**(HI,xnγ) 1995Rz02**

History

| Type | Author | Citation | Literature Cutoff Date |
|---|---|---|---|
| Full Evaluation | Yu. Khazov, A. Rodionov and G. Shulyak | NDS 136, 163 (2016) | 14-Jul-2016 |

1995Rz02: $^{136}$Xe($^{15}$N,5nγ) E=78 MeV, $^{146}$Nd(d,2nγ) E=18 MeV, $^{148}$Nd(d,4nγ) E=26 MeV measured Eγ, Iγ, γγ(t), γγ(θ)(DCO), ceγ-coin. $^{146}$Pm; deduced levels, $J^{\pi}$, α(exp). TESSA array with 16 Ge Compton-suppressed and 50 BGO detectors, electron spectrometer. Comparison with neighboring nuclei, shell-model approach.

## $^{146}$Pm Levels

γγ(t) shows no excited levels with $T_{1/2}$>10 ns.

| E(level)[†‡] | J$^{\pi}$[#] | Comments |
|---|---|---|
| 0.0 | 3$^-$ | |
| 17.19 *10* | | E(level): introduced by 1992Ue01 and suggested by 1995Rz02. |
| 33.18 *12* | JM+3 | |
| 73.11 *10* | | |
| 94.18 *14* | JM+4 | |
| 107.48 *14* | JM+3 | |
| 232.09 *13* | JM+3 | |
| 235.52 *12* | | |
| 352.51 *15* | | |
| 518.33 *13* | | |
| 767.16 *14* | JM+1 | |
| 820.74 *13* | JM+2 | |
| 872.90 *15* | J | |
| 1111.81 *18* | | |
| 1353.13 *17* | J+1 | |
| 1440.31 *21* | | |
| 1511.57 *17* | J+2 | |
| 1966.84 *17* | J+3 | |
| 2005.24 *18* | J+3 | |
| 2236.33 *18* | J+4 | |
| 2551.11 *18* | J+5 | |
| 2605.91 *18* | J+5 | |
| 3037.51 *21* | J+7 | |
| 3054.55 *18* | | J$^{\pi}$: (J+8), (J+6). |
| 3247.43 *20* | J+7 | |
| 3790.83 *22* | J+9 | |
| 4099.11 *23* | | |
| 4110.73 *24* | | |
| 4180.81 *23* | J+11 | |
| 4219.83 *24* | J+10 | |
| 4872.46 *23* | J+11 | |
| 4969.01 *25* | | |
| 5250.6 *3* | J+12 | J$^{\pi}$: J+13 is a misprint in fig. 5 (the level scheme) of 1995Rz02. |
| 5338.70 *24* | J+13 | |
| 5378.61 *24* | | |
| 5453.6 *3* | | E(level): 5445.6 is a misprint in fig. 5 (the level scheme) of 1995Rz02. |
| 5640.10 *24* | | |
| 5686.23 *24* | J+13 | |
| 5787.2 *3* | | |
| 5893.12 *24* | J+14 | |
| 5986.65 *25* | J+15 | |
| 6292.2 *3* | | |
| 6432.8 *3* | | |

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**(HI,xnγ) 1995Rz02 (continued)**

$^{146}$Pm Levels (continued)

| E(level)[†‡] | Jπ[#] |
|---|---|
| 6513.6 *3* | |
| 6619.13 *25* | J+16 |
| 6837.8 *3* | |
| 6876.4 *3* | |

† If ΔEγ not given, ±0.10 keV assumed for least-squares fitting.
‡ From a least-squares fit to Eγ's; normalized $\chi^2$=0.9.
# Deduced by 1995Rz02 relative to the reference level 872.9 keV assuming spin equal J, and using R(DCO) ratios and α(exp) values.

