E-01
18 20	4.89E+00	9.45E-01	2.19E+01	7.53E-01	2.68E+01	6.98E-01
18 30	4.90E+00	9.44E-01	2.16E+01	7.57E-01	2.65E+01	7.02E-01
18 40	4.92E+00	9.44E-01	2.13E+01	7.61E-01	2.62E+01	7.05E-01
18 50	4.94E+00	9.44E-01	2.09E+01	7.64E-01	2.59E+01	7.09E-01
19 0	4.96E+00	9.44E-01	2.06E+01	7.68E-01	2.56E+01	7.12E-01
19 10	4.98E+00	9.44E-01	2.03E+01	7.71E-01	2.53E+01	7.15E-01
19 20	4.99E+00	9.43E-01	2.00E+01	7.75E-01	2.50E+01	7.18E-01
19 30	5.01E+00	9.43E-01	1.97E+01	7.78E-01	2.48E+01	7.21E-01
19 40	5.03E+00	9.43E-01	1.95E+01	7.81E-01	2.45E+01	7.24E-01
19 50	5.05E+00	9.43E-01	1.92E+01	7.84E-01	2.42E+01	7.27E-01
20 0	5.07E+00	9.43E-01	1.89E+01	7.87E-01	2.40E+01	7.30E-01

TABLE IV (cont.)

GAMMA	$\varepsilon(^3\Delta)$	$1-b\varepsilon(^3\Delta)$	$\varepsilon(^2\Delta)$	$1-b\varepsilon(^2\Delta)$	$\varepsilon(^1\Delta)$	$1-b\varepsilon(^1\Delta)$
0 10	9.45E+05	-1.06E+04	2.36E+05	-2.65E+03	1.34E+01	8.49E-01
0 20	2.36E+05	-2.65E+03	5.91E+04	-6.63E+02	1.33E+01	8.50E-01
0 30	1.05E+05	-1.18E+03	2.63E+04	-2.94E+02	1.33E+01	8.50E-01
0 40	5.91E+04	-6.63E+02	1.48E+04	-1.65E+02	1.33E+01	8.50E-01
0 50	3.78E+04	-4.24E+02	9.47E+03	-1.05E+02	1.33E+01	8.50E-01
1 0	2.63E+04	-2.94E+02	6.58E+03	-7.29E+01	1.33E+01	8.50E-01
1 10	1.93E+04	-2.16E+02	4.84E+03	-5.33E+01	1.33E+01	8.50E-01
1 20	1.48E+04	-1.65E+02	3.70E+03	-4.06E+01	1.33E+01	8.50E-01
1 30	1.17E+04	-1.30E+02	2.93E+03	-3.19E+01	1.34E+01	8.50E-01
1 40	9.46E+03	-1.05E+02	2.37E+03	-2.57E+01	1.34E+01	8.50E-01
1 50	7.82E+03	-8.68E+01	1.96E+03	-2.11E+01	1.34E+01	8.49E-01
2 0	6.57E+03	-7.28E+01	1.65E+03	-1.76E+01	1.34E+01	8.49E-01
2 10	5.60E+03	-6.19E+01	1.41E+03	-1.48E+01	1.34E+01	8.49E-01
2 20	4.83E+03	-5.32E+01	1.22E+03	-1.27E+01	1.34E+01	8.49E-01
2 30	4.21E+03	-4.62E+01	1.06E+03	-1.09E+01	1.34E+01	8.49E-01
2 40	3.70E+03	-4.05E+01	9.35E+02	-9.49E+00	1.34E+01	8.49E-01
2 50	3.28E+03	-3.58E+01	8.29E+02	-8.31E+00	1.34E+01	8.49E-01
3 0	2.92E+03	-3.18E+01	7.41E+02	-7.32E+00	1.34E+01	8.49E-01
3 10	2.62E+03	-2.85E+01	6.66E+02	-6.48E+00	1.34E+01	8.49E-01
3 20	2.37E+03	-2.56E+01	6.02E+02	-5.76E+00	1.34E+01	8.49E-01
3 30	2.15E+03	-2.31E+01	5.47E+02	-5.14E+00	1.34E+01	8.49E-01
3 40	1.96E+03	-2.10E+01	5.00E+02	-4.61E+00	1.34E+01	8.49E-01
3 50	1.79E+03	-1.91E+01	4.58E+02	-4.14E+00	1.35E+01	8.48E-01
