Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Lalkovski, J. Timar and Z. Elekes	NDS 161, 1 (2019)	1-Apr-2019

$Q(\beta^-)=-1347$ *5*; S(n)=−7094.1 *7*; S(p)=−8748 *3*; $Q(\alpha)=-2884.7$ *12* 2017Wa10

^{105}Pd Levels

Cross Reference (XREF) Flags

A	^{105}Rh β^- decay (35.3 h)	F	^{104}Pd(d,p)	K	^{104}Ru(α,3nγ)
B	^{105}Ag ε decay (41.29 d)	G	^{106}Pd(d,t)	L	^{96}Zr(^{13}C,4nγ),^{96}Zr(^{12}C,3nγ)
C	^{105}Ag ε decay (7.23 min)	H	Coulomb excitation	M	^{64}Ni(^{48}Ca,α3nγ)
D	^{105}Pd IT decay (35.5 μs)	I	^{105}Pd(n,n$'\gamma$)		
E	^{106}Pd(p,d)	J	^{104}Pd(n,γ) E=th		

E(level)[†]	J$^\pi$	T$_{1/2}$	XREF	Comments
0.0[‡]	5/2$^+$	stable	ABCDEFGHIJKLM	μ=−0.642 *3* (2014StZZ) Q=+0.660 *11* (2016St14) J$^\pi$: L=2 in ^{106}Pd(p,d) (1975An06); Also: L=2 in ^{106}Pd(d,t) 1980Sc23. <r^2>=4.5128 fm^2 *25* (2004An14).
280.62 *20*	3/2$^+$	47 ps *5*	ABC EF HIJK	μ=−0.074 *13* (1981Al19) XREF: J(281). J$^\pi$: L=2 in ^{106}Pd(p,d) (1975An06); 280.54γ M1+E2 to 5/2$^+$; 64.072γ M1(+E2) from 1/2$^+$. T$_{1/2}$: weighted average of 45 ps *5* from B(E2)↑(280.54γ)=0.0095 *5* in Coulomb excitation with α(280.54γ)=0.0238 *4*, and 67 ps *17* from $\gamma\gamma$(t) in ^{105}Ag ε decay (41.29 d) (1974Be71). μ: from IPAC in 1981Al19.
306.41[#] *21*	7/2$^+$	71 ps *8*	ABCDE HIJKLM	J$^\pi$: L=4 in ^{106}Pd(p,d) (1975An06); 306.30γ M1+E2 to 5/2$^+$. T$_{1/2}$: from B(E2)↑(306.30γ)=0.00117 *11* in Coulomb excitation, and α(306.30γ)=0.0188 *3*.
319.38 *22*	5/2$^+$	33 ps *5*	ABC E GHIJ L	μ=+0.95 *20* (1981Al19) XREF: G(321). J$^\pi$: L=2 in ^{106}Pd(p,d) (1975An06); 38.77γ M1(+E2) to 3/2$^+$, and 319.24γ M1+E2 to 5/2$^+$. T$_{1/2}$: weighted average of 38 ps *2* in 1962Me07, 48 ps *7* in 1971Sh21, 40 ps *10* from β-γ(t) in ^{105}Rh β^- decay (1974Be71), 20 ps *3* from B(E2)↑(319.24γ)=0.0082 *4* in Coulomb excitation. μ: from IPAC in 1981Al19.
344.9 *4*	1/2$^+$	0.91 ns *5*	BC EF HIJ	XREF: F(340). J$^\pi$: L=0 in ^{106}Pd(p,d) (1975An06); 344.61γ E2 to 5/2$^+$. T$_{1/2}$: weighted average of 1.01 ns *5* from 618-344γ(t) and 22X-344γ(t) in ^{105}Ag ε decay (41.29 d) (1970Sc10), 0.88 ns *5* from $\gamma\gamma$(t) in ^{105}Ag ε decay (41.29 d) (1974Be71), 801 ps *64* in ^{105}Ag ε decay (41.29 d) (1969Ka02) and 1.07 ns *24* from B(E2)↑(344.61γ)=0.0022 *5* in Coulomb excitation.
442.53[‡] *21*	(7/2)$^+$	1.2 ps *6*	ABC E GHIJKL	XREF: E(447)G(441). J$^\pi$: L=2 in ^{106}Pd(p,d) (1975An06); 442.25γ M1+E2 to 5/2$^+$. T$_{1/2}$: from B(E2)↑(442.25γ)=0.185 *7* in Coulomb excitation, and α(442.25γ)=0.00756 *11*; Others: 3.71 ps *9* from DSAM in 1972SiZP; 3.8 ps *10* from DSAM in 1971SiYG, and 3.81 ps *14* from RDDS in 1971SiYQ.
489.1[@] *3*	11/2$^-$	35.5 μs *5*	B DEFG IJKLM	XREF: D(495)F(486)G(486).

