

Adopted Levels, Gammas

| Type            | Author   | History Citation | Literature Cutoff Date |
|-----------------|----------|------------------|------------------------|
| Full Evaluation | K. Kitao | NDS 75,99 (1995) | 1-Feb-1993             |

$Q(\beta^-) = -299.19$ ;  $S(n) = 7428.9$ ;  $S(p) = 4887.3$ ;  $Q(\alpha) = -1853.4$  [2012Wa38](#)

Note: Current evaluation has used the following Q record -278 167426 104887 3 -1852 4 [1993Au05](#).

 $^{118}\text{Sb}$  LevelsCross Reference (XREF) Flags

|   |                                                          |   |                                  |
|---|----------------------------------------------------------|---|----------------------------------|
| A | $^{118}\text{Te}$ $\varepsilon$ decay                    | F | $^{118}\text{Sn}(p,n)$           |
| B | $^{115}\text{In}(\alpha,n), ^{118}\text{Sn}(p,n),(d,2n)$ | G | $^{118}\text{Sn}(p,n\gamma)$     |
| C | $^{115}\text{In}(\alpha,n\gamma)$                        | H | $^{118}\text{Sn}(^3\text{He},t)$ |
| D | $^{117}\text{Sn}(p,n)$ IAS                               | I | ( $\text{HI},x n\gamma$ )        |
| E | $^{117}\text{Sn}(^3\text{He},d)$                         |   |                                  |

| E(level) <sup>‡</sup> | J <sup>π</sup>   | T <sub>1/2</sub>     | XREF       | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------|------------------|----------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0.0                   | 1 <sup>+</sup>   | 3.6 min 1            | ABCDEF GHI | $\% \varepsilon + \% \beta^+ = 100$<br>$\mu = 2.47$ 7<br>$\mu$ : Atomic beam magnetic res, value relative to $^{121}\text{Sb}$ .<br>Configuration = $(\pi d_{5/2})(n, d_{3/2})$ .<br>T <sub>1/2</sub> : average of 3.6 min ( <a href="#">1940Ri02</a> ), 3.5 min ( <a href="#">1948Li02</a> ), 3.7 min 3 ( <a href="#">1964Va23</a> ).<br>J <sup>π</sup> : atomic beam ( <a href="#">1968Ja05</a> ).<br>J <sup>π</sup> : d $\gamma$ to 1 <sup>+</sup> , d $\gamma$ from (3) <sup>-</sup> .<br>T <sub>1/2</sub> : from <a href="#">1985Di07</a> .<br>$\mu = +2.63$ 5; $Q = 0.57$ 14<br>$\mu$ : Differential perturbed angular correlation, value does not include the Knight-shift correction and is relative to $\mu = -1.378$ 11 for $^{115}\text{Sn}$ (11/2 <sup>-</sup> 714 level).<br>Q: quadrupole interaction from relaxation time, value recalculated based on new measurements and is relative to $Q = -0.36$ 4 for g.s. of $^{121}\text{Sb}$ ( <a href="#">1989Ra17</a> ).<br>J <sup>π</sup> : E2 $\gamma$ to 1 <sup>+</sup> and $\gamma$ from (4) <sup>+</sup> allow (2,3) <sup>+</sup> ; measured g-factor is consistent with J=3.<br>Configuration = $((\pi d_{5/2})(\nu s_{1/2}))$ .<br>T <sub>1/2</sub> : pulsed beam $\gamma(t)$ ( <a href="#">1975Pl04</a> ).<br>XREF: E(76)H(61).<br>J <sup>π</sup> : E1+M2 $\gamma$ from (3) <sup>-</sup> , no $\gamma$ to 1 <sup>+</sup> . |
| 31.26 4               | (2)              | <15 ns               | BC G       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 50.814 21             | (3) <sup>+</sup> | 20.6 $\mu\text{s}$ 6 | BC E GH    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 82.07 6               | (4) <sup>+</sup> |                      | BC E GH    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 118? 10               |                  |                      | H          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 166.169 20            | (2) <sup>+</sup> |                      | BC E GH    | J <sup>π</sup> : $\gamma(\theta)$ in (p,n $\gamma$ ), E1 $\gamma$ from (3) <sup>-</sup> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 238 10                |                  |                      | H          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 250 6                 | 8 <sup>-</sup>   | 5.00 h 2             | BC E I     | $\% \varepsilon + \% \beta^+ = 100$<br>$\mu = 2.32$ 4<br>XREF: E(262).<br>Additional information 1.<br>Configuration = $((\pi d_{5/2})(\nu h_{11/2}))$ .<br>E(level): from E( $\beta^+$ to $^{118}\text{Sn}$ 2575 level) = 310.5 and g.s. $Q(\beta^+) = 3657.3$ .<br>E( $\beta^+$ ) deduced from $\% \beta^+ = 0.0016$ 1 ( <a href="#">1961Bo13</a> ) and $\% I(\varepsilon + \beta^+) = 98.5$ .<br>T <sub>1/2</sub> : from <a href="#">1974Ca06</a> . Others: 5.1 h 3 ( <a href="#">1947Co04</a> ), 4.96 h 2 ( <a href="#">1967Ha27</a> ), 5.15 h 5 ( <a href="#">1968Ki06</a> ), 5.11 h 6 ( <a href="#">1972Pa13</a> ).<br>J <sup>π</sup> : atomic beam ( <a href="#">1974Ek01</a> ), nuclear magnetic resonance ( <a href="#">1974Ca06</a> ).<br>$\mu$ : Radiative detection of NMR, value relative to $\mu = -1.905$ 20 for g.s. of $^{122}\text{Sb}$ ( <a href="#">1989Ra17</a> ).<br>$\mu = -3.76$ 9; $Q = 0.25$ 5<br>$\mu, Q$ : differential perturbed angular distribution; Q: value relative to $Q = 0.71$ 7                                                                                                                                                                                                                                                                                                                                                                         |
| 269.82 3              | (3) <sup>-</sup> | 13.3 ns 2            | BC G       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

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**Adopted Levels, Gammas (continued)** $^{118}\text{Sb}$  Levels (continued)

| E(level) <sup>‡</sup> | J <sup>π</sup>                  | T <sub>1/2</sub> | XREF   | Comments                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------|---------------------------------|------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       |                                 |                  |        | that for $^{112}\text{Sb}$ (796 level) and includes the sternheimer correction (1989Ra17).<br>Configuration=(( $\pi$ d <sub>5/2</sub> )( $\nu$ h <sub>11/2</sub> )).<br>T <sub>1/2</sub> : weighted av of 13.4 ns 3 (1985Di07) and 13.2 ns 3 (1974Ch44).<br>J <sup>π</sup> : E1 $\gamma$ -M1 $\gamma$ -E2 $\gamma$ and d $\gamma$ -d $\gamma$ cascades to 1 <sup>+</sup> ; no $\gamma$ to 1 <sup>+</sup> . |
| 282 10                |                                 |                  | H      |                                                                                                                                                                                                                                                                                                                                                                                                            |
| 324.317 16            | 2 <sup>+</sup>                  |                  | C Gh   | XREF: h(332).<br>J <sup>π</sup> : M1(+E2) $\gamma$ to 1 <sup>+</sup> , $\gamma(\theta)$ in (p,n $\gamma$ ).<br>XREF: h(332).<br>J <sup>π</sup> : M1(+E2) $\gamma$ to (3) <sup>+</sup> , no $\gamma$ to 1 <sup>+</sup> .                                                                                                                                                                                    |
| 324.65 4              | (4) <sup>+</sup>                |                  | C Gh   |                                                                                                                                                                                                                                                                                                                                                                                                            |
| 370 10                |                                 |                  | E      |                                                                                                                                                                                                                                                                                                                                                                                                            |
| 398.20 4              | (4) <sup>-</sup>                |                  | C GH   | J <sup>π</sup> : M1(+E2) $\gamma$ to (3) <sup>-</sup> , $\gamma(\theta)$ in (p,n $\gamma$ ).                                                                                                                                                                                                                                                                                                               |
| 403.50 3              | (3) <sup>+</sup>                |                  | C G    | J <sup>π</sup> : M1,E2 $\gamma$ from (2,3) <sup>+</sup> ; excit in (p,n $\gamma$ ) suggests 3 <sup>+</sup> .                                                                                                                                                                                                                                                                                               |
| 511.0 3               |                                 |                  | HI     | XREF: H(494).                                                                                                                                                                                                                                                                                                                                                                                              |
| 540.592 25            | 3 <sup>+</sup>                  |                  | C E Gh | XREF: h(551).<br>J <sup>π</sup> : M1(+E2) $\gamma$ to 2 <sup>+</sup> , $\gamma(\theta)$ in (p,n $\gamma$ ).                                                                                                                                                                                                                                                                                                |
| 557.32 4              | (3,4)                           |                  | C Gh   | XREF: h(551).<br>J <sup>π</sup> : strong $\gamma$ to (3) <sup>+</sup> ; excit in (p,n $\gamma$ ) does not agree J=2.                                                                                                                                                                                                                                                                                       |
| 568.23 3              | (6,7,8) <sup>-</sup>            |                  | BC I   | J <sup>π</sup> : M1,E2 $\gamma$ to (8) <sup>-</sup> ; E1+M2 $\gamma$ from (7).                                                                                                                                                                                                                                                                                                                             |
| 569.90 6              | (4,5) <sup>-</sup>              |                  | C G    | J <sup>π</sup> : M1(+E2) $\gamma$ to (4) <sup>-</sup> ; excit in (p,n $\gamma$ ) does not agree J=3.                                                                                                                                                                                                                                                                                                       |
| 606.32 10             |                                 |                  | C E G  |                                                                                                                                                                                                                                                                                                                                                                                                            |
| 618.74 3              | (3,4,5) <sup>+</sup>            |                  | C G    | J <sup>π</sup> : M1(+E2) $\gamma$ to (4) <sup>+</sup> .                                                                                                                                                                                                                                                                                                                                                    |
| 622.223 20            | 1 <sup>+</sup> , 2 <sup>+</sup> |                  | C Gh   | XREF: h(624).<br>J <sup>π</sup> : M1(+E2) $\gamma$ to 1 <sup>+</sup> ; M1,E2 $\gamma$ to 3 <sup>+</sup> .                                                                                                                                                                                                                                                                                                  |
| 628.05 6              | (5 <sup>+</sup> )               |                  | C h    | XREF: h(624).<br>J <sup>π</sup> : strong $\gamma$ to (4) <sup>+</sup> , no $\gamma$ to (3) <sup>-</sup> .                                                                                                                                                                                                                                                                                                  |
| 629.04 3              | (3) <sup>+</sup>                |                  | C Gh   | XREF: h(624).<br>J <sup>π</sup> : M1(+E2) $\gamma$ to (2) <sup>+</sup> , $\gamma(\theta)$ in (p,n $\gamma$ ).                                                                                                                                                                                                                                                                                              |
| 637.57 4              | (3,4,5) <sup>-</sup>            |                  | C G    | J <sup>π</sup> : M1,E2 $\gamma$ to (3) <sup>-</sup> ; excit in (p,n $\gamma$ ) does not agree either J=1 <sup>-</sup> or 2 <sup>-</sup> .                                                                                                                                                                                                                                                                  |
| 682.99 4              | (3,4,5) <sup>-</sup>            |                  | C GH   | J <sup>π</sup> : M1,E2 $\gamma$ to (3) <sup>-</sup> ; excit in (p,n $\gamma$ ) does not agree either J=1 <sup>-</sup> or 2 <sup>-</sup> .                                                                                                                                                                                                                                                                  |
| 712? 10               |                                 |                  | E      |                                                                                                                                                                                                                                                                                                                                                                                                            |
| 741.24 3              | (2,3) <sup>+</sup>              |                  | C Gh   | XREF: h(750).<br>J <sup>π</sup> : M1+E2 $\gamma$ to (3) <sup>+</sup> ; excit in (p,n $\gamma$ ) does not agree J=4.                                                                                                                                                                                                                                                                                        |
| 760.43 4              |                                 |                  | C E h  | XREF: h(750).                                                                                                                                                                                                                                                                                                                                                                                              |
| 788.32 4              | (2,3) <sup>+</sup>              |                  | C GH   | J <sup>π</sup> : M1+E2 $\gamma$ to (3) <sup>+</sup> ; M1,E2 $\gamma$ to 1 <sup>+</sup> .                                                                                                                                                                                                                                                                                                                   |
| 808.30 11             |                                 |                  | C      |                                                                                                                                                                                                                                                                                                                                                                                                            |
| 821.15 4              | (2 to 5) <sup>-</sup>           |                  | C e H  | XREF: e(829)H(824).<br>J <sup>π</sup> : M1,E2 $\gamma$ to (4) <sup>-</sup> ; $\gamma$ to (3) <sup>-</sup> .                                                                                                                                                                                                                                                                                                |
| 821.66 4              | (6 <sup>-</sup> , 7, 8)         |                  | C e h  | XREF: e(829)h(824).<br>J <sup>π</sup> : strong $\gamma$ to (7) <sup>-</sup> , $\gamma$ to 8 <sup>-</sup> .                                                                                                                                                                                                                                                                                                 |
| 833.74 4              | (2,3) <sup>-</sup>              |                  | C e G  | XREF: e(829).<br>J <sup>π</sup> : M1,E2 $\gamma$ to (3) <sup>-</sup> ; $\gamma(\theta)$ in (p,n $\gamma$ ) supports J <sup>π</sup> =2 <sup>-</sup> , 3 <sup>-</sup> .                                                                                                                                                                                                                                      |
| 837.35 21             | (6 <sup>+</sup> )               |                  | C e    | XREF: e(829).<br>J <sup>π</sup> : M1+E2 $\gamma$ to (5 <sup>+</sup> ), no $\gamma$ to (3) <sup>+</sup> .                                                                                                                                                                                                                                                                                                   |
| 852.40 6              | (3,4,5) <sup>+</sup>            |                  | C G    | J <sup>π</sup> : M1,E2 $\gamma$ to (4) <sup>+</sup> ; $\gamma$ to (5 <sup>+</sup> ).                                                                                                                                                                                                                                                                                                                       |
| 863.40 3              | (1,2,3) <sup>+</sup>            |                  | G      | J <sup>π</sup> : M1(+E2) $\gamma$ to (2) <sup>+</sup> .                                                                                                                                                                                                                                                                                                                                                    |
| 873.50 12             |                                 |                  | C      |                                                                                                                                                                                                                                                                                                                                                                                                            |
| 890.15 7              |                                 |                  | C      |                                                                                                                                                                                                                                                                                                                                                                                                            |
| 926.48 4              | 7, 8, 9 <sup>-</sup>            |                  | C      | J <sup>π</sup> : strong $\gamma$ to 8 <sup>-</sup> , $\gamma$ from 7 <sup>-</sup> .                                                                                                                                                                                                                                                                                                                        |
| 930.36 11             |                                 |                  | C      |                                                                                                                                                                                                                                                                                                                                                                                                            |
| 939.01 5              | (3,4,5) <sup>+</sup>            |                  | C G    | J <sup>π</sup> : M1(+E2) $\gamma$ to (4) <sup>+</sup> .                                                                                                                                                                                                                                                                                                                                                    |
| 940.11 5              | (0,2,3) <sup>+</sup>            |                  | G      | J <sup>π</sup> : $\gamma$ 's to 1 <sup>+</sup> and (2) <sup>+</sup> ; excit in (p,n $\gamma$ ) does not agree J=1.                                                                                                                                                                                                                                                                                         |
| 947.85 24             |                                 |                  | C      |                                                                                                                                                                                                                                                                                                                                                                                                            |
| 964.88 4              | (7) <sup>+</sup>                | 22.6 ns 3        | BC I   | $\mu$ =+4.76 13; Q=1.75 30<br>$\mu$ ,Q: differential perturbed angular distribution (1989Ra17); Q value relative to Q=0.71 7 for $^{112}\text{Sb}$ (796 level) and includes the Sternheimer correction                                                                                                                                                                                                     |