4 0	1.65E+03	-1.75E+01	4.22E+02	-3.73E+00	1.35E+01	8.48E-01
4 10	1.52E+03	-1.60E+01	3.90E+02	-3.37E+00	1.35E+01	8.48E-01
4 20	1.40E+03	-1.48E+01	3.61E+02	-3.05E+00	1.35E+01	8.48E-01
4 30	1.30E+03	-1.36E+01	3.36E+02	-2.76E+00	1.35E+01	8.48E-01
4 40	1.21E+03	-1.26E+01	3.13E+02	-2.51E+00	1.35E+01	8.48E-01
4 50	1.13E+03	-1.17E+01	2.93E+02	-2.28E+00	1.35E+01	8.48E-01
5 0	1.06E+03	-1.09E+01	2.74E+02	-2.07E+00	1.35E+01	8.47E-01
5 10	9.89E+02	-1.01E+01	2.57E+02	-1.89E+00	1.35E+01	8.47E-01
5 20	9.29E+02	-9.42E+00	2.42E+02	-1.72E+00	1.36E+01	8.47E-01
5 30	8.74E+02	-8.81E+00	2.29E+02	-1.56E+00	1.36E+01	8.47E-01
5 40	8.23E+02	-8.24E+00	2.16E+02	-1.42E+00	1.36E+01	8.47E-01
5 50	7.77E+02	-7.72E+00	2.05E+02	-1.29E+00	1.36E+01	8.47E-01
6 0	7.35E+02	-7.25E+00	1.94E+02	-1.17E+00	1.36E+01	8.47E-01
6 10	6.96E+02	-6.81E+00	1.84E+02	-1.06E+00	1.36E+01	8.46E-01
6 20	6.60E+02	-6.41E+00	1.75E+02	-9.68E-01	1.37E+01	8.46E-01
6 30	6.27E+02	-6.04E+00	1.67E+02	-8.75E-01	1.37E+01	8.46E-01
6 40	5.96E+02	-5.69E+00	1.59E+02	-7.89E-01	1.37E+01	8.46E-01
6 50	5.68E+02	-5.37E+00	1.52E+02	-7.09E-01	1.37E+01	8.46E-01
7 0	5.41E+02	-5.07E+00	1.46E+02	-6.35E-01	1.37E+01	8.45E-01
7 10	5.17E+02	-4.80E+00	1.40E+02	-5.66E-01	1.37E+01	8.45E-01
7 20	4.94E+02	-4.54E+00	1.34E+02	-5.02E-01	1.38E+01	8.45E-01
7 30	4.72E+02	-4.30E+00	1.28E+02	-4.42E-01	1.38E+01	8.45E-01
7 40	4.52E+02	-4.07E+00	1.23E+02	-3.86E-01	1.38E+01	8.44E-01
7 50	4.33E+02	-3.86E+00	1.19E+02	-3.33E-01	1.38E+01	8.44E-01
8 0	4.16E+02	-3.66E+00	1.14E+02	-2.84E-01	1.38E+01	8.44E-01
8 10	3.99E+02	-3.48E+00	1.10E+02	-2.38E-01	1.39E+01	8.44E-01
8 20	3.84E+02	-3.30E+00	1.06E+02	-1.94E-01	1.39E+01	8.44E-01
8 30	3.69E+02	-3.14E+00	1.03E+02	-1.53E-01	1.39E+01	8.43E-01
8 40	3.55E+02	-2.98E+00	9.93E+01	-1.14E-01	1.39E+01	8.43E-01
8 50	3.42E+02	-2.84E+00	9.60E+01	-7.85E-02	1.40E+01	8.43E-01
9 0	3.30E+02	-2.70E+00	9.30E+01	-4.41E-02	1.40E+01	8.43E-01
9 10	3.18E+02	-2.57E+00	9.01E+01	-1.15E-02	1.40E+01	8.42E-01
9 20	3.07E+02	-2.44E+00	8.73E+01	1.92E-02	1.40E+01	8.42E-01
9 30	2.96E+02	-2.32E+00	8.47E+01	4.83E-02	1.41E+01	8.42E-01
9 40	2.87E+02	-2.21E+00	8.23E+01	7.59E-02	1.41E+01	8.41E-01
9 50	2.77E+02	-2.11E+00	7.99E+01	1.02E-01	1.41E+01	8.41E-01
10 0	2.68E+02	-2.01E+00	7.77E+01	1.27E-01	1.41E+01	8.41E-01

TABLE IV (cont.)