γ($^{146}$Pm)

R(DCO) value is listed at gate 543.3γ. R(DCO) is the ratio of Iγ's at 90° and 35°. Gates set at 543.3γ, 638.7γ, 724.8γ (assumed as stretched ΔJ=2 transitions). R≈1 is assumed stretched Q, implying to be E2 for Eγ<750 keV because of absence of levels with $T_{1/2}$>10 ns. R=1.4-2.2 are considered as ΔJ=1.

| $E_\gamma$[†] | $I_\gamma$[#] | $E_i$(level) | $J_i^\pi$ | $E_f$ | $J_f^\pi$ | Mult.[@] | α[a] | Comments |
|---|---|---|---|---|---|---|---|---|
| (16.0) | | 33.18 | JM+3 | 17.19 | | [M1,E2][&] | 4.×10$^3$ *4* | α(L)=3.E3 3; α(M)=7.E2 7<br>α(N)=1.5×10$^2$ *15*; α(O)=19 *19*; α(P)=0.014 *5* |
| (17.2) | | 17.19 | | 0.0 | 3$^-$ | [M1,E2][&] | 3.×10$^3$ *3* | α(L)=2.1×10$^3$ *22*; α(M)=5.E2 5<br>α(N)=1.1×10$^2$ *11*; α(O)=13 *13*; α(P)=0.010 *5* |
| 52.2 | 27 *14* | 872.90 | J | 820.74 | JM+2 | (E2) | 27.0 | α(K)=4.43 *7*; α(L)=17.50 *25*; α(M)=4.05 *6*<br>α(N)=0.877 *13*; α(O)=0.1089 *16*; α(P)=0.000228 *4*<br>Mult.: stretched E2 on the basis of feeding and decay of the 872.9 keV level and appropriate conversion coefficients (1995Rz02). |
| 61.0 | 32 *16* | 94.18 | JM+4 | 33.18 | JM+3 | (M1)[&] | 6.45 | α(K)=5.46 *8*; α(L)=0.774 *11*; α(M)=0.1654 *24*<br>α(N)=0.0373 *6*; α(O)=0.00561 *8*; α(P)=0.000353 *5* |
| 73.1 | <1.0 | 73.11 | | 0.0 | 3$^-$ | (M1)[&] | 3.82 | α(K)=3.24 *5*; α(L)=0.457 *7*; α(M)=0.0976 *14*<br>α(N)=0.0220 *3*; α(O)=0.00331 *5*; α(P)=0.000208 *3* |
| 74.3 | | 107.48 | JM+3 | 33.18 | JM+3 | (E1)[&] | 0.598 | α(K)=0.502 *7*; α(L)=0.0759 *11*; α(M)=0.01615 *23*<br>α(N)=0.00356 *5*; α(O)=0.000500 *7*;<br>α(P)=2.36×10$^{-5}$ *4*<br>$E_\gamma$: marked as 'contamination line' in table 1 of 1995Rz02. |
| 93.5 | 6.7 *7* | 5986.65 | J+15 | 5893.12 | J+14 | | | |
| 105.7 | 19.3 *14* | 872.90 | J | 767.16 | JM+1 | E1 | 0.230 | α(K)exp=0.24 *20*<br>α(K)=0.194 *3*; α(L)=0.0280 *4*; α(M)=0.00595 *9*<br>α(N)=0.001320 *19*; α(O)=0.000189 *3*;<br>α(P)=9.63×10$^{-6}$ *14*<br>R(DCO)=2.3 *6*. |
| 137.9 | 32.8 *18* | 232.09 | JM+3 | 94.18 | JM+4 | M1 | 0.622 | α(K)exp=0.48 *10*; α(L)exp=0.07 *2*<br>α(K)=0.528 *8*; α(L)=0.0738 *11*; α(M)=0.01577 *22*<br>α(N)=0.00355 *5*; α(O)=0.000536 *8*;<br>α(P)=3.39×10$^{-5}$ *5*<br>R(DCO)=1.50 *20*. |
| 158.4 | 10.1 *9* | 1511.57 | J+2 | 1353.13 | J+1 | | | R(DCO)=1.3 *4* (724.8γ gated). |

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**(HI,xnγ) 1995Rz02 (continued)**