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**Adopted Levels, Gammas (continued)** $^{118}\text{Sb}$  Levels (continued)

| E(level) <sup>‡</sup>  | J <sup>π</sup>                                 | XREF |   | Comments                                                                                                                                         |
|------------------------|------------------------------------------------|------|---|--------------------------------------------------------------------------------------------------------------------------------------------------|
|                        |                                                |      |   | (1989Ra17).                                                                                                                                      |
|                        |                                                |      |   | J <sup>π</sup> : d γ to 8 <sup>-</sup> , π=+ from E1+M2 γ-M1,E2 γ cascade relation to 8 <sup>-</sup> ; measured g-factor is consistent with J=7. |
|                        |                                                |      |   | Configuration=((π g <sub>9/2</sub> ) <sup>-1</sup> (ν d <sub>5/2</sub> ) <sup>-1</sup> ).                                                        |
|                        |                                                |      |   | T <sub>1/2</sub> : weighted av of 22.8 ns 4 (1985Di07) and 22.4 ns 5 (1983Va14).                                                                 |
| 985.39 13              |                                                | C    | G |                                                                                                                                                  |
| 998.63 6               | 7,8,9 <sup>-</sup>                             | C    |   | J <sup>π</sup> : strong γ to 8 <sup>-</sup> , γ from 7 <sup>-</sup> .                                                                            |
| 998.70 4               | +                                              | C    | G | XREF: C(998.60).                                                                                                                                 |
|                        |                                                |      |   | J <sup>π</sup> : M1,E2 γ to 2 <sup>+</sup> .                                                                                                     |
| 1016.95 8              | -                                              | C    | G | J <sup>π</sup> : M1,E2 γ to (3) <sup>-</sup> .                                                                                                   |
| 1019.33 4              | 0 <sup>+</sup> ,1 <sup>+</sup> ,2 <sup>+</sup> |      | G | J <sup>π</sup> : M1(+E2) γ to 1 <sup>+</sup> .                                                                                                   |
| 1024.03 6              |                                                | C    | G |                                                                                                                                                  |
| 1044.316 24            | (2,3) <sup>+</sup>                             | C    | G | J <sup>π</sup> : γ to 1 <sup>+</sup> , M1(+E2) γ to (3) <sup>+</sup> .                                                                           |
| 1072.97 6              | -                                              | C    | G | J <sup>π</sup> : M1,E2 γ to (3) <sup>-</sup> .                                                                                                   |
| 1081.34 11             | ( <sup>+</sup> )                               | C    |   | J <sup>π</sup> : M1,E2 γ to (4 <sup>+</sup> ,5 <sup>+</sup> ).                                                                                   |
| 1093.72 11             |                                                | C    |   |                                                                                                                                                  |
| 1096.12 4              | 1 <sup>+</sup> ,2 <sup>+</sup> ,3 <sup>+</sup> |      | G | J <sup>π</sup> : γ's to 1 <sup>+</sup> and 3 <sup>+</sup> ; M1,E2 γ to 2 <sup>+</sup> .                                                          |
| 1113.49 11             |                                                | C    |   |                                                                                                                                                  |
| 1117.421 24            | (1,2,3) <sup>+</sup>                           | C    | G | J <sup>π</sup> : γ's to 1 <sup>+</sup> and (3) <sup>+</sup> ; M1,E2 γ to 2 <sup>+</sup> .                                                        |
| 1124.45 6              |                                                | C    | G |                                                                                                                                                  |
| 1131.35 5              | 0 <sup>+</sup> ,1 <sup>+</sup> ,2 <sup>+</sup> |      | G | J <sup>π</sup> : strong γ to 1 <sup>+</sup> ; M1,E2 γ to (2) <sup>+</sup> .                                                                      |
| 1142.50 8              |                                                | C    |   |                                                                                                                                                  |
| 1147.70 4              |                                                | C    |   |                                                                                                                                                  |
| 1150                   |                                                | D    |   |                                                                                                                                                  |
| 1152.80 10             |                                                | C    |   |                                                                                                                                                  |
| 1153.61 6              |                                                | C    | G |                                                                                                                                                  |
| 1160.48 5              | +                                              |      | G | J <sup>π</sup> : M1,E2 γ to (2) <sup>+</sup> .                                                                                                   |
| 1164.55 8              |                                                | C    | G |                                                                                                                                                  |
| 1168.38 10             |                                                | C    | G |                                                                                                                                                  |
| 1170.80? 16            |                                                | C    |   |                                                                                                                                                  |
| 1187.21 4              | 7 <sup>-</sup> ,8 <sup>-</sup> ,9 <sup>-</sup> | C    | I | J <sup>π</sup> : M1(+E2) γ to 8 <sup>-</sup> .                                                                                                   |
| 1191.56 6              | +                                              | C    | G | J <sup>π</sup> : M1,E2 γ to (4) <sup>+</sup> .                                                                                                   |
| 1196.03 6              |                                                | C    |   |                                                                                                                                                  |
| 1211.38 8              |                                                | C    |   |                                                                                                                                                  |
| 1213.59 5              | -                                              | C    | G | J <sup>π</sup> : M1,E2 γ to (3) <sup>-</sup> .                                                                                                   |
| 1224.34 <sup>†</sup> 9 | (8 <sup>-</sup> ) <sup>#</sup>                 | C    | I | J <sup>π</sup> : from syst of ΔJ=1 band built on 8 <sup>-</sup> state in odd-odd Sb isotopes (1983Va14).                                         |
|                        |                                                |      |   | Configuration=((π g <sub>9/2</sub> ) <sup>-1</sup> (ν h <sub>11/2</sub> ) <sup>-1</sup> ).                                                       |
| 1233.55 12             |                                                | C    |   |                                                                                                                                                  |
| 1252.10 9              | (1,2,3) <sup>-</sup>                           |      | G | J <sup>π</sup> : M1,E2 γ to (3) <sup>-</sup> ; γ to (2) <sup>+</sup> .                                                                           |
| 1262.74 21             | (2,3,4) <sup>-</sup>                           |      | G | J <sup>π</sup> : E1 γ to (3) <sup>+</sup> .                                                                                                      |
| 1269.93 12             |                                                | C    |   |                                                                                                                                                  |
| 1279.85 13             | (3,4,5) <sup>+</sup>                           | C    | G | J <sup>π</sup> : M1(+E2) γ to (4) <sup>+</sup> .                                                                                                 |
| 1286.2 5               |                                                |      | G |                                                                                                                                                  |
| 1294.42 7              |                                                | C    | G |                                                                                                                                                  |
| 1295.99 8              | +                                              |      | G | J <sup>π</sup> : M1,E2 γ to 3 <sup>+</sup> .                                                                                                     |
| 1299.61 11             |                                                | C    | G |                                                                                                                                                  |
| 1306.75 8              |                                                | C    | G |                                                                                                                                                  |
| 1309.43 10             |                                                | C    | G |                                                                                                                                                  |
| 1325.31 12             |                                                | C    |   |                                                                                                                                                  |
| 1325.83 11             |                                                |      | G |                                                                                                                                                  |
| 1327.62 11             |                                                |      | G |                                                                                                                                                  |
| 1331.27 7              |                                                | C    |   |                                                                                                                                                  |
| 1335.92 5              |                                                | C    |   |                                                                                                                                                  |
| 1381.60 12             |                                                | C    |   |                                                                                                                                                  |
| 1393.36 11             |                                                | C    |   |                                                                                                                                                  |
| 1405.34 10             |                                                | C    |   |                                                                                                                                                  |

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**Adopted Levels, Gammas (continued)** $^{118}\text{Sb}$  Levels (continued)

| E(level) <sup>‡</sup>  | J <sup>π</sup>                  | XREF | Comments                    |
|------------------------|---------------------------------|------|-----------------------------|
| 1411.33 11             |                                 | G    |                             |
| 1427.07 <sup>†</sup> 9 | (9 <sup>-</sup> ) <sup>#</sup>  | C I  | XREF: C(1427.07)I(1426.81). |
| 1427.72 19             |                                 | G    | XREF: G(1427.73).           |
| 1434.33 11             |                                 | G    |                             |
| 1451.05 7              |                                 | C    |                             |
| 1458.22 12             |                                 | C    |                             |
| 1497.62 20             |                                 | G    |                             |
| 1542.03 10             |                                 | C    |                             |
| 1571.0 3               | (10 <sup>-</sup> )              | I    |                             |
| 1582.24 11             |                                 | C    |                             |
| 1633.70 7              |                                 | C    |                             |
| 1635.65 9              |                                 | C    |                             |
| 1640.24 11             |                                 | C    |                             |
| 1693.96 11             |                                 | C    |                             |
| 1712.09 6              |                                 | C    |                             |
| 1732.8 5               | (11 <sup>+</sup> )              | I    |                             |
| 1753.4 <sup>†</sup> 4  | (10 <sup>-</sup> ) <sup>#</sup> | C I  |                             |
| 1802.28 11             |                                 | C    |                             |
| 1820.84 14             |                                 | C    |                             |
| 1852.27 10             |                                 | C    |                             |
| 1889.01 21             |                                 | C    |                             |
| 2104.66 9              |                                 | C    |                             |
| 2115.5 <sup>†</sup> 4  | (11 <sup>-</sup> ) <sup>#</sup> | C I  |                             |
| 2171.58 13             |                                 | C    |                             |
| 2402.8 6               | (12 <sup>+</sup> )              | I    |                             |
| 2503.0 <sup>†</sup> 5  | (12 <sup>-</sup> ) <sup>#</sup> | I    |                             |
| 2918.4 6               |                                 | I    |                             |
| 4440 15                |                                 | D    |                             |
| 5670 15                |                                 | D    |                             |
| 6140 15                |                                 | D    |                             |
| 6470 15                |                                 | D    |                             |
| 6770 15                |                                 | D    |                             |
| 6920 15                |                                 | D    |                             |
| 7100 15                |                                 | D    |                             |
| 7170 15                |                                 | D    |                             |
| 7330 15                |                                 | D    |                             |
| 9300                   |                                 | F    |                             |

<sup>†</sup> Band(A): negative parity  $\Delta J=1$  band.<sup>‡</sup> From a least-squares fit to adopted E( $\gamma$ 's) unless otherwise noted.<sup>#</sup>  $\Delta J=1$   $\gamma$  cascades to the 8<sup>-</sup> 1224 level and expected band structure.