GAMMA	$\varepsilon(^3\Delta_4)$	$1-b\varepsilon(^3\Delta_4)$	$\varepsilon(^2\Delta_4)$	$1-b\varepsilon(^2\Delta_4)$	$\varepsilon(^1\Delta_4)$	$1-b\varepsilon(^1\Delta_4)$
10 10	2.60E+02	-1.91E+00	7.56E+01	1.50E-01	1.42E+01	8.41E-01
10 20	2.51E+02	-1.82E+00	7.36E+01	1.73E-01	1.42E+01	8.40E-01
10 30	2.44E+02	-1.73E+00	7.17E+01	1.94E-01	1.42E+01	8.40E-01
10 40	2.36E+02	-1.65E+00	6.99E+01	2.15E-01	1.42E+01	8.40E-01
10 50	2.29E+02	-1.57E+00	6.82E+01	2.34E-01	1.43E+01	8.39E-01
11 0	2.23E+02	-1.49E+00	6.65E+01	2.53E-01	1.43E+01	8.39E-01
11 10	2.16E+02	-1.42E+00	6.49E+01	2.70E-01	1.43E+01	8.39E-01
11 20	2.10E+02	-1.35E+00	6.34E+01	2.87E-01	1.43E+01	8.38E-01
11 30	2.04E+02	-1.29E+00	6.20E+01	3.03E-01	1.44E+01	8.38E-01
11 40	1.99E+02	-1.22E+00	6.06E+01	3.19E-01	1.44E+01	8.38E-01
11 50	1.93E+02	-1.16E+00	5.93E+01	3.33E-01	1.44E+01	8.38E-01
12 0	1.88E+02	-1.11E+00	5.81E+01	3.48E-01	1.45E+01	8.37E-01
12 10	1.83E+02	-1.05E+00	5.69E+01	3.61E-01	1.45E+01	8.37E-01
12 20	1.78E+02	-1.00E+00	5.57E+01	3.74E-01	1.45E+01	8.37E-01
12 30	1.74E+02	-9.50E-01	5.46E+01	3.86E-01	1.45E+01	8.36E-01
12 40	1.69E+02	-9.01E-01	5.35E+01	3.98E-01	1.46E+01	8.36E-01
12 50	1.65E+02	-8.54E-01	5.25E+01	4.10E-01	1.46E+01	8.36E-01
13 0	1.61E+02	-8.08E-01	5.16E+01	4.21E-01	1.46E+01	8.35E-01
13 10	1.57E+02	-7.64E-01	5.06E+01	4.31E-01	1.47E+01	8.35E-01
13 20	1.53E+02	-7.22E-01	4.97E+01	4.41E-01	1.47E+01	8.35E-01
13 30	1.50E+02	-6.82E-01	4.89E+01	4.51E-01	1.47E+01	8.34E-01
13 40	1.46E+02	-6.43E-01	4.80E+01	4.60E-01	1.48E+01	8.34E-01
13 50	1.43E+02	-6.05E-01	4.72E+01	4.69E-01	1.48E+01	8.33E-01
14 0	1.40E+02	-5.69E-01	4.65E+01	4.78E-01	1.48E+01	8.33E-01
14 10	1.37E+02	-5.33E-01	4.57E+01	4.86E-01	1.48E+01	8.33E-01
14 20	1.34E+02	-5.00E-01	4.50E+01	4.94E-01	1.49E+01	8.32E-01
14 30	1.31E+02	-4.67E-01	4.44E+01	5.01E-01	1.49E+01	8.32E-01
14 40	1.28E+02	-4.35E-01	4.37E+01	5.09E-01	1.49E+01	8.32E-01
14 50	1.25E+02	-4.05E-01	4.31E+01	5.16E-01	1.50E+01	8.31E-01
15 0	1.23E+02	-3.75E-01	4.25E+01	5.22E-01	1.50E+01	8.31E-01
15 10	1.20E+02	-3.47E-01	4.19E+01	5.29E-01	1.50E+01	8.31E-01
15 20	1.18E+02	-3.19E-01	4.13E+01	5.35E-01	1.51E+01	8.30E-01
15 30	1.15E+02	-2.93E-01	4.08E+01	5.41E-01	1.51E+01	8.30E-01
15 40	1.13E+02	-2.67E-01	4.03E+01	5.47E-01	1.51E+01	8.30E-01
15 50	1.11E+02	-2.42E-01	3.98E+01	5.53E-01	1.52E+01	8.29E-01
16 0	1.08E+02	-2.17E-01	3.93E+01	5.58E-01	1.52E+01	8.29E-01
16 10	1.06E+02	-1.94E-01	3.89E+01	5.63E-01	1.52E+01	8.29E-01
16 20	1.04E+02	-1.71E-01	3.84E+01	5.68E-01	1.52E+01	8.28E-01
16 30	1.02E+02	-1.49E-01	3.80E+01	5.73E-01	1.53E+01	8.28E-01