γ($^{146}$Pm) (continued)

| $E_\gamma$[†] | $I_\gamma$[#] | $E_i$(level) | $J_i^\pi$ | $E_f$ | $J_f^\pi$ | Mult.[@] | α[a] | Comments |
|---|---|---|---|---|---|---|---|---|
| 162.4 | <1.0 | 235.52 | | 73.11 | | M1+E2 | 0.402 *10* | α(K)exp=0.36 *9*<br>α(K)=0.31 *3*; α(L)=0.07 *3*; α(M)=0.016 *7*<br>α(N)=0.0036 *14*; α(O)=0.00050 *16*; α(P)=1.7×10$^{-5}$ *4* |
| 192.9 | 9.5 *9* | 3247.43 | J+7 | 3054.55 | | | | R(DCO)=1.68 *32*. |
| 198.9 | 50.3 *27* | 232.09 | JM+3 | 33.18 | JM+3 | E2 | 0.206 | α(K)exp=0.19 *6*; α(L)exp=0.035 *11*<br>α(K)=0.1502 *21*; α(L)=0.0436 *7*; α(M)=0.00979 *14*<br>α(N)=0.00215 *3*; α(O)=0.000289 *4*;<br>α(P)=7.53×10$^{-6}$ *11*<br>R(DCO)=1.09 *9*, ΔJ=0. |
| 203.0 | 7.0 *7* | 5453.6 | | 5250.6 | J+12 | E2 | 0.192 | α(K)=0.1409 *20*; α(L)=0.0402 *6*; α(M)=0.00901 *13*<br>α(N)=0.00198 *3*; α(O)=0.000267 *4*;<br>α(P)=7.09×10$^{-6}$ *10*<br>R(DCO)=1.23 *21*, ΔJ=0, 2. |
| 207.0 | 1.7 *3* | 5893.12 | J+14 | 5686.23 | J+13 | D | | R(DCO)=1.4 *5*, ΔJ=1. |
| 218.7 | 5.6 *4* | 6837.8 | | 6619.13 | J+16 | E2 | 0.1501 | α(K)=0.1118 *16*; α(L)=0.0299 *5*; α(M)=0.00670 *10*<br>α(N)=0.001474 *21*; α(O)=0.000200 *3*;<br>α(P)=5.72×10$^{-6}$ *8*<br>R(DCO)=1.01 *16*. ΔJ=0, 2. |
| 231.2 | 8.9 *9* | 2236.33 | J+4 | 2005.24 | J+3 | D | | R(DCO)=1.9 *8*, ΔJ=1. |
| 245.0 | 31.2 *16* | 352.51 | | 107.48 | JM+3 | M1+E2 | 0.116 *13* | α(K)exp=0.09 *2*; α(L)exp=0.028 *5*<br>α(K)=0.094 *15*; α(L)=0.0172 *22*; α(M)=0.0037 *6*<br>α(N)=0.00083 *12*; α(O)=0.000119 *11*;<br>α(P)=5.5×10$^{-6}$ *15*<br>R(DCO)=1.33 *20*. |