Adopted Levels, Gammas (continued)

$\gamma(^{118}\text{Sb})$

| $E_i(\text{level})$ | $J_i^\pi$                       | $E_\gamma^\dagger$    | $I_\gamma^\dagger$ | $E_f$   | $J_f^\pi$        | Mult.&  | $\delta^a$      | $\alpha^b$      | Comments                                                                                                                             |
|---------------------|---------------------------------|-----------------------|--------------------|---------|------------------|---------|-----------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------|
| 31.26               | (2)                             | 31.2 1                | 100                | 0.0     | 1 <sup>+</sup>   | D       |                 |                 | Mult.: from <sup>115</sup> In( $\alpha$ ,n), <sup>118</sup> Sn(p,n),(d,2n): delayed decay.                                           |
| 50.814              | (3) <sup>+</sup>                | 50.82 5               | 100                | 0.0     | 1 <sup>+</sup>   | E2      |                 | 19.0            | B(E2)(W.u.)=0.118 5                                                                                                                  |
|                     |                                 |                       |                    |         |                  |         |                 |                 | Mult.: $\alpha$ (K)exp suggests pure E2, but such E2 enhancement between non-collective levels does not seem realistic.              |
| 82.07               | (4) <sup>+</sup>                | (31.3)                |                    | 50.814  | (3) <sup>+</sup> |         |                 |                 | $E_\gamma$ : from <sup>115</sup> In( $\alpha$ ,n), <sup>118</sup> Sn(p,n),(d,2n): delayed decay.                                     |
| 166.169             | (2) <sup>+</sup>                | 115.37 2              | 100                | 50.814  | (3) <sup>+</sup> | M1(+E2) | $\approx -0.02$ | $\approx 0.418$ | $\delta$ : from <sup>115</sup> In( $\alpha$ ,n), <sup>118</sup> Sn(p,n),(d,2n): delayed decay. Other: +0.02 15 in (p, $\gamma$ ).    |
| 269.82              | (3) <sup>-</sup>                | 103.65 2              | 5.8 1              | 166.169 | (2) <sup>+</sup> | E1      |                 | 0.171           | B(E1)(W.u.)=9.8 $\times 10^{-7}$ 6                                                                                                   |
|                     |                                 |                       |                    |         |                  |         |                 |                 | $I_\gamma$ : other: 6.1 2 in <sup>115</sup> In( $\alpha$ ,n), <sup>118</sup> Sn(p,n),(d,2n): delayed decay.                          |
|                     |                                 |                       |                    |         |                  |         |                 |                 | Mult.: probably stretched E1 from $\gamma(\theta)$ in <sup>115</sup> In( $\alpha$ ,n), <sup>118</sup> Sn(p,n),(d,2n): delayed decay. |
|                     |                                 | 187.85 7              | 5.6 6              | 82.07   | (4) <sup>+</sup> | E1      |                 | 0.0322          | B(E1)(W.u.)=1.59 $\times 10^{-7}$ 20                                                                                                 |
|                     |                                 | 238.56 2              | 100 6              | 31.26   | (2)              | D       |                 |                 | $I_\gamma$ : 5.9 4 in (p, $\gamma$ ), 4.4 7 in ( $\alpha$ , $\gamma$ ).                                                              |
|                     |                                 |                       |                    |         |                  |         |                 |                 | Mult.: probably stretched d from $\gamma(\theta)$ in <sup>115</sup> In( $\alpha$ ,n), <sup>118</sup> Sn(p,n),(d,2n): delayed decay.  |
|                     |                                 |                       |                    |         |                  |         |                 |                 | $\delta$ : +0.02 8.                                                                                                                  |
| 324.317             | 2 <sup>+</sup>                  | 158.19 6              | 3.9 3              | 166.169 | (2) <sup>+</sup> |         |                 |                 | $I_\gamma$ : 53 7 in (p, $\gamma$ ), 39 4 in ( $\alpha$ , $\gamma$ ).                                                                |
|                     |                                 | 273.65 7              | 42 6               | 50.814  | (3) <sup>+</sup> |         |                 |                 |                                                                                                                                      |
|                     |                                 | 324.28 2              | 100 2              | 0.0     | 1 <sup>+</sup>   | M1(+E2) | -0.09 17        | 0.0257 2        |                                                                                                                                      |
| 324.65              | (4) <sup>+</sup>                | 273.83 4              | 100                | 50.814  | (3) <sup>+</sup> | M1(+E2) |                 | 0.045 5         |                                                                                                                                      |
| 398.20              | (4) <sup>-</sup>                | 128.38 2              | 100                | 269.82  | (3) <sup>-</sup> | M1(+E2) | -0.01 7         | 0.310 2         |                                                                                                                                      |
| 403.50              | (3) <sup>+</sup>                | 237.35 3              | 100 13             | 166.169 | (2) <sup>+</sup> |         |                 |                 |                                                                                                                                      |
|                     |                                 | 352.62 8              | 13.9 12            | 50.814  | (3) <sup>+</sup> |         |                 |                 |                                                                                                                                      |
| 511.0               |                                 | 261.0 <sup>‡</sup> 3  | 100 <sup>‡</sup>   | 250     | 8 <sup>-</sup>   |         |                 |                 |                                                                                                                                      |
| 540.592             | 3 <sup>+</sup>                  | 216.27 2              | 42 2               | 324.317 | 2 <sup>+</sup>   | M1(+E2) | +0.06 7         | 0.0745 5        |                                                                                                                                      |
|                     |                                 | 374.51 24             | 100 2              | 166.169 | (2) <sup>+</sup> | M1,E2   |                 | 0.0181 3        |                                                                                                                                      |
|                     |                                 | 540.7 <sup>#</sup> 4  | 8 <sup>#</sup> 1   | 0.0     | 1 <sup>+</sup>   |         |                 |                 | $E_\gamma$ : not reported in ( $\alpha$ , $\gamma$ ).                                                                                |
| 557.32              | (3,4)                           | 153.82 3              | 29 4               | 403.50  | (3) <sup>+</sup> |         |                 |                 | $I_\gamma$ : 27 1 in ( $\alpha$ , $\gamma$ ), 35 2 in (p, $\gamma$ ).                                                                |
|                     |                                 | 232.68 6              | 15.5 13            | 324.65  | (4) <sup>+</sup> |         |                 |                 |                                                                                                                                      |
|                     |                                 | 506.55 15             | 100 10             | 50.814  | (3) <sup>+</sup> |         |                 |                 |                                                                                                                                      |
| 568.23              | (6,7,8) <sup>-</sup>            | 318.23 <sup>‡</sup> 3 | 100 <sup>‡</sup>   | 250     | 8 <sup>-</sup>   | M1,E2   |                 | 0.0288 18       |                                                                                                                                      |
| 569.90              | (4,5) <sup>-</sup>              | 171.78 9              | 100 17             | 398.20  | (4) <sup>-</sup> | M1(+E2) |                 | 0.19 6          |                                                                                                                                      |
|                     |                                 | 300.0 <sup>‡</sup> 1  | 6 <sup>‡</sup> 3   | 269.82  | (3) <sup>-</sup> |         |                 |                 |                                                                                                                                      |
| 606.32              |                                 | 208.12 9              | 100                | 398.20  | (4) <sup>-</sup> |         |                 |                 |                                                                                                                                      |
| 618.74              | (3,4,5) <sup>+</sup>            | 215.4 <sup>#</sup> 2  | 4 <sup>#</sup> 2   | 403.50  | (3) <sup>+</sup> |         |                 |                 |                                                                                                                                      |
|                     |                                 | 294.10 7              | 61 7               | 324.65  | (4) <sup>+</sup> | M1(+E2) |                 | 0.036 4         | $I_\gamma$ : other: 67 3 in (p, $\gamma$ ), 52 4 in ( $\alpha$ , $\gamma$ ).                                                         |
|                     |                                 | 567.93 2              | 100 4              | 50.814  | (3) <sup>+</sup> | M1,E2   |                 | 0.0060 5        |                                                                                                                                      |
| 622.223             | 1 <sup>+</sup> , 2 <sup>+</sup> | 297.92 <sup>#</sup> 3 | 10 <sup>#</sup> 1  | 324.317 | 2 <sup>+</sup>   | M1(+E2) |                 | 0.035 3         |                                                                                                                                      |
|                     |                                 | 456.05 <sup>#</sup> 3 | 100 <sup>#</sup> 2 | 166.169 | (2) <sup>+</sup> | M1,E2   |                 | 0.0105 4        |                                                                                                                                      |

Adopted Levels, Gammas (continued)

| $\gamma(^{118}\text{Sb})$ (continued) |                        |                       |                     |         |                      |         |            |            |                                                                                    |
|---------------------------------------|------------------------|-----------------------|---------------------|---------|----------------------|---------|------------|------------|------------------------------------------------------------------------------------|
| $E_i(\text{level})$                   | $J_i^\pi$              | $E_\gamma^\dagger$    | $I_\gamma^\dagger$  | $E_f$   | $J_f^\pi$            | Mult. & | $\delta^a$ | $\alpha^b$ | Comments                                                                           |
| 622.223                               | $1^+, 2^+$             | 571.42 <sup>#</sup> 3 | 32 <sup>#</sup> 2   | 50.814  | (3) <sup>+</sup>     | M1,E2   |            | 0.0059 5   |                                                                                    |
|                                       |                        | 622.19 <sup>#</sup> 4 | 22 <sup>#</sup> 1   | 0.0     | 1 <sup>+</sup>       | M1(+E2) |            | 0.0048 5   |                                                                                    |
| 628.05                                | (5 <sup>+</sup> )      | 303.5 <sup>‡</sup> 2  | 100 <sup>‡</sup> 16 | 324.65  | (4) <sup>+</sup>     |         |            |            |                                                                                    |
|                                       |                        | 577.3 <sup>‡</sup> 2  | <10 <sup>‡</sup>    | 50.814  | (3) <sup>+</sup>     |         |            |            |                                                                                    |
| 629.04                                | (3) <sup>+</sup>       | 304.30 17             | 42 4                | 324.65  | (4) <sup>+</sup>     |         |            |            |                                                                                    |
|                                       |                        | 304.72 9              | 21 4                | 324.317 | 2 <sup>+</sup>       |         |            |            |                                                                                    |
|                                       |                        | 462.85 11             | 100 3               | 166.169 | (2) <sup>+</sup>     | M1+E2   | -0.04 5    | 0.0105     |                                                                                    |
|                                       |                        | 578.2 <sup>#</sup> 2  | 13 <sup>#</sup> 1   | 50.814  | (3) <sup>+</sup>     | M1,E2   |            | 0.0057 5   |                                                                                    |
| 637.57                                | (3,4,5) <sup>-</sup>   | 367.74 2              | 100                 | 269.82  | (3) <sup>-</sup>     | M1,E2   |            | 0.0190 4   |                                                                                    |
| 682.99                                | (3,4,5) <sup>-</sup>   | 284.78 15             | 10 2                | 398.20  | (4) <sup>-</sup>     |         |            |            | $I_\gamma$ : 30 17 in (p,n $\gamma$ ), 10.2 16 in ( $\alpha$ ,n $\gamma$ ).        |
|                                       |                        | 413.16 5              | 100 4               | 269.82  | (3) <sup>-</sup>     | M1,E2   |            | 0.0138 2   |                                                                                    |
| 741.24                                | (2,3) <sup>+</sup>     | 112.23 3              | 16.8 6              | 629.04  | (3) <sup>+</sup>     |         |            |            |                                                                                    |
|                                       |                        | 416.92 <sup>#</sup> 8 | 7.8 <sup>#</sup> 6  | 324.317 | 2 <sup>+</sup>       | M1,E2   |            | 0.0134 2   |                                                                                    |
|                                       |                        | 575.08 3              | 25 2                | 166.169 | (2) <sup>+</sup>     | M1,E2   |            | 0.0058 5   | $I_\gamma$ : other: 60 20 in ( $\alpha$ ,n $\gamma$ ), 25.2 12 in (p,n $\gamma$ ). |
|                                       |                        | 690.22 7              | 100 3               | 50.814  | (3) <sup>+</sup>     | M1(+E2) |            | 0.0037 4   |                                                                                    |
| 760.43                                |                        | 141.69 <sup>‡</sup> 3 | 100 <sup>‡</sup> 5  | 618.74  | (3,4,5) <sup>+</sup> |         |            |            |                                                                                    |
|                                       |                        | 203.1 <sup>‡</sup> 1  | 92 <sup>‡</sup> 13  | 557.32  | (3,4)                |         |            |            |                                                                                    |
|                                       |                        | 357.1 <sup>‡</sup> 2  | 21 <sup>‡</sup> 5   | 403.50  | (3) <sup>+</sup>     |         |            |            |                                                                                    |
|                                       |                        | 435.7 <sup>‡</sup> 1  | 45 <sup>‡</sup> 8   | 324.65  | (4) <sup>+</sup>     |         |            |            |                                                                                    |
| 788.32                                | (2,3) <sup>+</sup>     | 384.87 7              | 21.6 11             | 403.50  | (3) <sup>+</sup>     | M1,E2   |            | 0.0168 1   |                                                                                    |
|                                       |                        | 463.9 <sup>#</sup> 2  | 3 <sup>#</sup> 2    | 324.317 | 2 <sup>+</sup>       |         |            |            |                                                                                    |
|                                       |                        | 518.6 <sup>#</sup> 2  | 16 <sup>#</sup> 5   | 269.82  | (3) <sup>-</sup>     |         |            |            |                                                                                    |
|                                       |                        | 737.49 4              | 100 2               | 50.814  | (3) <sup>+</sup>     | M1+E2   | 0.9 +11-9  |            | $\delta$ : from $\alpha$ (K)exp.                                                   |
|                                       |                        | 788.20 17             | 27 20               | 0.0     | 1 <sup>+</sup>       | M1,E2   |            |            | $I_\gamma$ : 74 5 in ( $\alpha$ ,n $\gamma$ ), 19 2 in (p,n $\gamma$ ).            |
| 808.30                                |                        | 410.1 <sup>‡</sup> 1  | 100 <sup>‡</sup>    | 398.20  | (4) <sup>-</sup>     |         |            |            |                                                                                    |
| 821.15                                | (2 to 5) <sup>-</sup>  | 138.15 <sup>‡</sup> 3 | 75 <sup>‡</sup> 6   | 682.99  | (3,4,5) <sup>-</sup> |         |            |            |                                                                                    |
|                                       |                        | 251.3 <sup>‡</sup> 1  | 86 <sup>‡</sup> 8   | 569.90  | (4,5) <sup>-</sup>   |         |            |            |                                                                                    |
|                                       |                        | 422.96 <sup>‡</sup> 3 | 100 <sup>‡</sup> 6  | 398.20  | (4) <sup>-</sup>     | M1,E2   |            | 0.0129 2   |                                                                                    |
|                                       |                        | 551.29 <sup>‡</sup> 7 | 20 <sup>‡</sup> 6   | 269.82  | (3) <sup>-</sup>     |         |            |            |                                                                                    |
| 821.66                                | (6 <sup>-</sup> , 7,8) | 253.41 <sup>‡</sup> 4 | 100 <sup>‡</sup> 9  | 568.23  | (6,7,8) <sup>-</sup> |         |            |            |                                                                                    |
|                                       |                        | 571.9 <sup>‡</sup> 1  | 18 <sup>‡</sup> 2   | 250     | 8 <sup>-</sup>       |         |            |            |                                                                                    |
| 833.74                                | (2,3) <sup>-</sup>     | 563.91 3              | 100                 | 269.82  | (3) <sup>-</sup>     | M1,E2   |            | 0.0061 5   |                                                                                    |
| 837.35                                | (6 <sup>+</sup> )      | 209.3 <sup>‡</sup> 2  | 100 <sup>‡</sup>    | 628.05  | (5 <sup>+</sup> )    | M1+E2   | 0.7 +6-5   | 0.095 14   | $\delta$ : from $\alpha$ (K)exp.                                                   |
| 852.40                                | (3,4,5) <sup>+</sup>   | 224.35 <sup>‡</sup> 3 | 27 <sup>‡</sup> 2   | 628.05  | (5 <sup>+</sup> )    |         |            |            |                                                                                    |
|                                       |                        | 295.1 <sup>‡</sup> 1  | 9 <sup>‡</sup> 1    | 557.32  | (3,4)                |         |            |            |                                                                                    |