16 40	1.00E+02	-1.28E-01	3.76E+01	5.77E-01	1.53E+01	8.28E-01
16 50	9.86E+01	-1.07E-01	3.72E+01	5.82E-01	1.53E+01	8.27E-01
17 0	9.68E+01	-8.73E-02	3.68E+01	5.86E-01	1.54E+01	8.27E-01
17 10	9.51E+01	-6.78E-02	3.65E+01	5.90E-01	1.54E+01	8.27E-01
17 20	9.34E+01	-4.88E-02	3.61E+01	5.94E-01	1.54E+01	8.26E-01
17 30	9.18E+01	-3.03E-02	3.58E+01	5.98E-01	1.55E+01	8.26E-01
17 40	9.02E+01	-1.24E-02	3.55E+01	6.01E-01	1.55E+01	8.26E-01
17 50	8.86E+01	4.92E-03	3.52E+01	6.05E-01	1.55E+01	8.25E-01
18 0	8.71E+01	2.18E-02	3.49E+01	6.08E-01	1.55E+01	8.25E-01
18 10	8.56E+01	3.82E-02	3.46E+01	6.11E-01	1.56E+01	8.25E-01
18 20	8.42E+01	5.42E-02	3.43E+01	6.14E-01	1.56E+01	8.24E-01
18 30	8.28E+01	6.98E-02	3.41E+01	6.17E-01	1.56E+01	8.24E-01
18 40	8.15E+01	8.49E-02	3.38E+01	6.20E-01	1.56E+01	8.24E-01
18 50	8.02E+01	9.96E-02	3.36E+01	6.22E-01	1.57E+01	8.24E-01
19 0	7.89E+01	1.13E-01	3.34E+01	6.25E-01	1.57E+01	8.23E-01
19 10	7.77E+01	1.27E-01	3.32E+01	6.27E-01	1.57E+01	8.23E-01
19 20	7.64E+01	1.41E-01	3.30E+01	6.29E-01	1.57E+01	8.23E-01
19 30	7.53E+01	1.54E-01	3.28E+01	6.31E-01	1.58E+01	8.23E-01
19 40	7.41E+01	1.67E-01	3.26E+01	6.33E-01	1.58E+01	8.22E-01
19 50	7.30E+01	1.80E-01	3.24E+01	6.35E-01	1.58E+01	8.22E-01
20 0	7.19E+01	1.92E-01	3.23E+01	6.37E-01	1.58E+01	8.22E-01

TABLE IV (cont.)

GAMMA	$\varepsilon(^3\Delta)$	$1-b\varepsilon(^3\Delta)$	$\varepsilon(^2\Delta)$	$1-b\varepsilon(^2\Delta)$	$\varepsilon(^1\Delta)$	$1-b\varepsilon(^1\Delta)$
20 10	7.09E+01	2.04E-01	3.21E+01	6.39E-01	1.58E+01	8.22E-01
20 20	6.98E+01	2.15E-01	3.20E+01	6.40E-01	1.58E+01	8.22E-01
20 30	6.88E+01	2.27E-01	3.18E+01	6.42E-01	1.59E+01	8.21E-01
20 40	6.78E+01	2.38E-01	3.17E+01	6.43E-01	1.59E+01	8.21E-01
20 50	6.69E+01	2.48E-01	3.16E+01	6.45E-01	1.59E+01	8.21E-01
21 0	6.60E+01	2.59E-01	3.15E+01	6.46E-01	1.59E+01	8.21E-01
21 10	6.50E+01	2.69E-01	3.14E+01	6.47E-01	1.59E+01	8.21E-01
21 20	6.42E+01	2.79E-01	3.13E+01	6.48E-01	1.59E+01	8.20E-01
21 30	6.33E+01	2.89E-01	3.12E+01	6.49E-01	1.60E+01	8.20E-01
21 40	6.24E+01	2.98E-01	3.12E+01	6.50E-01	1.60E+01	8.20E-01
21 50	6.16E+01	3.08E-01	3.11E+01	6.50E-01	1.60E+01	8.20E-01
22 0	6.08E+01	3.17E-01	3.10E+01	6.51E-01	1.60E+01	8.20E-01
22 10	6.00E+01	3.25E-01	3.10E+01	6.51E-01	1.60E+01	8.20E-01
22 20	5.93E+01	3.34E-01	3.10E+01	6.52E-01	1.60E+01	8.20E-01
22 30	5.85E+01	3.42E-01	3.09E+01	6.52E-01	1.60E+01	8.20E-01
22 40	5.78E+01	3.51E-01	3.09E+01	6.53E-01	1.60E+01	8.20E-01
22 50	5.71E+01	3.59E-01	3.09E+01	6.53E-01	1.60E+01	8.20E-01
23 0	5.64E+01	3.66E-01	3.09E+01	6.53E-01	1.60E+01	8.19E-01