| 253.0 | 3.5 *3* | 5893.12 | J+14 | 5640.10 | | E2 | 0.0932 | α(K)=0.0714 *10*; α(L)=0.01709 *24*; α(M)=0.00380 *6*<br>α(N)=0.000839 *12*; α(O)=0.0001151 *17*;<br>α(P)=3.76×10$^{-6}$ *6*<br>R(DCO)=1.09 *17*. ΔJ=0, 2. |
| 257.3 | 6.6 *4* | 6876.4 | | 6619.13 | J+16 | | | R(DCO)=0.77 *13*. |
| 261.6 | 1.8 *3* | 5640.10 | | 5378.61 | | | | R(DCO)=1.28 *51*. |
| 269.5 | 5.5 *6* | 2236.33 | J+4 | 1966.84 | J+3 | | | |
| 282.8 | <1.0 | 518.33 | | 235.52 | | M1+E2 | 0.076 *11* | α(K)exp=0.056 *15*<br>α(K)=0.062 *12*; α(L)=0.0107 *6*; α(M)=0.00234 *17*<br>α(N)=0.00052 *4*; α(O)=7.53×10$^{-5}$ *17*;<br>α(P)=3.7×10$^{-6}$ *10* |
| 302.4 | <1.0 | 820.74 | JM+2 | 518.33 | | [E1][&] | 0.01384 | α(K)=0.01183 *17*; α(L)=0.001590 *23*;<br>α(M)=0.000337 *5*<br>α(N)=7.55×10$^{-5}$ *11*; α(O)=1.118×10$^{-5}$ *16*;<br>α(P)=6.59×10$^{-7}$ *10* |
| 314.8 | 15.1 *10* | 2551.11 | J+5 | 2236.33 | J+4 | D | | R(DCO)=1.88 *28* (638.7γ gated), ΔJ=1. |
| 319.9 | 3.7 *6* | 4110.73 | | 3790.83 | J+9 | | | |
| 327.0 | 1.7 *2* | 6619.13 | J+16 | 6292.2 | | | | |
| 328.5 | 6.5 *4* | 1440.31 | | 1111.81 | | | | |
| 369.6 | 42.3 *23* | 2605.91 | J+5 | 2236.33 | J+4 | D | | R(DCO)=1.91 *15*, ΔJ=1. |
| 390.0 | 56.3 *31* | 4180.81 | J+11 | 3790.83 | J+9 | E2 | 0.0246 | α(K)=0.0199 *3*; α(L)=0.00370 *6*; α(M)=0.000809 *12*<br>α(N)=0.000180 *3*; α(O)=2.55×10$^{-5}$ *4*;<br>α(P)=1.124×10$^{-6}$ *16*<br>R(DCO)=0.99 *7*. |
| 429.0 | 15.7 *12* | 4219.83 | J+10 | 3790.83 | J+9 | D | | R(DCO)=1.98 *26*, ΔJ=1. |
| 448.4[‡] | | 5787.2 | | 5338.70 | J+13 | | | |
| 448.6[‡] | | 3054.55 | | 2605.91 | J+5 | | | |
| 455.2 | 16.5 *11* | 1966.84 | J+3 | 1511.57 | J+2 | D | | R(DCO)=2.1 *4* (638.7γ gated), ΔJ=1. |