Adopted Levels, Gammas (continued) $\gamma(^{118}\text{Sb})$  (continued)

| $E_i(\text{level})$ | $J_i^\pi$                                      | $E_\gamma^\dagger$     | $I_\gamma^\dagger$ | $E_f$   | $J_f^\pi$                      | Mult. & | $\alpha^b$ | Comments                                                                  |
|---------------------|------------------------------------------------|------------------------|--------------------|---------|--------------------------------|---------|------------|---------------------------------------------------------------------------|
| 852.40              | (3,4,5) <sup>+</sup>                           | 454.2 <sup>‡</sup> 1   | 4 <sup>‡</sup> 1   | 398.20  | (4) <sup>-</sup>               |         |            |                                                                           |
|                     |                                                | 527.71 7               | 100 5              | 324.65  | (4) <sup>+</sup>               | M1,E2   | 0.0072 5   |                                                                           |
| 863.40              | (1,2,3) <sup>+</sup>                           | 538.7 <sup>#</sup> 2   | 7 <sup>#</sup> 1   | 324.317 | 2 <sup>+</sup>                 |         |            |                                                                           |
|                     |                                                | 697.22 <sup>#</sup> 4  | 100 <sup>#</sup> 3 | 166.169 | (2) <sup>+</sup>               | M1(+E2) |            |                                                                           |
|                     |                                                | 863.42 <sup>#</sup> 4  | 31 <sup>#</sup> 6  | 0.0     | 1 <sup>+</sup>                 | M1,E2   |            |                                                                           |
| 873.50              |                                                | 303.6 <sup>‡</sup> 1   | 100 <sup>‡</sup>   | 569.90  | (4,5) <sup>-</sup>             |         |            |                                                                           |
| 890.15              |                                                | 321.94 <sup>‡</sup> 7  | 100 <sup>‡</sup>   | 568.23  | (6,7,8) <sup>-</sup>           |         |            |                                                                           |
| 926.48              | 7,8,9 <sup>-</sup>                             | 358.3 <sup>‡c</sup> 4  | 26 <sup>‡</sup> 5  | 568.23  | (6,7,8) <sup>-</sup>           |         |            |                                                                           |
|                     |                                                | 676.49 <sup>‡</sup> 4  | 100 <sup>‡</sup> 5 | 250     | 8 <sup>-</sup>                 |         |            |                                                                           |
| 930.36              |                                                | 108.7 <sup>‡</sup> 1   | 100 <sup>‡</sup>   | 821.66  | (6 <sup>-</sup> ,7,8)          |         |            |                                                                           |
| 939.01              | (3,4,5) <sup>+</sup>                           | 614.36 3               | 100                | 324.65  | (4) <sup>+</sup>               | M1(+E2) | 0.0049 5   |                                                                           |
| 940.11              | (0,2,3) <sup>+</sup>                           | 317.88 <sup>#</sup> 6  | 100 <sup>#</sup> 3 | 622.223 | 1 <sup>+</sup> ,2 <sup>+</sup> |         |            |                                                                           |
|                     |                                                | 773.6 <sup>#</sup> 5   | 39 <sup>#</sup> 3  | 166.169 | (2) <sup>+</sup>               |         |            |                                                                           |
|                     |                                                | 940.12 <sup>#</sup> 6  | 61 <sup>#</sup> 3  | 0.0     | 1 <sup>+</sup>                 |         |            |                                                                           |
| 947.85              |                                                | 110.5 <sup>‡</sup> 1   | 100 <sup>‡</sup>   | 837.35  | (6 <sup>+</sup> )              |         |            |                                                                           |
| 964.88              | (7) <sup>+</sup>                               | 396.65 <sup>‡</sup> 4  | 100 <sup>‡</sup> 4 | 568.23  | (6,7,8) <sup>-</sup>           | E1+M2   | 0.03 3     | B(E1)(W.u.)=7.6×10 <sup>-8</sup> 6; B(M2)(W.u.)=2.20 17                   |
|                     |                                                | 714.9 <sup>‡</sup> 1   | 29 <sup>‡</sup> 3  | 250     | 8 <sup>-</sup>                 | D       |            | Mult.: stretched d $\gamma$ from $\gamma(\theta)$ in (HI,xn $\gamma$ ).   |
| 985.39              |                                                | 715.56 12              | 100                | 269.82  | (3) <sup>-</sup>               |         |            |                                                                           |
| 998.63              | 7,8,9 <sup>-</sup>                             | 177.03 <sup>‡</sup> 7  | 4 <sup>‡</sup> 1   | 821.66  | (6 <sup>-</sup> ,7,8)          |         |            |                                                                           |
|                     |                                                | 430.4 <sup>‡</sup> 1   | 8 <sup>‡</sup> 1   | 568.23  | (6,7,8) <sup>-</sup>           |         |            |                                                                           |
|                     |                                                | 748.5 <sup>‡</sup> 1   | 100 <sup>‡</sup> 4 | 250     | 8 <sup>-</sup>                 |         |            |                                                                           |
| 998.70              | +                                              | 674.30 7               | 75 4               | 324.317 | 2 <sup>+</sup>                 | M1,E2   | 0.0039 4   |                                                                           |
|                     |                                                | 832.55 4               | 100 4              | 166.169 | (2) <sup>+</sup>               | M1,E2   |            |                                                                           |
| 1016.95             | -                                              | 747.12 7               | 100                | 269.82  | (3) <sup>-</sup>               | M1,E2   |            |                                                                           |
| 1019.33             | 0 <sup>+</sup> ,1 <sup>+</sup> ,2 <sup>+</sup> | 278.10 <sup>#</sup> 3  | 54 <sup>#</sup> 3  | 741.24  | (2,3) <sup>+</sup>             | M1(+E2) | 0.043 5    |                                                                           |
|                     |                                                | 694.6 <sup>#</sup> 5   | 38 <sup>#</sup> 2  | 324.317 | 2 <sup>+</sup>                 |         |            |                                                                           |
|                     |                                                | 1019.32 <sup>#</sup> 6 | 100 <sup>#</sup> 3 | 0.0     | 1 <sup>+</sup>                 | M1(+E2) |            |                                                                           |
| 1024.03             |                                                | 483.4 <sup>‡</sup> 1   | 38 <sup>‡</sup> 5  | 540.592 | 3 <sup>+</sup>                 |         |            |                                                                           |
|                     |                                                | 620.7 1                | 100 8              | 403.50  | (3) <sup>+</sup>               |         |            |                                                                           |
|                     |                                                | 973.15 <sup>‡</sup> 7  | 58 <sup>‡</sup> 5  | 50.814  | (3) <sup>+</sup>               |         |            |                                                                           |
| 1044.316            | (2,3) <sup>+</sup>                             | 503.7 <sup>‡</sup> 1   | 50 <sup>‡</sup> 22 | 540.592 | 3 <sup>+</sup>                 |         |            | $E_\gamma$ : not observed in (p,n $\gamma$ ).                             |
|                     |                                                | 640.81 3               | 48 35              | 403.50  | (3) <sup>+</sup>               | M1(+E2) | 0.0044 5   | $I_\gamma$ : 167 17 in ( $\alpha$ ,n $\gamma$ ), 38 5 in (p,n $\gamma$ ). |
|                     |                                                | 719.87 4               | 100 5              | 324.317 | 2 <sup>+</sup>                 | M1,E2   |            |                                                                           |
|                     |                                                | 878.10 10              | 59 18              | 166.169 | (2) <sup>+</sup>               | M1,E2   |            | $I_\gamma$ : 39 6 in ( $\alpha$ ,n $\gamma$ ), 71 5 in (p,n $\gamma$ ).   |
|                     |                                                | 962.15 7               | 62 9               | 82.07   | (4) <sup>+</sup>               |         |            |                                                                           |

Adopted Levels, Gammas (continued)

| $\gamma(^{118}\text{Sb})$ (continued) |                                                |                         |                      |         |                                |        |            |                                                                            |
|---------------------------------------|------------------------------------------------|-------------------------|----------------------|---------|--------------------------------|--------|------------|----------------------------------------------------------------------------|
| $E_i(\text{level})$                   | $J_i^\pi$                                      | $E_\gamma^\dagger$      | $I_\gamma^\dagger$   | $E_f$   | $J_f^\pi$                      | Mult.& | $\alpha^b$ | Comments                                                                   |
| 1044.316                              | (2,3) <sup>+</sup>                             | 1044.49 4               | 139 51               | 0.0     | 1 <sup>+</sup>                 |        |            | $I_\gamma$ : 83 11 in ( $\alpha$ ,n $\gamma$ ), 186 10 in (p,n $\gamma$ ). |
| 1072.97                               | -                                              | 803.14 5                | 100                  | 269.82  | (3) <sup>-</sup>               | M1,E2  |            |                                                                            |
| 1081.34                               | ( <sup>+</sup> )                               | 228.9 $\frac{3}{2}$ 2   | 9 $\frac{3}{2}$ 3    | 852.40  | (3,4,5) <sup>+</sup>           |        |            |                                                                            |
|                                       |                                                | 453.3 $\frac{3}{2}$ 1   | 100 $\frac{3}{2}$ 6  | 628.05  | (5 <sup>+</sup> )              | M1,E2  | 0.0107 4   |                                                                            |
| 1093.72                               |                                                | 536.4 $\frac{3}{2}$ 1   | 100 $\frac{3}{2}$    | 557.32  | (3,4)                          |        |            |                                                                            |
| 1096.12                               | 1 <sup>+</sup> ,2 <sup>+</sup> ,3 <sup>+</sup> | 473.90 $\frac{3}{2}$ 6  | 27 $\frac{3}{2}$ 2   | 622.223 | 1 <sup>+</sup> ,2 <sup>+</sup> |        |            |                                                                            |
|                                       |                                                | 692.0 $\frac{3}{2}$ 5   | WEAK $\frac{3}{2}$   | 403.50  | (3) <sup>+</sup>               |        |            |                                                                            |
|                                       |                                                | 771.85 $\frac{3}{2}$ 4  | 100 $\frac{3}{2}$ 2  | 324.317 | 2 <sup>+</sup>                 | M1,E2  |            |                                                                            |
|                                       |                                                | 1095.8 $\frac{3}{2}$ 1  | 32 $\frac{3}{2}$ 3   | 0.0     | 1 <sup>+</sup>                 |        |            |                                                                            |
| 1113.49                               |                                                | 572.9 $\frac{3}{2}$ 1   | 100 $\frac{3}{2}$    | 540.592 | 3 <sup>+</sup>                 |        |            |                                                                            |
| 1117.421                              | (1,2,3) <sup>+</sup>                           | 488.33 4                | 100 4                | 629.04  | (3) <sup>+</sup>               |        |            | $I_\gamma$ : from (p,n $\gamma$ ).                                         |
|                                       |                                                | 793.12 2                | 93 4                 | 324.317 | 2 <sup>+</sup>                 | M1,E2  |            | $I_\gamma$ : from (p,n $\gamma$ ).                                         |
|                                       |                                                | 847.2 $\frac{3}{2}$ 2   | 41 $\frac{3}{2}$ 4   | 269.82  | (3) <sup>-</sup>               |        |            |                                                                            |
|                                       |                                                | 1117.1 $\frac{3}{2}$ 2  | 55 $\frac{3}{2}$ 7   | 0.0     | 1 <sup>+</sup>                 |        |            |                                                                            |
| 1124.45                               |                                                | 854.62 5                | 100                  | 269.82  | (3) <sup>-</sup>               |        |            |                                                                            |
| 1131.35                               | 0 <sup>+</sup> ,1 <sup>+</sup> ,2 <sup>+</sup> | 807.03 $\frac{3}{2}$ 4  | 66 $\frac{3}{2}$ 2   | 324.317 | 2 <sup>+</sup>                 | M1,E2  |            |                                                                            |
|                                       |                                                | 1131.3 $\frac{3}{2}$ 4  | 100 $\frac{3}{2}$ 8  | 0.0     | 1 <sup>+</sup>                 |        |            |                                                                            |
| 1142.50                               |                                                | 585.1 $\frac{3}{2}$ 1   | 19 $\frac{3}{2}$ 5   | 557.32  | (3,4)                          |        |            |                                                                            |
|                                       |                                                | 817.9 $\frac{3}{2}$ 1   | 100 $\frac{3}{2}$ 11 | 324.65  | (4) <sup>+</sup>               |        |            |                                                                            |
| 1147.70                               |                                                | 579.47 $\frac{3}{2}$ 3  | 100 $\frac{3}{2}$    | 568.23  | (6,7,8) <sup>-</sup>           |        |            |                                                                            |
| 1152.80                               |                                                | 595.5 $\frac{3}{2}$ 1   | 100 $\frac{3}{2}$    | 557.32  | (3,4)                          |        |            |                                                                            |
| 1153.61                               |                                                | 829.14 7                | 100 5                | 324.317 | 2 <sup>+</sup>                 |        |            |                                                                            |
|                                       |                                                | 1153.9 1                | 73 5                 | 0.0     | 1 <sup>+</sup>                 |        |            | $I_\gamma$ : 79 5 in ( $\alpha$ ,n $\gamma$ ), 68 5 in (p,n $\gamma$ ).    |
| 1160.48                               | <sup>+</sup>                                   | 538.6 $\frac{3}{2}$ 2   | 25 $\frac{3}{2}$ 4   | 622.223 | 1 <sup>+</sup> ,2 <sup>+</sup> |        |            |                                                                            |
|                                       |                                                | 994.29 $\frac{3}{2}$ 4  | 100 $\frac{3}{2}$ 4  | 166.169 | (2) <sup>+</sup>               | M1,E2  |            |                                                                            |
| 1164.55                               |                                                | 594.7 1                 | 100 17               | 569.90  | (4,5) <sup>-</sup>             |        |            | $I_\gamma$ : from ( $\alpha$ ,n $\gamma$ ).                                |
|                                       |                                                | 766.3 $\frac{3}{2}$ 1   | 22 $\frac{3}{2}$ 6   | 398.20  | (4) <sup>-</sup>               |        |            |                                                                            |
| 1168.38                               |                                                | 844.06 9                | 100                  | 324.317 | 2 <sup>+</sup>                 |        |            |                                                                            |
| 1170.80?                              |                                                | 297.3 $\frac{3}{2}$ 1   | 100 $\frac{3}{2}$    | 873.50  |                                |        |            |                                                                            |
| 1187.21                               | 7 <sup>-</sup> ,8 <sup>-</sup> ,9 <sup>-</sup> | 188.7 $\frac{3}{2}$ c 2 | 18 $\frac{3}{2}$ 1   | 998.63  | 7,8,9 <sup>-</sup>             |        |            |                                                                            |
|                                       |                                                | 222.4 $\frac{3}{2}$ 1   | 77 $\frac{3}{2}$ 3   | 964.88  | (7) <sup>+</sup>               |        |            | $I_\gamma$ : other: 34.6 4 in (HI,xn $\gamma$ ).                           |
|                                       |                                                | 260.8 $\frac{3}{2}$ 1   | 30 $\frac{3}{2}$ 3   | 926.48  | 7,8,9 <sup>-</sup>             |        |            |                                                                            |
|                                       |                                                | 297.1 $\frac{3}{2}$ 1   | 10 $\frac{3}{2}$ 3   | 890.15  |                                |        |            |                                                                            |
|                                       |                                                | 619.0 $\frac{3}{2}$ 1   | 13 $\frac{3}{2}$ 1   | 568.23  | (6,7,8) <sup>-</sup>           |        |            |                                                                            |