23 10	5.57E+01	3.74E-01	3.09E+01	6.53E-01	1.60E+01	8.19E-01
23 20	5.50E+01	3.82E-01	3.09E+01	6.53E-01	1.60E+01	8.19E-01
23 30	5.44E+01	3.89E-01	3.09E+01	6.53E-01	1.60E+01	8.19E-01
23 40	5.37E+01	3.96E-01	3.09E+01	6.53E-01	1.60E+01	8.19E-01
23 50	5.31E+01	4.03E-01	3.09E+01	6.53E-01	1.61E+01	8.19E-01
24 0	5.25E+01	4.10E-01	3.09E+01	6.52E-01	1.61E+01	8.19E-01
24 10	5.19E+01	4.16E-01	3.10E+01	6.52E-01	1.61E+01	8.19E-01
24 20	5.14E+01	4.23E-01	3.10E+01	6.51E-01	1.61E+01	8.19E-01
24 30	5.08E+01	4.29E-01	3.10E+01	6.51E-01	1.61E+01	8.19E-01
24 40	5.03E+01	4.35E-01	3.11E+01	6.50E-01	1.61E+01	8.19E-01
24 50	4.97E+01	4.41E-01	3.11E+01	6.50E-01	1.61E+01	8.19E-01
25 0	4.92E+01	4.47E-01	3.12E+01	6.49E-01	1.61E+01	8.19E-01
25 10	4.87E+01	4.53E-01	3.13E+01	6.48E-01	1.61E+01	8.19E-01
25 20	4.82E+01	4.58E-01	3.14E+01	6.47E-01	1.61E+01	8.19E-01
25 30	4.77E+01	4.64E-01	3.14E+01	6.47E-01	1.61E+01	8.19E-01
25 40	4.72E+01	4.69E-01	3.15E+01	6.46E-01	1.61E+01	8.19E-01
25 50	4.68E+01	4.74E-01	3.16E+01	6.45E-01	1.60E+01	8.19E-01
26 0	4.63E+01	4.79E-01	3.17E+01	6.44E-01	1.60E+01	8.19E-01
26 10	4.59E+01	4.84E-01	3.18E+01	6.43E-01	1.60E+01	8.19E-01
26 20	4.55E+01	4.89E-01	3.19E+01	6.41E-01	1.60E+01	8.19E-01
26 30	4.51E+01	4.93E-01	3.20E+01	6.40E-01	1.60E+01	8.19E-01
26 40	4.47E+01	4.98E-01	3.21E+01	6.39E-01	1.60E+01	8.19E-01
26 50	4.43E+01	5.02E-01	3.22E+01	6.38E-01	1.60E+01	8.19E-01
27 0	4.39E+01	5.07E-01	3.23E+01	6.36E-01	1.60E+01	8.19E-01
27 10	4.35E+01	5.11E-01	3.24E+01	6.35E-01	1.60E+01	8.20E-01
27 20	4.32E+01	5.15E-01	3.26E+01	6.34E-01	1.60E+01	8.20E-01
27 30	4.29E+01	5.18E-01	3.27E+01	6.32E-01	1.60E+01	8.20E-01
27 40	4.25E+01	5.22E-01	3.28E+01	6.31E-01	1.60E+01	8.20E-01
27 50	4.22E+01	5.25E-01	3.29E+01	6.30E-01	1.60E+01	8.20E-01
28 0	4.19E+01	5.29E-01	3.31E+01	6.28E-01	1.60E+01	8.20E-01
28 10	4.16E+01	5.32E-01	3.32E+01	6.27E-01	1.60E+01	8.20E-01
28 20	4.14E+01	5.35E-01	3.33E+01	6.26E-01	1.60E+01	8.20E-01
28 30	4.11E+01	5.37E-01	3.34E+01	6.24E-01	1.60E+01	8.20E-01
28 40	4.09E+01	5.40E-01	3.35E+01	6.23E-01	1.60E+01	8.20E-01
28 50	4.07E+01	5.42E-01	3.36E+01	6.22E-01	1.60E+01	8.20E-01
29 0	4.05E+01	5.44E-01	3.37E+01	6.21E-01	1.60E+01	8.20E-01
29 10	4.04E+01	5.46E-01	3.38E+01	6.20E-01	1.60E+01	8.20E-01
29 20	4.02E+01	5.48E-01	3.39E+01	6.19E-01	1.60E+01	8.20E-01
29 30	4.01E+01	5.49E-01	3.39E+01	6.19E-01	1.60E+01	8.20E-01
29 40	4.01E+01	5.50E-01	3.40E+01	6.18E-01	1.60E+01	8.20E-01
29 50	4.00E+01	5.50E-01	3.40E+01	6.18E-01	1.60E+01	8.20E-01
30 0	4.00E+01	5.50E-01	3.40E+01	6.18E-01	1.60E+01	8.20E-01

TABLE IV (cont.)