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**(HI,xnγ) 1995Rz02 (continued)**

γ($^{146}$Pm) (continued)

| $E_\gamma$ [†] | $I_\gamma$ [#] | $E_i$(level) | $J_i^\pi$ | $E_f$ | $J_f^\pi$ | Mult. [@] | α [a] | Comments |
|---|---|---|---|---|---|---|---|---|
| 468.2 | 14.3 *9* | 820.74 | JM+2 | 352.51 | | E2 | 0.01469 | α(K)=0.01205 *17*; α(L)=0.00207 *3*; α(M)=0.000450 *7*<br>α(N)=0.0001002 *14*; α(O)=1.442×10$^{-5}$ *21*;<br>α(P)=6.96×10$^{-7}$ *10*<br>R(DCO)=1.06 *29*. |
| 480.2 | 27.7 *17* | 1353.13 | J+1 | 872.90 | J | D | | R(DCO)=1.6 *4*, ΔJ=1. |
| 486.4 | 27.3 *16* | 3037.51 | J+7 | 2551.11 | J+5 | E2 | 0.01324 | α(K)=0.01089 *16*; α(L)=0.00184 *3*; α(M)=0.000400 *6*<br>α(N)=8.91×10$^{-5}$ *13*; α(O)=1.286×10$^{-5}$ *18*;<br>α(P)=6.31×10$^{-7}$ *9*<br>R(DCO)=1.03 *15* (638.7γ gated). |
| 493.7 | 72.4 *39* | 2005.24 | J+3 | 1511.57 | J+2 | D | | R(DCO)=1.82 *13*, ΔJ=1. |
| 503.4 | 4.6 *5* | 3054.55 | | 2551.11 | J+5 | | | |
| 514.4 | 1.6 *3* | 5893.12 | J+14 | 5378.61 | | | | |
| 535.0 | 9.0 *7* | 767.16 | JM+1 | 232.09 | JM+3 | E2 | 0.01027 | α(K)exp=0.008 *4*<br>α(K)=0.00851 *12*; α(L)=0.001388 *20*;<br>α(M)=0.000301 *5*<br>α(N)=6.71×10$^{-5}$ *10*; α(O)=9.74×10$^{-6}$ *14*;<br>α(P)=4.97×10$^{-7}$ *7*<br>R(DCO)=0.99 *31* (638.7γ gated). |
| 543.4 | 100.7 *53* | 3790.83 | J+9 | 3247.43 | J+7 | E2 | 0.00987 | α(K)=0.00818 *12*; α(L)=0.001327 *19*;<br>α(M)=0.000287 *4*<br>α(N)=6.41×10$^{-5}$ *9*; α(O)=9.32×10$^{-6}$ *13*;<br>α(P)=4.78×10$^{-7}$ *7*<br>R(DCO)=0.87 *6* (638.7γ gated). |
| 554.4 | 4.3 *4* | 5893.12 | J+14 | 5338.70 | J+13 | | | |
| 584.2 | 24.4 *15* | 2551.11 | J+5 | 1966.84 | J+3 | E2 | 0.00819 | α(K)=0.00682 *10*; α(L)=0.001080 *16*;<br>α(M)=0.000233 *4*<br>α(N)=5.21×10$^{-5}$ *8*; α(O)=7.61×10$^{-6}$ *11*;<br>α(P)=4.01×10$^{-7}$ *6*<br>R(DCO)=0.77 *24* (638.7γ gated). |
| 588.7 | 100.0 *50* | 820.74 | JM+2 | 232.09 | JM+3 | E1 | 0.00287 | α(K)exp=0.002 *1*<br>α(K)=0.00246 *4*; α(L)=0.000321 *5*; α(M)=6.79×10$^{-5}$ *10*<br>α(N)=1.525×10$^{-5}$ *22*; α(O)=2.29×10$^{-6}$ *4*;<br>α(P)=1.422×10$^{-7}$ *20*<br>R(DCO)=1.67 *13*. |
| 600.6 | 71.9 *39* | 2605.91 | J+5 | 2005.24 | J+3 | E2 | 0.00764 | α(K)=0.00637 *9*; α(L)=0.001000 *14*; α(M)=0.000216 *3*<br>α(N)=4.82×10$^{-5}$ *7*; α(O)=7.05×10$^{-6}$ *10*;<br>α(P)=3.75×10$^{-7}$ *6*<br>R(DCO)=1.12 *8*. |
| 613.7 | 32.8 *21* | 1966.84 | J+3 | 1353.13 | J+1 | E2 | 0.00724 | α(K)=0.00604 *9*; α(L)=0.000942 *14*; α(M)=0.000203 *3*<br>α(N)=4.54×10$^{-5}$ *7*; α(O)=6.65×10$^{-6}$ *10*;<br>α(P)=3.56×10$^{-7}$ *5*<br>R(DCO)=1.04 *12* (724.8γ gated). |
| 632.5 | 8.0 *5* | 6619.13 | J+16 | 5986.65 | J+15 | D | | R(DCO)=1.65 *28*, ΔJ=1. |
| 638.7 | 155.2 *96* | 1511.57 | J+2 | 872.90 | J | E2 | 0.00656 | α(K)=0.00548 *8*; α(L)=0.000845 *12*; α(M)=0.000182 *3*<br>α(N)=4.07×10$^{-5}$ *6*; α(O)=5.97×10$^{-6}$ *9*;<br>α(P)=3.24×10$^{-7}$ *5*<br>R(DCO)=1.13 *7*. |
| 641.5 | 117.4 *68* | 3247.43 | J+7 | 2605.91 | J+5 | E2 | 0.00649 | α(K)=0.00542 *8*; α(L)=0.000835 *12*; α(M)=0.000180 *3*<br>α(N)=4.02×10$^{-5}$ *6*; α(O)=5.90×10$^{-6}$ *9*; |

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**(HI,xnγ) 1995Rz02 (continued)**

γ($^{146}$Pm) (continued)