Adopted Levels, Gammas (continued)

$\gamma(^{118}\text{Sb})$  (continued)

| $E_i(\text{level})$ | $J_i^\pi$                                      | $E_\gamma$ <sup>a</sup> | $I_\gamma$ <sup>a</sup> | $E_f$   | $J_f^\pi$                                      | Mult. <sup>&amp;</sup> | $\alpha^b$ | Comments                            |
|---------------------|------------------------------------------------|-------------------------|-------------------------|---------|------------------------------------------------|------------------------|------------|-------------------------------------|
| 1187.21             | 7 <sup>-</sup> ,8 <sup>-</sup> ,9 <sup>-</sup> | 675.0 <sup>c</sup> 3    | ‡                       | 511.0   |                                                |                        |            |                                     |
|                     |                                                | 937.17 <sup>c</sup> 4   | 100 <sup>c</sup> 4      | 250     | 8 <sup>-</sup>                                 | M1(+E2)                |            |                                     |
| 1191.56             | +                                              | 867.24 5                | 100                     | 324.317 | 2 <sup>+</sup>                                 | M1,E2                  |            |                                     |
| 1196.03             |                                                | 558.46 <sup>c</sup> 5   | 100 <sup>c</sup>        | 637.57  | (3,4,5) <sup>-</sup>                           |                        |            |                                     |
| 1211.38             |                                                | 528.4 <sup>c</sup> 1    | 30 <sup>c</sup> 20      | 682.99  | (3,4,5) <sup>-</sup>                           |                        |            |                                     |
|                     |                                                | 641.7 <sup>c</sup> 2    | 60 <sup>c</sup> 30      | 569.90  | (4,5) <sup>-</sup>                             |                        |            |                                     |
|                     |                                                | 813.1 <sup>c</sup> 1    | 100 <sup>c</sup> 20     | 398.20  | (4) <sup>-</sup>                               |                        |            |                                     |
| 1213.59             | -                                              | 379.85 3                | 85 3                    | 833.74  | (2,3) <sup>-</sup>                             | M1,E2                  | 0.0174 2   |                                     |
|                     |                                                | 943.83 18               | 100 6                   | 269.82  | (3) <sup>-</sup>                               | M1,E2                  |            |                                     |
| 1224.34             | (8 <sup>-</sup> )                              | 37.1 <sup>c</sup> 1     | 100 <sup>c</sup>        | 1187.21 | 7 <sup>-</sup> ,8 <sup>-</sup> ,9 <sup>-</sup> |                        |            |                                     |
| 1233.55             |                                                | 605.5 <sup>c</sup> 1    | 100 <sup>c</sup>        | 628.05  | (5 <sup>+</sup> )                              |                        |            |                                     |
| 1252.10             | (1,2,3) <sup>-</sup>                           | 927.7 <sup>#</sup> 1    | 60 <sup>#</sup> 4       | 324.317 | 2 <sup>+</sup>                                 |                        |            |                                     |
|                     |                                                | 982.6 <sup>#</sup> 2    | 100 <sup>#</sup> 4      | 269.82  | (3) <sup>-</sup>                               | M1,E2                  |            |                                     |
| 1262.74             | (2,3,4) <sup>-</sup>                           | 633.7 <sup>#</sup> 2    | 100 <sup>#</sup>        | 629.04  | (3) <sup>+</sup>                               | E1                     |            |                                     |
| 1269.93             |                                                | 245.9 <sup>c</sup> 1    | 100 <sup>c</sup>        | 1024.03 |                                                |                        |            |                                     |
| 1279.85             | (3,4,5) <sup>+</sup>                           | 955.19 12               | 100                     | 324.65  | (4) <sup>+</sup>                               | M1(+E2)                |            |                                     |
| 1286.2              |                                                | 961.9 <sup>#</sup> 5    | 100 <sup>#</sup>        | 324.317 | 2 <sup>+</sup>                                 |                        |            |                                     |
| 1294.42             |                                                | 1024.59 <sup>#</sup> 6  | 100 <sup>#</sup>        | 269.82  | (3) <sup>-</sup>                               |                        |            |                                     |
| 1295.99             | +                                              | 755.40 7                | 100                     | 540.592 | 3 <sup>+</sup>                                 | M1,E2                  |            |                                     |
| 1299.61             |                                                | 901.41 10               | 100                     | 398.20  | (4) <sup>-</sup>                               |                        |            | E <sub>γ</sub> : 901.6 l in (p,nγ). |
| 1306.75             |                                                | 908.55 7                | 100                     | 398.20  | (4) <sup>-</sup>                               |                        |            | E <sub>γ</sub> : 908.7 l in (p,nγ). |
| 1309.43             |                                                | 1039.60 9               | 100                     | 269.82  | (3) <sup>-</sup>                               |                        |            |                                     |
| 1325.31             |                                                | 171.7 <sup>c</sup> 1    | 100 <sup>c</sup>        | 1153.61 |                                                |                        |            |                                     |
| 1325.83             |                                                | 1056.0 <sup>#</sup> 1   | 100 <sup>#</sup>        | 269.82  | (3) <sup>-</sup>                               |                        |            |                                     |
| 1327.62             |                                                | 1003.3 <sup>#</sup> 1   | 100 <sup>#</sup>        | 324.317 | 2 <sup>+</sup>                                 |                        |            |                                     |
| 1331.27             |                                                | 761.31 <sup>c</sup> 7   | 100 <sup>c</sup> 15     | 569.90  | (4,5) <sup>-</sup>                             |                        |            |                                     |
|                     |                                                | 933.17 <sup>c</sup> 9   | 54 <sup>c</sup> 8       | 398.20  | (4) <sup>-</sup>                               |                        |            |                                     |
| 1335.92             |                                                | 371.06 <sup>c</sup> 3   | 100 <sup>c</sup>        | 964.88  | (7) <sup>+</sup>                               |                        |            |                                     |
| 1381.60             |                                                | 811.7 <sup>c</sup> 1    | 100 <sup>c</sup>        | 569.90  | (4,5) <sup>-</sup>                             |                        |            |                                     |
| 1393.36             |                                                | 206.6 <sup>c</sup> 1    | ‡                       | 1187.21 | 7 <sup>-</sup> ,8 <sup>-</sup> ,9 <sup>-</sup> |                        |            |                                     |
|                     |                                                | 571.7 <sup>c</sup> 1    | 100 <sup>c</sup> 13     | 821.66  | (6 <sup>-</sup> ,7,8)                          |                        |            |                                     |
| 1405.34             |                                                | 583.7 <sup>c</sup> 3    | 38 <sup>c</sup> 5       | 821.66  | (6 <sup>-</sup> ,7,8)                          |                        |            |                                     |
|                     |                                                | 837.1 <sup>c</sup> 1    | 100 <sup>c</sup> 10     | 568.23  | (6,7,8) <sup>-</sup>                           |                        |            |                                     |
| 1411.33             |                                                | 1141.5 <sup>#</sup> 1   | 100 <sup>#</sup>        | 269.82  | (3) <sup>-</sup>                               |                        |            |                                     |

Adopted Levels, Gammas (continued)