GAMMA	$\varepsilon(^1S)$	$1-b\varepsilon(^1S)$	$\varepsilon(^2S)$	$1-b\varepsilon(^2S)$
0 10	2.36E+05	-2.65E+03	9.45E+05	-1.06E+04
0 20	5.91E+04	-6.63E+02	2.36E+05	-2.65E+03
0 30	2.63E+04	-2.94E+02	1.05E+05	-1.18E+03
0 40	1.48E+04	-1.65E+02	5.91E+04	-6.63E+02
0 50	9.47E+03	-1.05E+02	3.78E+04	-4.24E+02
1 0	6.58E+03	-7.29E+01	2.63E+04	-2.94E+02
1 10	4.84E+03	-5.34E+01	1.93E+04	-2.16E+02
1 20	3.71E+03	-4.07E+01	1.48E+04	-1.65E+02
1 30	2.94E+03	-3.20E+01	1.17E+04	-1.30E+02
1 40	2.38E+03	-2.57E+01	9.47E+03	-1.05E+02
1 50	1.97E+03	-2.11E+01	7.83E+03	-8.69E+01
2 0	1.66E+03	-1.76E+01	6.58E+03	-7.29E+01
2 10	1.42E+03	-1.49E+01	5.61E+03	-6.20E+01
2 20	1.22E+03	-1.27E+01	4.84E+03	-5.33E+01
2 30	1.07E+03	-1.10E+01	4.21E+03	-4.63E+01
2 40	9.41E+02	-9.57E+00	3.71E+03	-4.06E+01
2 50	8.36E+02	-8.38E+00	3.28E+03	-3.59E+01
3 0	7.48E+02	-7.39E+00	2.93E+03	-3.19E+01
3 10	6.73E+02	-6.55E+00	2.63E+03	-2.85E+01
3 20	6.09E+02	-5.83E+00	2.38E+03	-2.57E+01
3 30	5.54E+02	-5.22E+00	2.16E+03	-2.32E+01
3 40	5.06E+02	-4.68E+00	1.97E+03	-2.11E+01
3 50	4.65E+02	-4.22E+00	1.80E+03	-1.92E+01
4 0	4.29E+02	-3.81E+00	1.65E+03	-1.76E+01
4 10	3.96E+02	-3.45E+00	1.52E+03	-1.61E+01
4 20	3.68E+02	-3.13E+00	1.41E+03	-1.48E+01
4 30	3.42E+02	-2.84E+00	1.31E+03	-1.37E+01
4 40	3.20E+02	-2.59E+00	1.22E+03	-1.27E+01
4 50	2.99E+02	-2.36E+00	1.14E+03	-1.18E+01
5 0	2.81E+02	-2.15E+00	1.06E+03	-1.09E+01
5 10	2.64E+02	-1.96E+00	9.96E+02	-1.02E+01
5 20	2.49E+02	-1.79E+00	9.35E+02	-9.50E+00
5 30	2.35E+02	-1.64E+00	8.80E+02	-8.88E+00
5 40	2.23E+02	-1.50E+00	8.30E+02	-8.32E+00
5 50	2.11E+02	-1.37E+00	7.84E+02	-7.80E+00
6 0	2.01E+02	-1.25E+00	7.42E+02	-7.32E+00
6 10	1.91E+02	-1.14E+00	7.03E+02	-6.89E+00
6 20	1.82E+02	-1.04E+00	6.67E+02	-6.49E+00
6 30	1.74E+02	-9.52E-01	6.34E+02	-6.11E+00
6 40	1.66E+02	-8.66E-01	6.03E+02	-5.77E+00
6 50	1.59E+02	-7.86E-01	5.75E+02	-5.45E+00
7 0	1.53E+02	-7.12E-01	5.48E+02	-5.15E+00
7 10	1.46E+02	-6.43E-01	5.24E+02	-4.88E+00
7 20	1.41E+02	-5.79E-01	5.01E+02	-4.62E+00
7 30	1.35E+02	-5.19E-01	4.79E+02	-4.38E+00
7 40	1.30E+02	-4.63E-01	4.59E+02	-4.15E+00
7 50	1.26E+02	-4.11E-01	4.40E+02	-3.94E+00
8 0	1.21E+02	-3.61E-01	4.23E+02	-3.74E+00
8 10	1.17E+02	-3.15E-01	4.06E+02	-3.56E+00
8 20	1.13E+02	-2.72E-01	3.91E+02	-3.38E+00
8 30	1.10E+02	-2.31E-01	3.76E+02	-3.22E+00
8 40	1.06E+02	-1.92E-01	3.62E+02	-3.06E+00
8 50	1.03E+02	-1.56E-01	3.49E+02	-2.91E+00
9 0	9.99E+01	-1.22E-01	3.37E+02	-2.78E+00
9 10	9.71E+01	-8.99E-02	3.25E+02	-2.65E+00
9 20	9.43E+01	-5.92E-02	3.14E+02	-2.52E+00
9 30	9.17E+01	-3.01E-02	3.04E+02	-2.40E+00
9 40	8.93E+01	-2.66E-03	2.94E+02	-2.29E+00
9 50	8.70E+01	2.34E-02	2.84E+02	-2.19E+00
10 0	8.48E+01	4.82E-02	2.75E+02	-2.09E+00

TABLE IV (cont.)