| $E_\gamma$ [†] | $I_\gamma$ [#] | $E_i$(level) | $J_i^\pi$ | $E_f$ | $J_f^\pi$ | Mult. [@] | α [a] | Comments |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | α(P)=3.21×10$^{-7}$ *5*<br>R(DCO)=1.02 *6*. |
| 648.0 | 6.7 *11* | 5986.65 | J+15 | 5338.70 | J+13 | E2 | 0.00633 | α(K)=0.00530 *8*; α(L)=0.000813 *12*;<br>α(M)=0.0001750 *25*<br>α(N)=3.92×10$^{-5}$ *6*; α(O)=5.75×10$^{-6}$ *8*;<br>α(P)=3.13×10$^{-7}$ *5*<br>R(DCO)=0.65 *21*, ΔJ=2. |
| 713.3 | 45.4 *25* | 820.74 | JM+2 | 107.48 | JM+3 | (D) | | R(DCO)=1.82 *20*, ΔJ=1. |
| 724.8 | 78.8 *40* | 2236.33 | J+4 | 1511.57 | J+2 | E2 | 0.00484 | α(K)=0.00407 *6*; α(L)=0.000606 *9*; α(M)=0.0001301 *19*<br>α(N)=2.91×10$^{-5}$ *4*; α(O)=4.30×10$^{-6}$ *6*;<br>α(P)=2.42×10$^{-7}$ *4*<br>R(DCO)=1.06 *10*. |
| 734.0 | 5.2 *6* | 767.16 | JM+1 | 33.18 | JM+3 | E2 | 0.00470 | α(K)=0.00395 *6*; α(L)=0.000587 *9*; α(M)=0.0001259 *18*<br>α(N)=2.82×10$^{-5}$ *4*; α(O)=4.17×10$^{-6}$ *6*;<br>α(P)=2.35×10$^{-7}$ *4*<br>R(DCO)=1.00 *23* (638.7γ gated). |
| 759.3 | 15.9 *8* | 1111.81 | | 352.51 | | | | |
| 767.7 | 1.0 *1* | 5640.10 | | 4872.46 | J+11 | | | |
| 813.7 | 6.2 *5* | 5686.23 | J+13 | 4872.46 | J+11 | Q | | R(DCO)=0.92 *24*, ΔJ=2. |
| 818.3 | 12.8 *10* | 3054.55 | | 2236.33 | J+4 | Q | | R(DCO)=1.49 *34* (638.7γ gated), ΔJ=2. |
| 831.8 | 3.4 *3* | 6619.13 | J+16 | 5787.2 | | | | |
| 869.9 | | 4969.01 | | 4099.11 | | | | $E_\gamma$: not listed in table 1 but there is in fig. 5 (the level scheme) of 1995Rz02. |
| 953.6 | 2.6 *3* | 6292.2 | | 5338.70 | J+13 | | | |
| 979.2 | 1.8 *4* | 6432.8 | | 5453.6 | | | | |
| 1030.8 | 10.2 *8* | 5250.6 | J+12 | 4219.83 | J+10 | Q | | R(DCO)=0.89 *23*, ΔJ=2. |
| 1060.0 | 1.8 *4* | 6513.6 | | 5453.6 | | | | |
| 1061.6 | 8.1 *7* | 4099.11 | | 3037.51 | J+7 | | | |
| 1081.6 | 9.2 *10* | 4872.46 | J+11 | 3790.83 | J+9 | Q | | R(DCO)=1.21 *31*, ΔJ=2. |
| 1157.9 | 26.8 *18* | 5338.70 | J+13 | 4180.81 | J+11 | Q | | R(DCO)=1.16 *32*, ΔJ=2. |
| 1197.8 | 4.2 *7* | 5378.61 | | 4180.81 | J+11 | | | |
| 1459.1 | 4.5 *7* | 5640.10 | | 4180.81 | J+11 | | | |
| 1505.6 | 3.0 *4* | 5686.23 | J+13 | 4180.81 | J+11 | | | |

[†] From 1995Rz02, ΔEγ=0.1 keV was assumed for all γ's by the evaluators.
[‡] Doublet.
[#] From 1995Rz02, normalized to Iγ(588.7)=100.
[@] From α(exp) and R(DCO) values except as noted.
[&] Suggested in 2011KhZZ from RUL ($T_{1/2}$<10 ns for all the excited levels (1995Rz02)), and assuming that the levels of g.s., 73.1, 235.5, and 518.3 keV belong to the ground state rotational band.
[a] Additional information 1.