| $\gamma(^{118}\text{Sb})$ (continued) |                    |                         |                         |         |                                                |                        |            |            |                                           |
|---------------------------------------|--------------------|-------------------------|-------------------------|---------|------------------------------------------------|------------------------|------------|------------|-------------------------------------------|
| $E_i(\text{level})$                   | $J_i^\pi$          | $E_\gamma$ <sup>†</sup> | $I_\gamma$ <sup>†</sup> | $E_f$   | $J_f^\pi$                                      | Mult. <sup>&amp;</sup> | $\delta^a$ | $\alpha^b$ | Comments                                  |
| 1427.07                               | (9 <sup>-</sup> )  | 202.7 <sup>‡</sup> 1    | 100 <sup>‡</sup> 5      | 1224.34 | (8 <sup>-</sup> )                              |                        |            |            |                                           |
|                                       |                    | 1177.1 <sup>‡</sup> 1   | 54 <sup>‡</sup> 5       | 250     | 8 <sup>-</sup>                                 |                        |            |            | I <sub>γ</sub> : other: 41 I in (HI,xnγ). |
| 1427.72                               |                    | 789.5 <sup>#</sup> 5    | 53 <sup>#</sup> 27      | 637.57  | (3,4,5) <sup>-</sup>                           |                        |            |            |                                           |
|                                       |                    | 1158.0 <sup>#</sup> 2   | 100 <sup>#</sup> 20     | 269.82  | (3) <sup>-</sup>                               |                        |            |            |                                           |
| 1434.33                               |                    | 1164.5 <sup>#</sup> 1   | 100 <sup>#</sup>        | 269.82  | (3) <sup>-</sup>                               |                        |            |            |                                           |
| 1451.05                               |                    | 882.82 <sup>‡</sup> 6   | 100 <sup>‡</sup> 33     | 568.23  | (6,7,8) <sup>-</sup>                           |                        |            |            |                                           |
|                                       |                    | 1201.6 <sup>‡c</sup> 3  | 83 <sup>‡</sup> 17      | 250     | 8 <sup>-</sup>                                 |                        |            |            |                                           |
| 1458.22                               |                    | 305.5 <sup>‡</sup> 2    | 65 <sup>‡</sup> 32      | 1152.80 |                                                |                        |            |            |                                           |
|                                       |                    | 315.7 <sup>‡</sup> 1    | 100 <sup>‡</sup> 10     | 1142.50 |                                                |                        |            |            |                                           |
| 1497.62                               |                    | 1173.3 <sup>#</sup> 2   | 100 <sup>#</sup>        | 324.317 | 2 <sup>+</sup>                                 |                        |            |            |                                           |
| 1542.03                               |                    | 206.6 <sup>‡c</sup> 1   | <sup>‡</sup>            | 1335.92 |                                                |                        |            |            |                                           |
|                                       |                    | 577.2 <sup>‡</sup> 1    | <sup>‡</sup>            | 964.88  | (7) <sup>+</sup>                               |                        |            |            |                                           |
| 1571.0                                | (10 <sup>-</sup> ) | 1321.0 <sup>@</sup> 3   | 100 <sup>@</sup>        | 250     | 8 <sup>-</sup>                                 | E2                     |            |            |                                           |
| 1582.24                               |                    | 1014.0 <sup>‡</sup> 1   | 100 <sup>‡</sup>        | 568.23  | (6,7,8) <sup>-</sup>                           |                        |            |            |                                           |
| 1633.70                               |                    | 446.49 <sup>‡</sup> 6   | 100 <sup>‡</sup>        | 1187.21 | 7 <sup>-</sup> ,8 <sup>-</sup> ,9 <sup>-</sup> |                        |            |            |                                           |
| 1635.65                               |                    | 637.02 <sup>‡</sup> 7   | 70 <sup>‡</sup> 20      | 998.63  | 7,8,9 <sup>-</sup>                             |                        |            |            |                                           |
|                                       |                    | 1067.9 <sup>‡c</sup> 2  | 100 <sup>‡</sup> 20     | 568.23  | (6,7,8) <sup>-</sup>                           |                        |            |            |                                           |
| 1640.24                               |                    | 1072.0 <sup>‡</sup> 1   | 100 <sup>‡</sup>        | 568.23  | (6,7,8) <sup>-</sup>                           |                        |            |            |                                           |
| 1693.96                               |                    | 763.8 <sup>‡c</sup> 1   | 100 <sup>‡</sup> 20     | 930.36  |                                                |                        |            |            |                                           |
|                                       |                    | 872.3 <sup>‡</sup> 1    | 80 <sup>‡</sup> 40      | 821.66  | (6 <sup>-</sup> ,7,8)                          |                        |            |            |                                           |
| 1712.09                               |                    | 376.17 <sup>‡</sup> 4   | 100 <sup>‡</sup> 6      | 1335.92 |                                                |                        |            |            |                                           |
|                                       |                    | 747.0 <sup>‡</sup> 1    | 19 <sup>‡</sup> 13      | 964.88  | (7) <sup>+</sup>                               |                        |            |            |                                           |
| 1732.8                                | (11 <sup>+</sup> ) | 161.8 <sup>@</sup> 3    | 100 <sup>@</sup>        | 1571.0  | (10 <sup>-</sup> )                             | D                      |            |            |                                           |
| 1753.4                                | (10 <sup>-</sup> ) | 326.3 <sup>@</sup> 3    | 100 <sup>@</sup> 1      | 1427.07 | (9 <sup>-</sup> )                              | (M1+E2)                | ≈0.2       | ≈0.0254    |                                           |
|                                       |                    | (529.1 <sup>@</sup> 4)  | <sup>@</sup>            | 1224.34 | (8 <sup>-</sup> )                              |                        |            |            |                                           |
| 1802.28                               |                    | 837.4 <sup>‡</sup> 1    | 100 <sup>‡</sup>        | 964.88  | (7) <sup>+</sup>                               |                        |            |            |                                           |
| 1820.84                               |                    | 415.5 <sup>‡</sup> 1    | 100 <sup>‡</sup>        | 1405.34 |                                                |                        |            |            |                                           |
| 1852.27                               |                    | 310.3 <sup>‡</sup> 1    | 100 <sup>‡</sup> 20     | 1542.03 |                                                |                        |            |            |                                           |
|                                       |                    | 516.3 <sup>‡</sup> 1    | 80 <sup>‡</sup> 20      | 1335.92 |                                                |                        |            |            |                                           |
| 1889.01                               |                    | 701.8 <sup>‡</sup> 2    | 100 <sup>‡</sup>        | 1187.21 | 7 <sup>-</sup> ,8 <sup>-</sup> ,9 <sup>-</sup> |                        |            |            |                                           |
| 2104.66                               |                    | 392.4 <sup>‡</sup> 1    | 100 <sup>‡</sup> 20     | 1712.09 |                                                |                        |            |            |                                           |
|                                       |                    | 768.9 <sup>‡</sup> 1    | 100 <sup>‡</sup> 20     | 1335.92 |                                                |                        |            |            |                                           |

**Adopted Levels, Gammas (continued)**

$\gamma(^{118}\text{Sb})$  (continued)

| $E_i(\text{level})$ | $J_i^\pi$          | $E_\gamma^\dagger$                             | $I_\gamma^\dagger$               | $E_f$                                                  | $J_f^\pi$ | Mult.&  | $\delta^a$ | $\alpha^b$ |
|---------------------|--------------------|------------------------------------------------|----------------------------------|--------------------------------------------------------|-----------|---------|------------|------------|
| 2115.5              | (11 <sup>-</sup> ) | 362.1 <sup>‡</sup> 3<br>(688.4 <sup>@</sup> 4) | 100 <sup>‡</sup><br><sup>@</sup> | 1753.4 (10 <sup>-</sup> )<br>1427.07 (9 <sup>-</sup> ) |           | (M1+E2) | ≈0.2       | ≈0.0194    |
| 2171.58             |                    | 744.5 <sup>‡</sup> 1                           | 100 <sup>‡</sup>                 | 1427.07 (9 <sup>-</sup> )                              |           |         |            |            |
| 2402.8              | (12 <sup>+</sup> ) | 670.0 <sup>@</sup> 3                           | 100 <sup>@</sup>                 | 1732.8 (11 <sup>+</sup> )                              |           | D       |            |            |
| 2503.0              | (12 <sup>-</sup> ) | 387.5 <sup>@</sup> 3<br>749.6 <sup>@</sup> 4   | 100 <sup>@</sup><br><sup>@</sup> | 2115.5 (11 <sup>-</sup> )<br>1753.4 (10 <sup>-</sup> ) |           | (M1+E2) | ≈0.2       | ≈0.0164    |
| 2918.4              |                    | 415.4 <sup>@</sup> 3                           | <sup>@</sup>                     | 2503.0 (12 <sup>-</sup> )                              |           |         |            |            |

<sup>†</sup> Weighted av of ( $\alpha, n\gamma$ ) and ( $p, n\gamma$ ), unless otherwise noted.

<sup>‡</sup> From ( $\alpha, n\gamma$ ).

# From ( $p, n\gamma$ ).

<sup>@</sup> From (HI,  $xn\gamma$ ).

& From  $\alpha(K)$ exp measurements in ( $\alpha, n\gamma$ ) and ( $p, n\gamma$ ), unless otherwise noted.

<sup>a</sup> From  $\gamma(\theta)$  in ( $p, n\gamma$ ) unless otherwise noted.

<sup>b</sup> Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on  $\gamma$ -ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

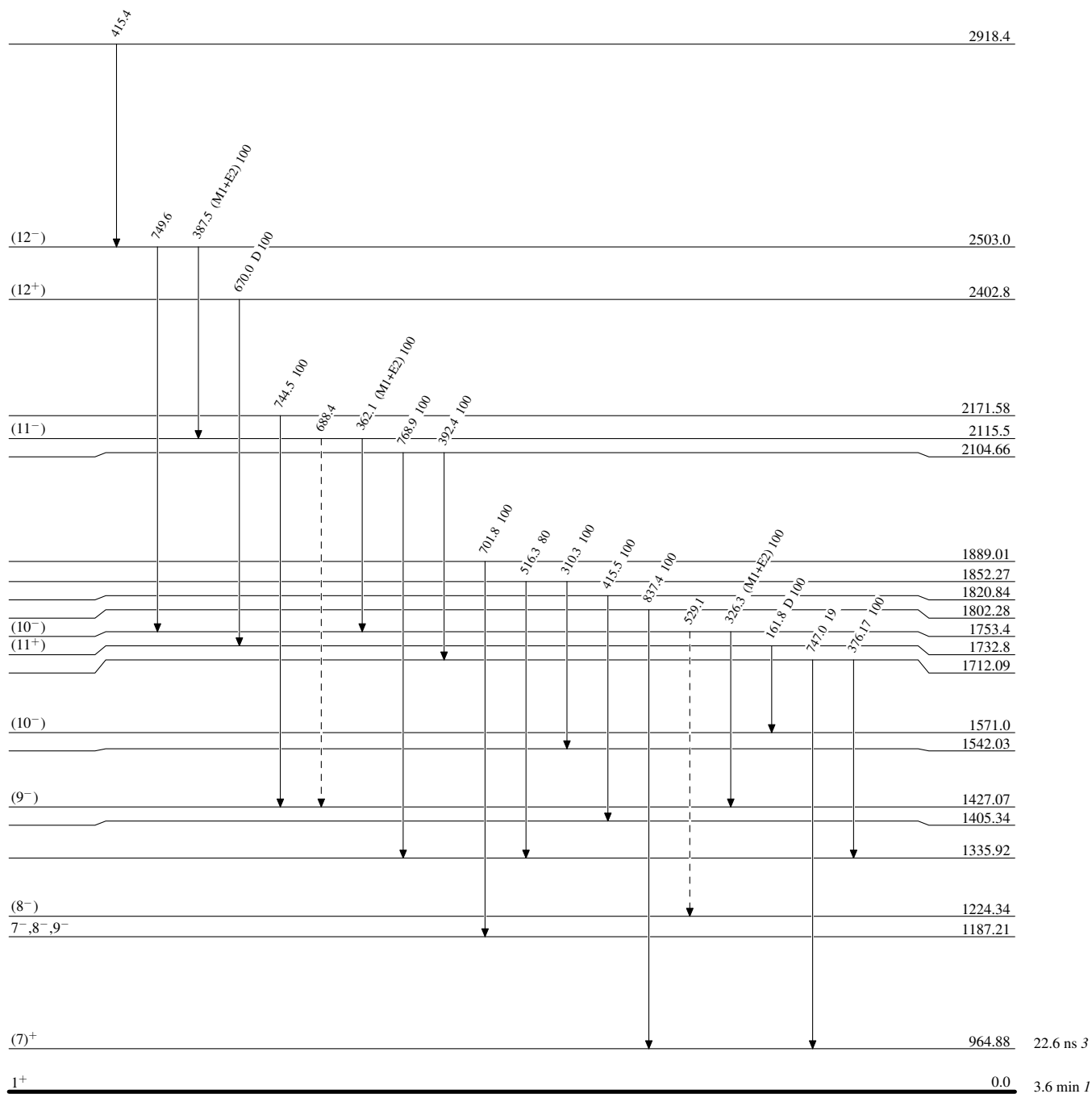
<sup>c</sup> Placement of transition in the level scheme is uncertain.

# Adopted Levels, Gammas

Legend

## Level Scheme

Intensities: Relative photon branching from each level

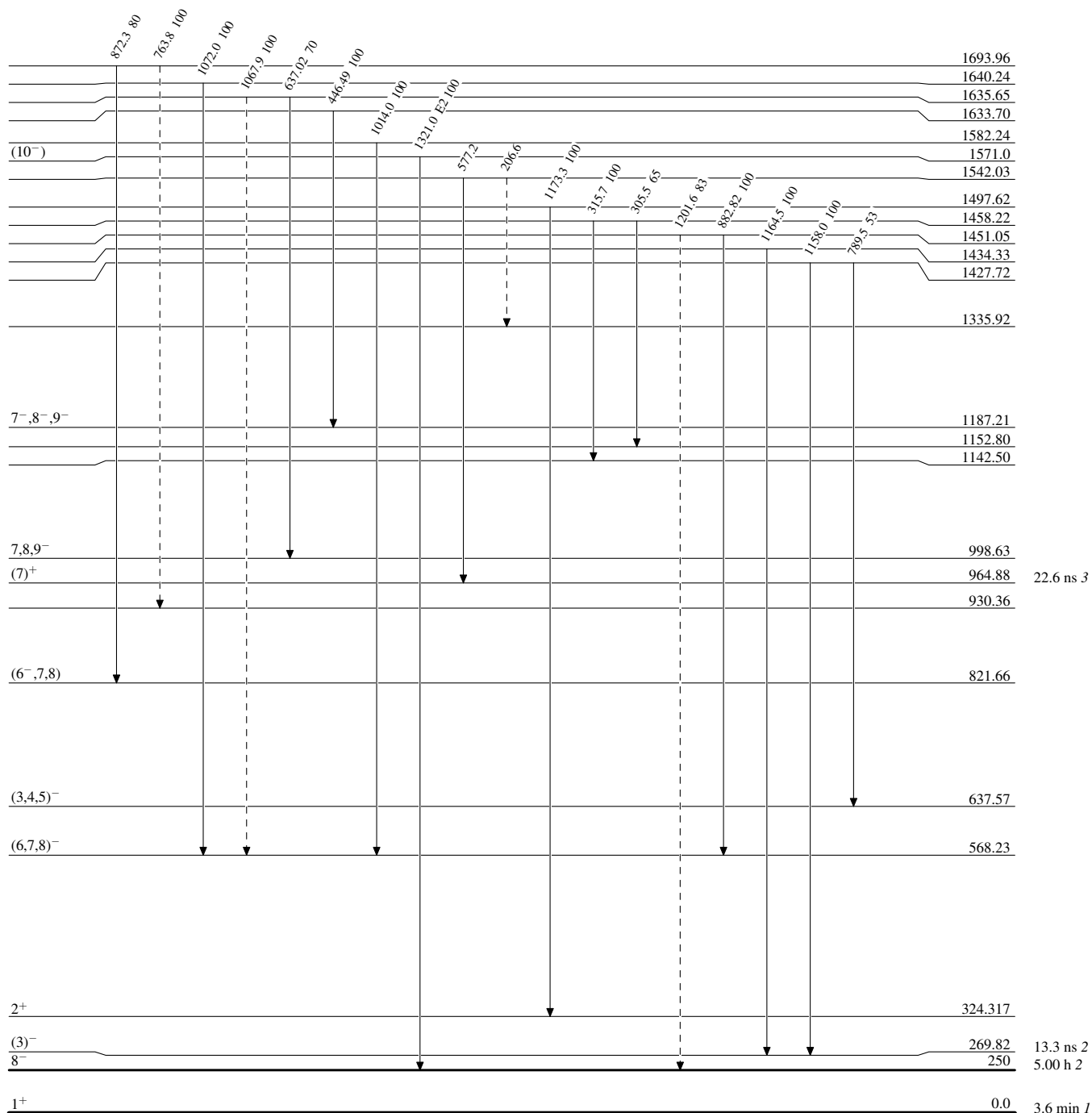
-----►  $\gamma$  Decay (Uncertain)