GAMMA	$\varepsilon(^1S)$	$1-b\varepsilon(^1S)$	$\varepsilon(^2S)$	$1-b\varepsilon(^2S)$
10 10	8.27E+01	7.17E-02	2.67E+02	-1.99E+00
10 20	8.07E+01	9.41E-02	2.59E+02	-1.90E+00
10 30	7.88E+01	1.15E-01	2.51E+02	-1.81E+00
10 40	7.70E+01	1.35E-01	2.44E+02	-1.73E+00
10 50	7.52E+01	1.55E-01	2.37E+02	-1.65E+00
11 0	7.36E+01	1.73E-01	2.30E+02	-1.58E+00
11 10	7.20E+01	1.91E-01	2.23E+02	-1.50E+00
11 20	7.05E+01	2.07E-01	2.17E+02	-1.44E+00
11 30	6.91E+01	2.23E-01	2.11E+02	-1.37E+00
11 40	6.77E+01	2.39E-01	2.06E+02	-1.31E+00
11 50	6.64E+01	2.53E-01	2.00E+02	-1.25E+00
12 0	6.52E+01	2.67E-01	1.95E+02	-1.19E+00
12 10	6.40E+01	2.81E-01	1.90E+02	-1.13E+00
12 20	6.29E+01	2.94E-01	1.86E+02	-1.08E+00
12 30	6.18E+01	3.06E-01	1.81E+02	-1.03E+00
12 40	6.07E+01	3.18E-01	1.77E+02	-9.84E-01
12 50	5.97E+01	3.29E-01	1.73E+02	-9.37E-01
13 0	5.87E+01	3.40E-01	1.69E+02	-8.92E-01
13 10	5.78E+01	3.50E-01	1.65E+02	-8.48E-01
13 20	5.69E+01	3.60E-01	1.61E+02	-8.06E-01
13 30	5.61E+01	3.70E-01	1.57E+02	-7.66E-01
13 40	5.53E+01	3.79E-01	1.54E+02	-7.27E-01
13 50	5.45E+01	3.88E-01	1.51E+02	-6.90E-01
14 0	5.37E+01	3.96E-01	1.47E+02	-6.54E-01
14 10	5.30E+01	4.04E-01	1.44E+02	-6.19E-01
14 20	5.23E+01	4.12E-01	1.41E+02	-5.85E-01
14 30	5.16E+01	4.20E-01	1.38E+02	-5.53E-01
14 40	5.10E+01	4.27E-01	1.36E+02	-5.22E-01
14 50	5.03E+01	4.34E-01	1.33E+02	-4.91E-01
15 0	4.98E+01	4.41E-01	1.30E+02	-4.62E-01
15 10	4.92E+01	4.47E-01	1.28E+02	-4.34E-01
15 20	4.86E+01	4.53E-01	1.25E+02	-4.07E-01
15 30	4.81E+01	4.59E-01	1.23E+02	-3.80E-01
15 40	4.76E+01	4.65E-01	1.21E+02	-3.55E-01
15 50	4.71E+01	4.71E-01	1.18E+02	-3.30E-01
16 0	4.66E+01	4.76E-01	1.16E+02	-3.06E-01
16 10	4.61E+01	4.81E-01	1.14E+02	-2.83E-01
16 20	4.57E+01	4.86E-01	1.12E+02	-2.61E-01
16 30	4.53E+01	4.91E-01	1.10E+02	-2.39E-01
16 40	4.49E+01	4.96E-01	1.09E+02	-2.18E-01
16 50	4.45E+01	5.00E-01	1.07E+02	-1.98E-01
17 0	4.41E+01	5.04E-01	1.05E+02	-1.78E-01
17 10	4.37E+01	5.09E-01	1.03E+02	-1.59E-01
17 20	4.34E+01	5.13E-01	1.02E+02	-1.40E-01
17 30	4.30E+01	5.16E-01	1.00E+02	-1.22E-01
17 40	4.27E+01	5.20E-01	9.84E+01	-1.05E-01
17 50	4.24E+01	5.24E-01	9.69E+01	-8.81E-02
18 0	4.21E+01	5.27E-01	9.54E+01	-7.16E-02
18 10	4.18E+01	5.30E-01	9.40E+01	-5.57E-02
18 20	4.15E+01	5.33E-01	9.26E+01	-4.01E-02
18 30	4.12E+01	5.36E-01	9.13E+01	-2.50E-02
18 40	4.10E+01	5.39E-01	9.00E+01	-1.04E-02
18 50	4.07E+01	5.42E-01	8.87E+01	3.79E-03
19 0	4.05E+01	5.45E-01	8.75E+01	1.76E-02
19 10	4.02E+01	5.48E-01	8.63E+01	3.10E-02
19 20	4.00E+01	5.50E-01	8.51E+01	4.41E-02
19 30	3.98E+01	5.52E-01	8.40E+01	5.68E-02
19 40	3.96E+01	5.55E-01	8.29E+01	6.91E-02
19 50	3.94E+01	5.57E-01	8.18E+01	8.11E-02
20 0	3.92E+01	5.59E-01	8.08E+01	9.27E-02

TABLE IV (cont.)