**(HI,xnγ) 1995Rz02**

Level Scheme

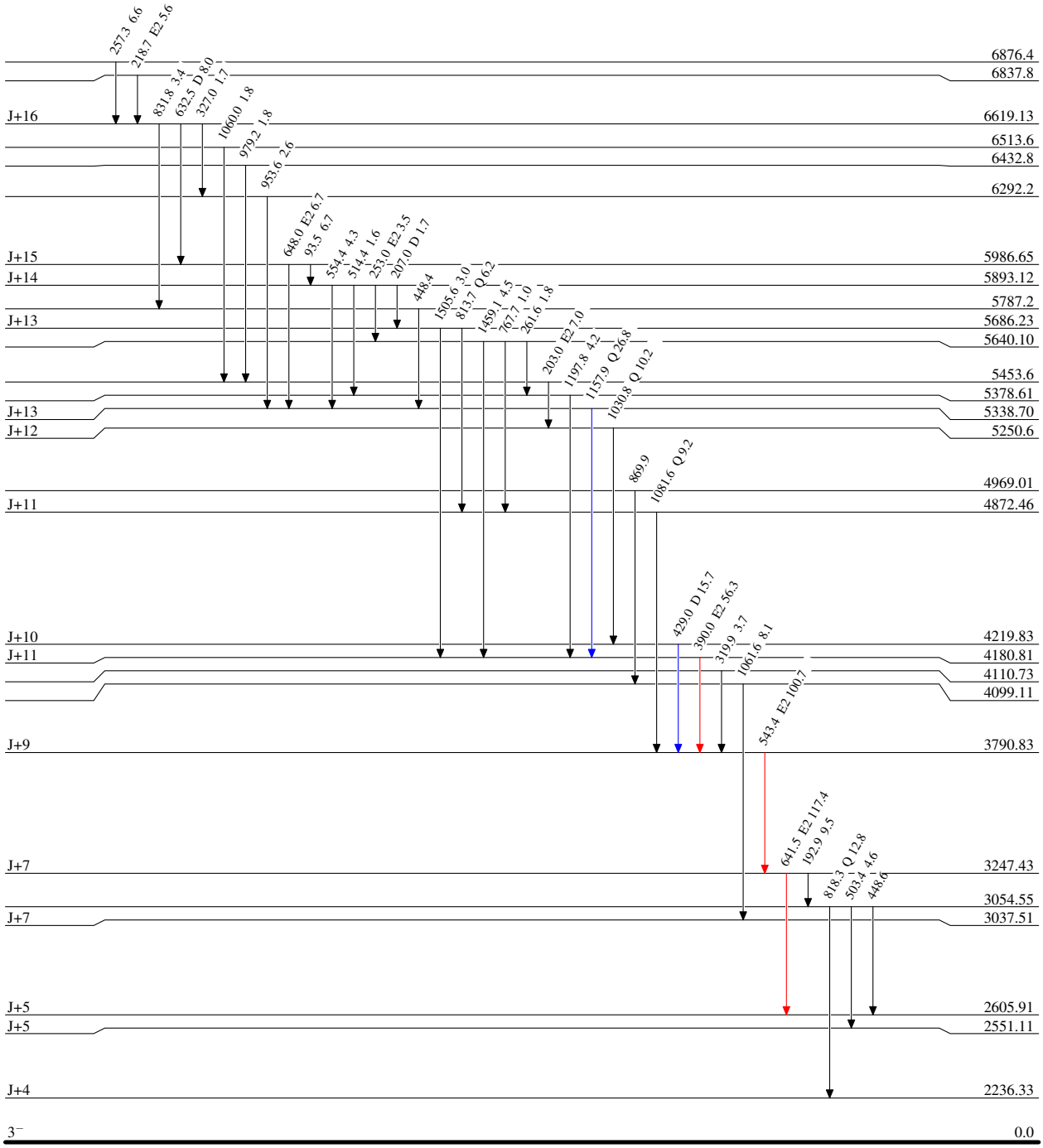
Intensities: Relative $I_\gamma$

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$




$^{146}_{61}Pm_{85}$

**(HI,xnγ) 1995Rz02**

Level Scheme (continued)