 $^{118}_{51}\text{Sb}_{67}$

# Adopted Levels, Gammas

Legend

## Level Scheme (continued)

Intensities: Relative photon branching from each level

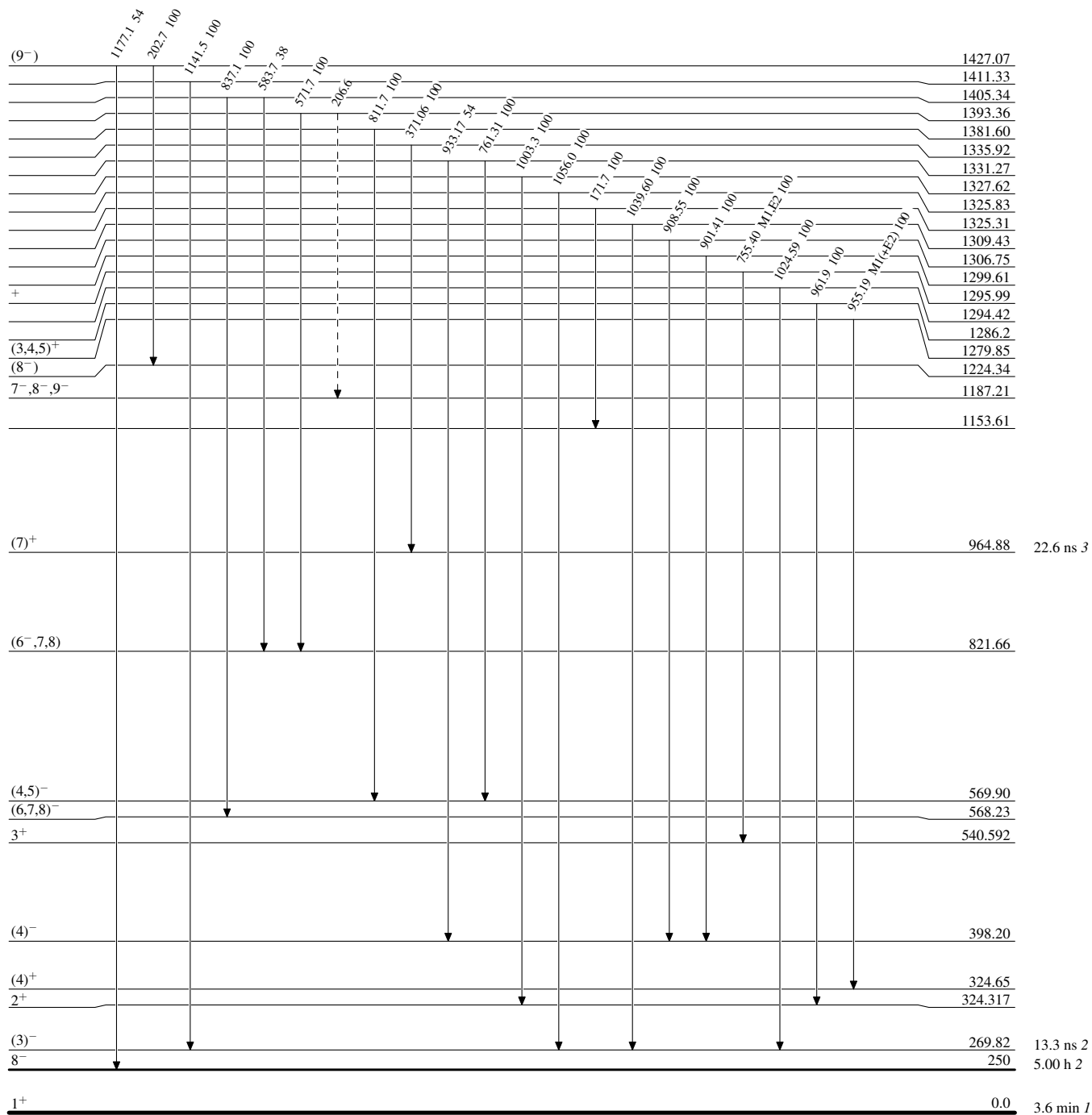
-----►  $\gamma$  Decay (Uncertain)


# Adopted Levels, Gammas

Legend

## Level Scheme (continued)

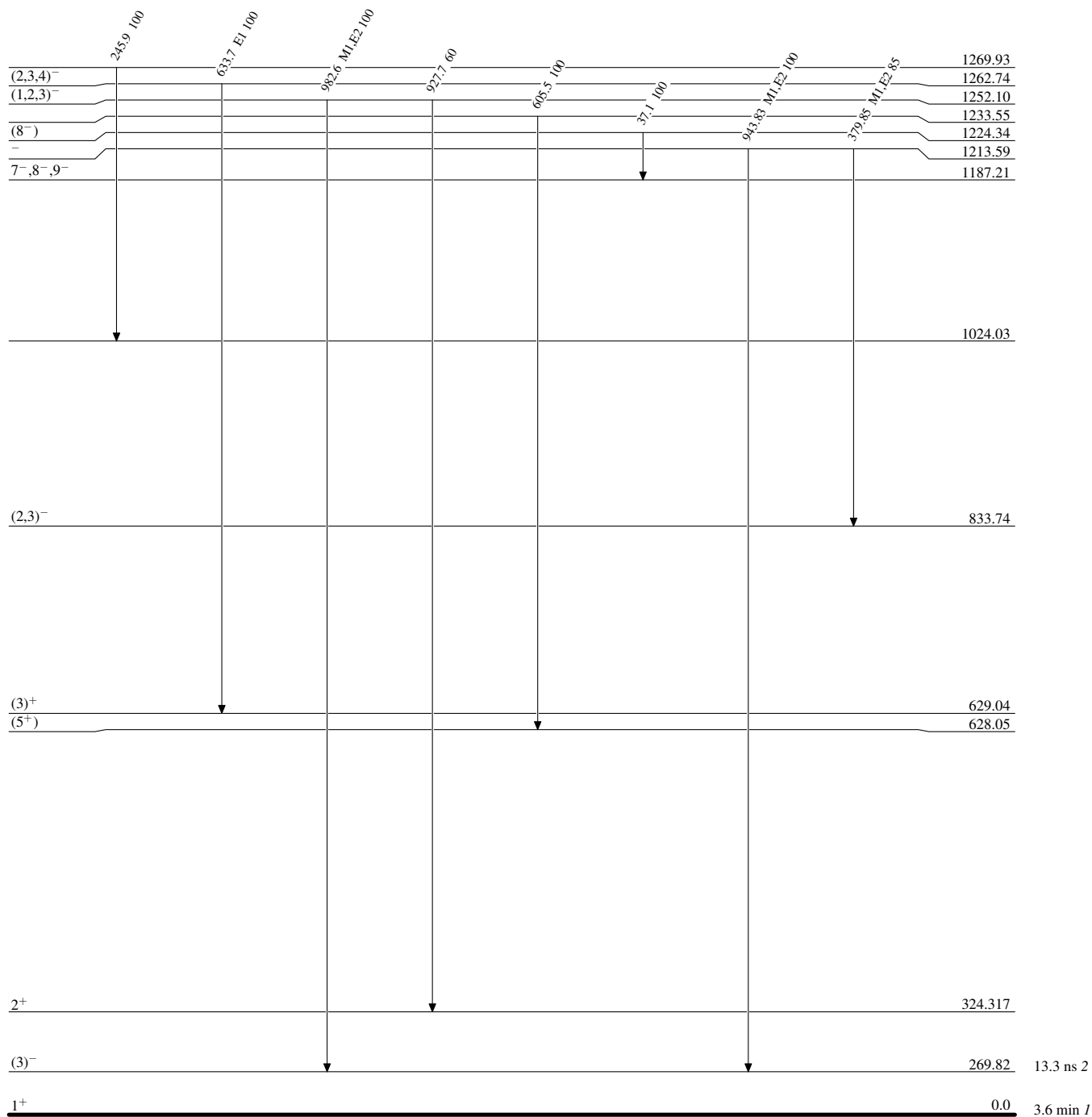
Intensities: Relative photon branching from each level

-----►  $\gamma$  Decay (Uncertain)