GAMMA	$\varepsilon(^1S)$	$1-b\varepsilon(^1S)$	$\varepsilon(^2S)$	$1-b\varepsilon(^2S)$
20 10	3.90E+01	5.61E-01	7.98E+01	1.04E-01
20 20	3.89E+01	5.63E-01	7.88E+01	1.15E-01
20 30	3.87E+01	5.65E-01	7.78E+01	1.25E-01
20 40	3.85E+01	5.67E-01	7.69E+01	1.36E-01
20 50	3.84E+01	5.69E-01	7.60E+01	1.46E-01
21 0	3.82E+01	5.70E-01	7.51E+01	1.56E-01
21 10	3.81E+01	5.72E-01	7.43E+01	1.65E-01
21 20	3.80E+01	5.73E-01	7.35E+01	1.75E-01
21 30	3.78E+01	5.75E-01	7.26E+01	1.84E-01
21 40	3.77E+01	5.76E-01	7.19E+01	1.92E-01
21 50	3.76E+01	5.77E-01	7.11E+01	2.01E-01
22 0	3.75E+01	5.79E-01	7.04E+01	2.09E-01
22 10	3.74E+01	5.80E-01	6.96E+01	2.17E-01
22 20	3.73E+01	5.81E-01	6.89E+01	2.25E-01
22 30	3.72E+01	5.82E-01	6.83E+01	2.33E-01
22 40	3.71E+01	5.83E-01	6.76E+01	2.40E-01
22 50	3.70E+01	5.84E-01	6.70E+01	2.48E-01
23 0	3.69E+01	5.85E-01	6.63E+01	2.55E-01
23 10	3.69E+01	5.86E-01	6.57E+01	2.61E-01
23 20	3.68E+01	5.86E-01	6.51E+01	2.68E-01
23 30	3.67E+01	5.87E-01	6.46E+01	2.74E-01
23 40	3.67E+01	5.88E-01	6.40E+01	2.81E-01
23 50	3.66E+01	5.89E-01	6.35E+01	2.87E-01
24 0	3.65E+01	5.89E-01	6.30E+01	2.92E-01
24 10	3.65E+01	5.90E-01	6.25E+01	2.98E-01
24 20	3.64E+01	5.90E-01	6.20E+01	3.04E-01
24 30	3.64E+01	5.91E-01	6.15E+01	3.09E-01
24 40	3.63E+01	5.91E-01	6.11E+01	3.14E-01
24 50	3.63E+01	5.92E-01	6.06E+01	3.19E-01
25 0	3.63E+01	5.92E-01	6.02E+01	3.24E-01
25 10	3.62E+01	5.92E-01	5.98E+01	3.28E-01
25 20	3.62E+01	5.93E-01	5.94E+01	3.33E-01
25 30	3.62E+01	5.93E-01	5.90E+01	3.37E-01
25 40	3.62E+01	5.93E-01	5.86E+01	3.41E-01
25 50	3.61E+01	5.94E-01	5.83E+01	3.45E-01
26 0	3.61E+01	5.94E-01	5.79E+01	3.49E-01
26 10	3.61E+01	5.94E-01	5.76E+01	3.52E-01
26 20	3.61E+01	5.94E-01	5.73E+01	3.56E-01
26 30	3.61E+01	5.94E-01	5.70E+01	3.59E-01
26 40	3.61E+01	5.95E-01	5.67E+01	3.62E-01
26 50	3.60E+01	5.95E-01	5.65E+01	3.65E-01
27 0	3.60E+01	5.95E-01	5.62E+01	3.68E-01
27 10	3.60E+01	5.95E-01	5.60E+01	3.71E-01
27 20	3.60E+01	5.95E-01	5.58E+01	3.73E-01
27 30	3.60E+01	5.95E-01	5.55E+01	3.76E-01
27 40	3.60E+01	5.95E-01	5.53E+01	3.78E-01
27 50	3.60E+01	5.95E-01	5.52E+01	3.80E-01
28 0	3.60E+01	5.95E-01	5.50E+01	3.82E-01
28 10	3.60E+01	5.95E-01	5.48E+01	3.84E-01
28 20	3.60E+01	5.95E-01	5.47E+01	3.85E-01
28 30	3.60E+01	5.95E-01	5.46E+01	3.87E-01
28 40	3.60E+01	5.95E-01	5.44E+01	3.88E-01
28 50	3.60E+01	5.95E-01	5.43E+01	3.89E-01
29 0	3.60E+01	5.95E-01	5.42E+01	3.90E-01
29 10	3.60E+01	5.95E-01	5.42E+01	3.91E-01
29 20	3.60E+01	5.95E-01	5.41E+01	3.92E-01
29 30	3.60E+01	5.95E-01	5.41E+01	3.92E-01
29 40	3.60E+01	5.95E-01	5.40E+01	3.93E-01
29 50	3.60E+01	5.95E-01	5.40E+01	3.93E-01
30 0	3.60E+01	5.95E-01	5.40E+01	3.93E-01

STOP