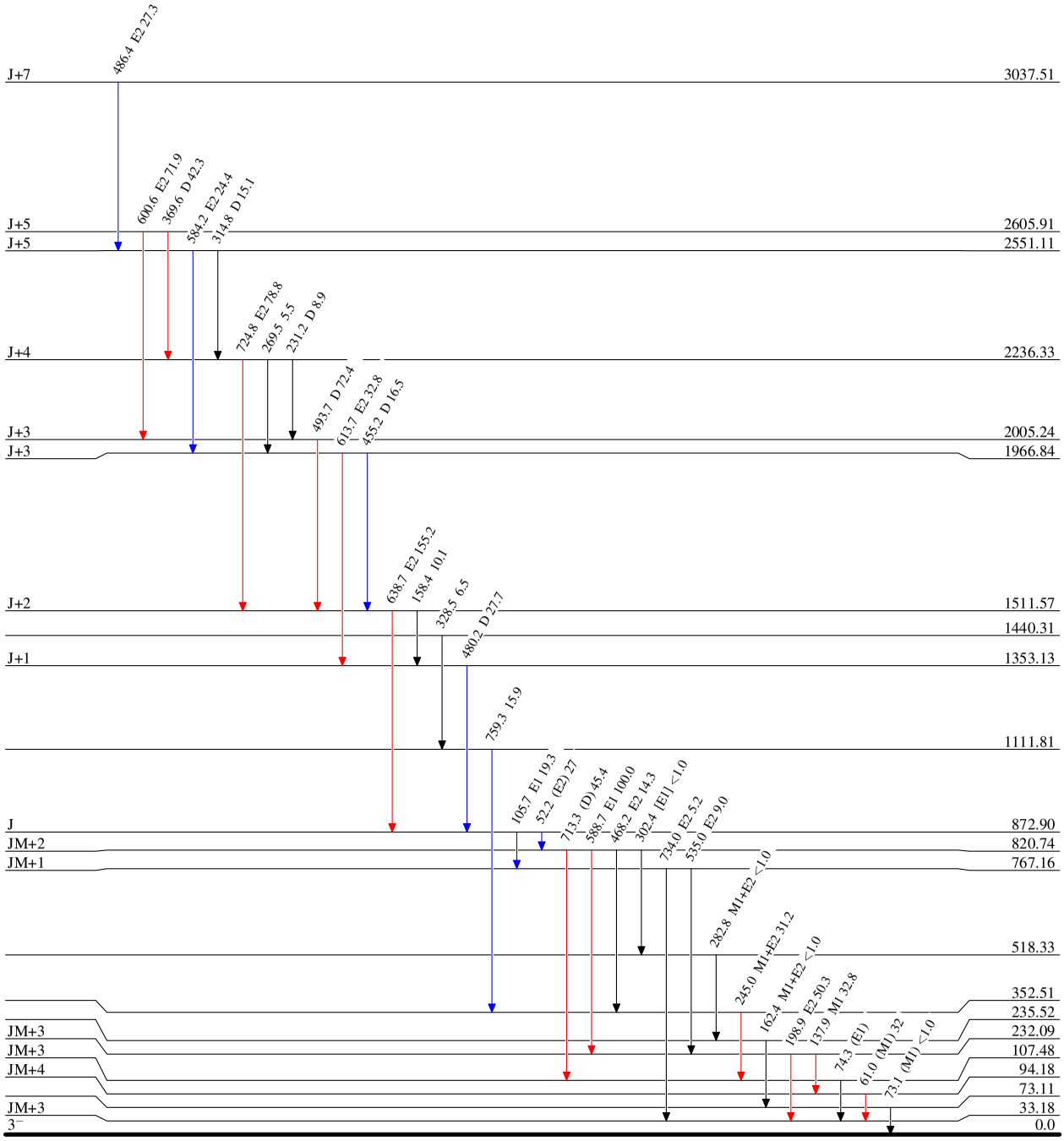
Intensities: Relative $I_\gamma$

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$




$^{146}_{61}Pm_{85}$

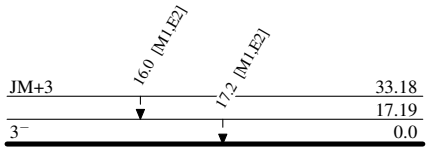
**(HI,xnγ) 1995Rz02**

Legend

Level Scheme (continued)

Intensities: Relative $I_\gamma$

- - - - - - ► γ Decay (Uncertain)




$^{146}_{61}Pm_{85}$