 $^{118}_{51}\text{Sb}_{67}$

# Adopted Levels, Gammas

## Level Scheme (continued)

Intensities: Relative photon branching from each level

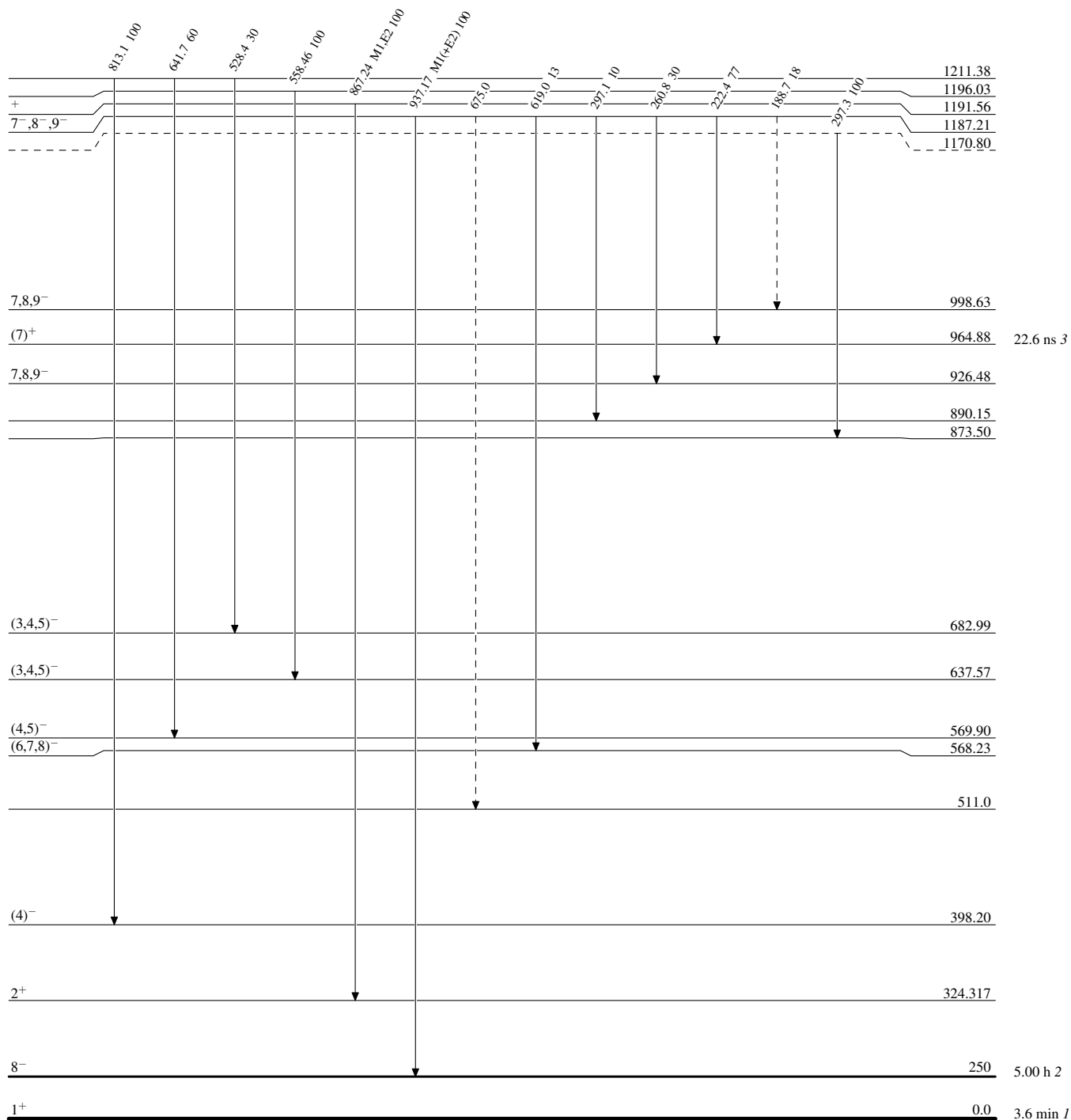


# Adopted Levels, Gammas

Legend

## Level Scheme (continued)

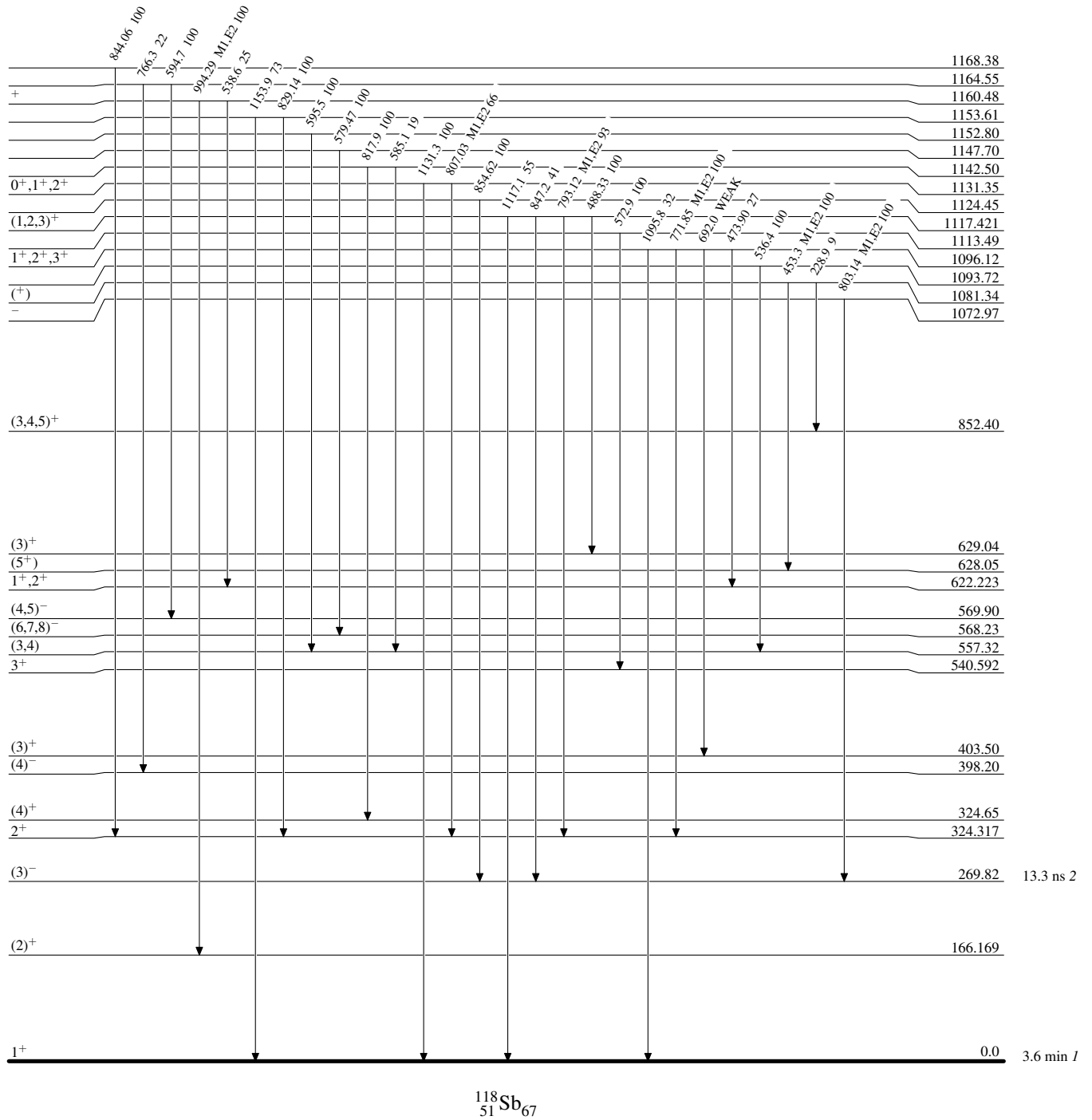
Intensities: Relative photon branching from each level

-----►  $\gamma$  Decay (Uncertain)




**Adopted Levels, Gammas****Level Scheme (continued)**

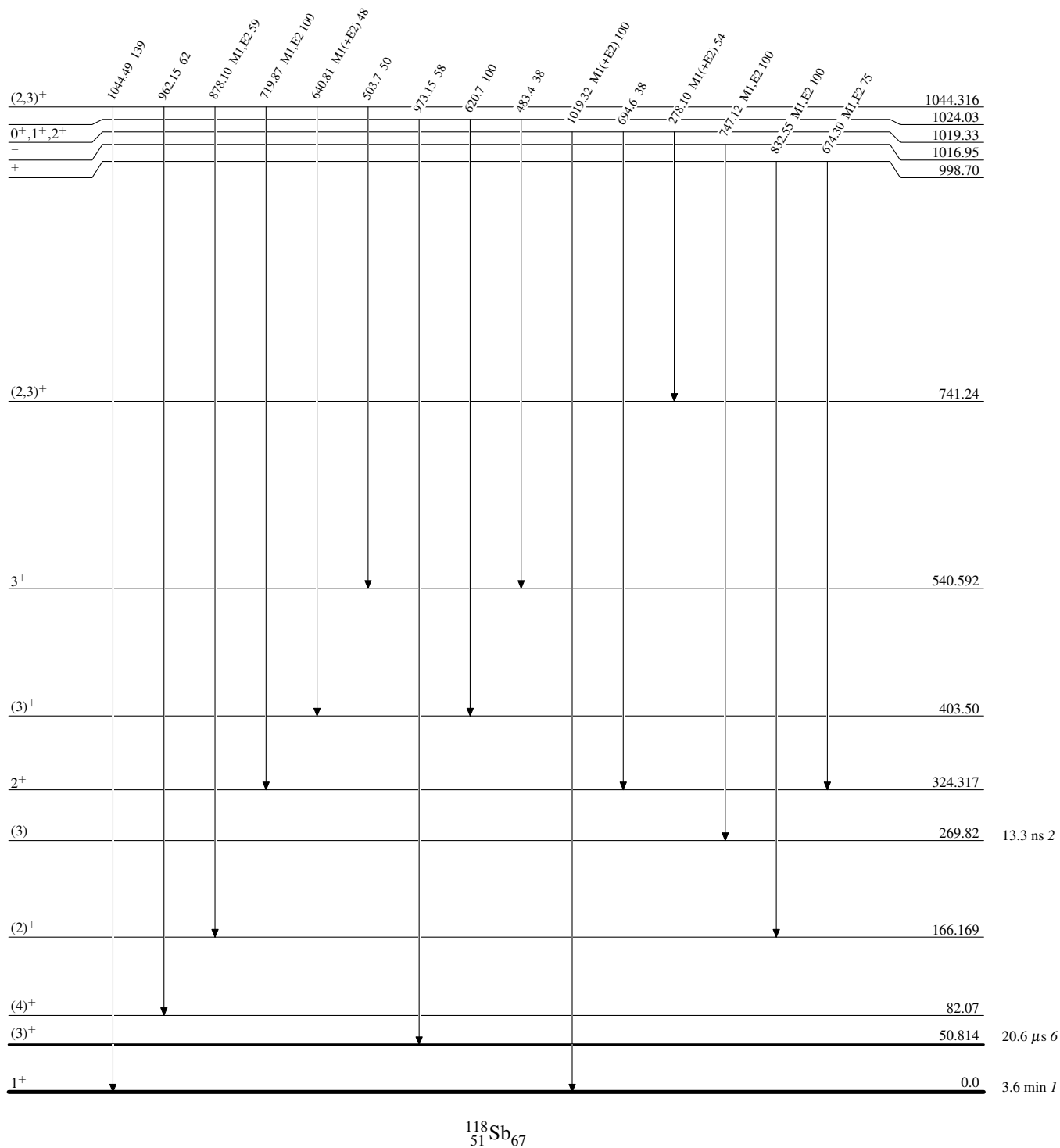
Intensities: Relative photon branching from each level



# Adopted Levels, Gammas

## Level Scheme (continued)

Intensities: Relative photon branching from each level



Legend

Intensities: Relative photon branching from each level

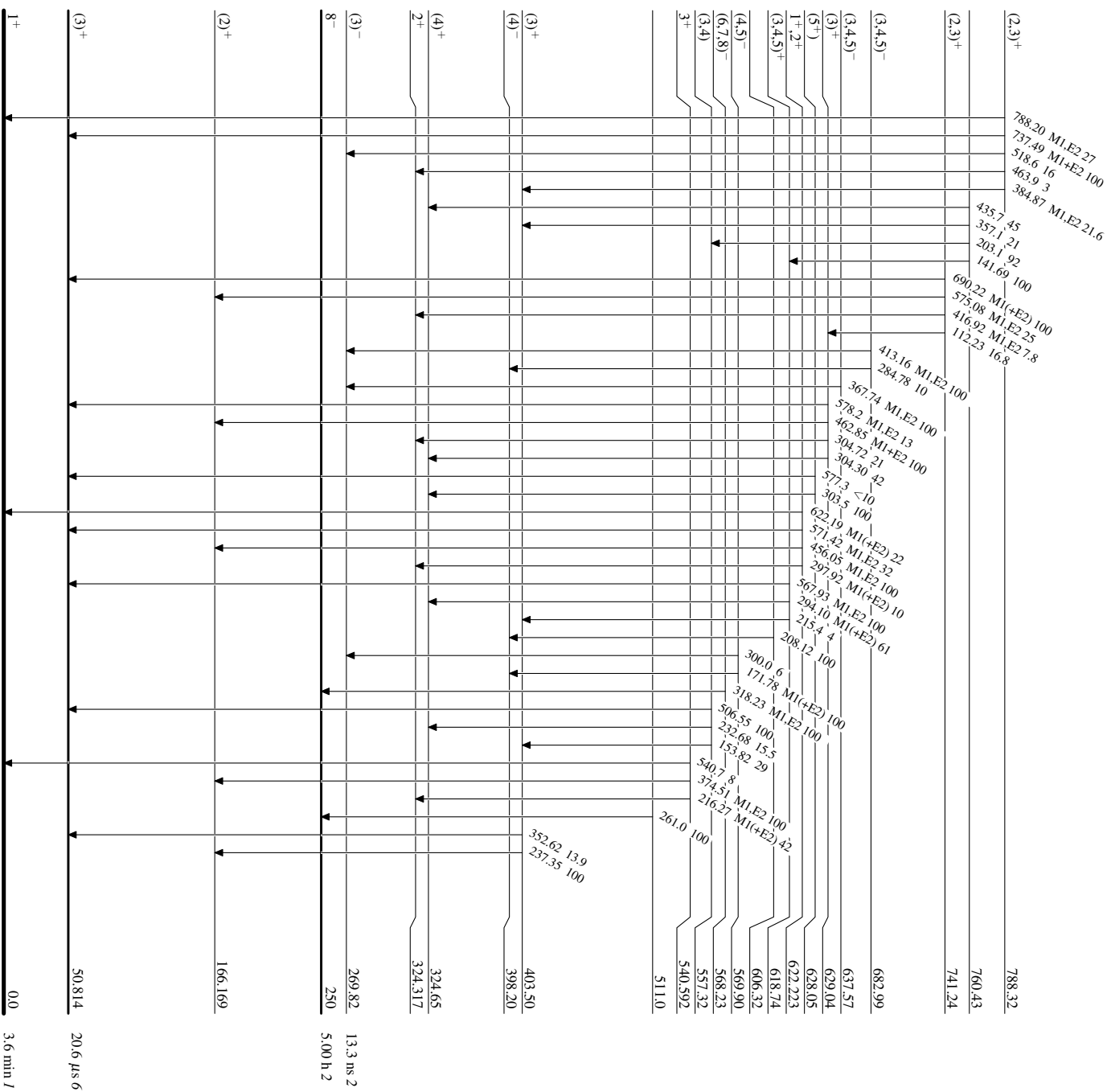
-----►  $\gamma$  Decay (Uncertain)



**Adopted Levels, Gammas**

**Level Scheme (continued)**

Intensities: Relative photon branching from each level



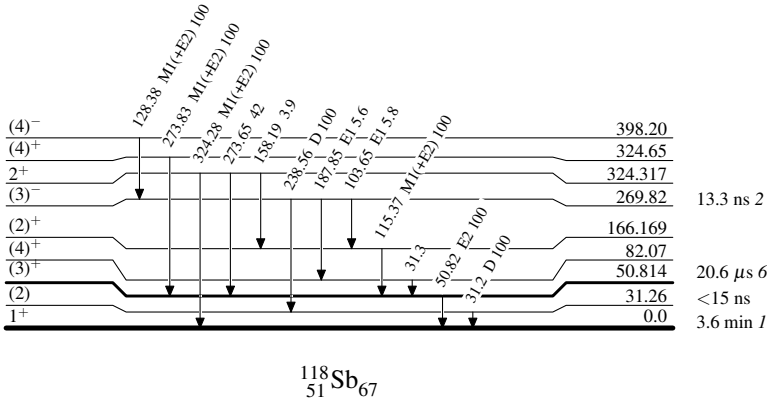
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

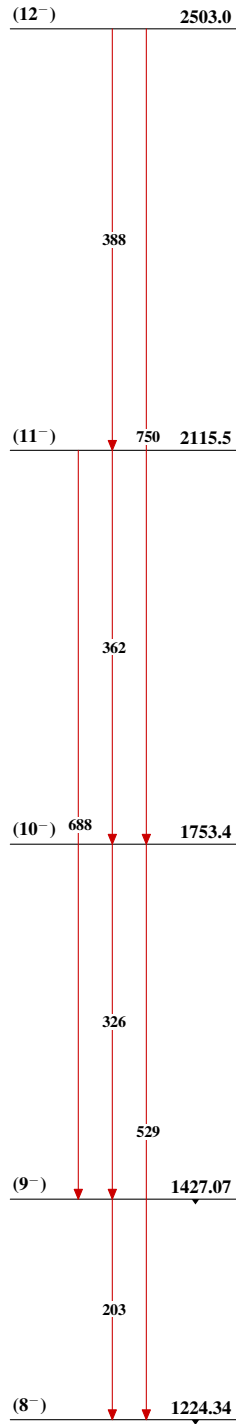
-----►  $\gamma$  Decay (Uncertain)



<sup>118</sup>Sb<sub>51</sub><sup>67</sup>

Adopted Levels, Gammas

Band(A): Negative parity  $\Delta J=1$   
band



$^{118}_{51}\text{Sb}_{67}$