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Adopted Levels, Gammas (continued)

^{105}Pd Levels (continued)

E(level)[†]	J^{π}	$T_{1/2}$	XREF	Comments
				J^{π}: L=5 in ^{106}Pd(p,d) (1975An06); 182.92γ M2 to 7/2$^+$. $T_{1/2}$: weighted average of 36.1 μs *4* from 155.39γ-182.85γ(t) in 1970BlZT, 34.2 μs *6* in 1965Mc03, 33 μs *6* in 1956Ve03, and 36 μs *3* in 1958Du80.
535			E	
560.50 *19*	3/2$^+$	1.9 ps *5*	BC EF HIJK	XREF: E(561)F(565)J(558). J^{π}: L=(2) in ^{104}Pd(d,p) (1963Cu02); 560.79γ M1+E2 to 5/2$^+$; 6534.0γ from the (1/2$^+$) resonance. $T_{1/2}$: from DSA (1974Er05); Others:<35 ps from B(E2)↑(560.79γ)=0.0095 *9* in Coulomb excitation.
644.7 *5*	7/2$^-$	126 ps *2*	B IJ	μ=−1.49 *9* (1981Al19) J^{π}: 155.38γ E2 to 11/2$^-$, 325.43γ E1 to 5/2$^+$, and 644.63γ E1+M2 to 5/2$^+$. $T_{1/2}$: from $\gamma\gamma$(t) in ^{105}Ag ε decay (41.29 d). μ: from IPAC in 1981Al19.
650.9 *4*	(3/2)$^+$	<7 ps	B EFGHI	XREF: E(650)G(652). J^{π}: L=2 in (p,d) (1975An06); 331.58γ M1+E2 to 5/2$^+$, and 370.28γ M1+E2 to 3/2$^+$. $T_{1/2}$: from B(E2)↑(650.78)=0.0078 *6* in Coulomb excitation.
673.2 *4*	1/2$^+$	5.0 ps *5*	B E HI	XREF: E(674). J^{π}: L=0 in (p,d) (1975An06); 392.73γ M1+E2 to 3/2$^+$, and 673.24γ E2 to 5/2$^+$. $T_{1/2}$: from B(E2)(673.24γ)=0.0082 *9* in Coulomb excitation; Others:>2 ps from DSA (1974Er05).
696.66 *19*	(7/2$^+$)	<11 ps	GH K	XREF: G(692). J^{π}: 415.8γ to 3/2$^+$, and 254.3γ to (7/2)$^+$. $T_{1/2}$: from B(E2)(697.1γ)=0.0020 *10* in Coulomb excitation.
727.5 *5*	5/2$^+$	<7 ps	B EFGHI	XREF: F(724)G(721). J^{π}: L=2 in ^{106}Pd(p,d) (1975An06); 421.03γ M1(+E2) to 7/2$^+$, and 446.8γ M1+E2 to 3/2$^+$. $T_{1/2}$: from B(E2)↑(727.28)=0.0057 *25* in Coulomb excitation.
781.99[‡] *22*	9/2$^+$	1.58 ps *14*	C E HI KL	XREF: E(784). J^{π}: L=4 in ^{106}Pd(p,d) (1975An06); 781.3γ E2 to 5/2$^+$, 339.4γ M1(+E2) to (7/2)$^+$; band member. $T_{1/2}$: weighted average of 1.7 ps *4* from DSAM in 1971SiYG, 1.11 ps *28* in 1974Er05, 1.80 ps *28* from RDDS in 1971SiYQ, 1.4 ps *1* in 1970GeZY, and 1.94 ps *13* from B(E2)↑(781.3)=0.101 *7* in Coulomb excitation; Other: 2.9 ps *3* from DSAM in 1972SiZX.
785.0 *10*	(1/2$^+$ to 9/2$^+$)		FGH	XREF: F(787). J^{π}: 785γ to 5/2$^+$. B(E2)↑: 0.05 *1* in Coulomb excitation.
808			E	
902.12 *22*	9/2$^+$		L	J^{π}: 582.74γ E2 to 5/2$^+$, 595.73γ M1+E2 to 7/2$^+$.
921.3 *6*	(1/2$^+$ to 5/2$^+$)		B	J^{π}: 576.7γ to 1/2$^+$, 921.2γ to 5/2$^+$.
929.6 *5*	(5/2$^+$)		BC E I	J^{π}: L=2 in ^{106}Pd(p,d) (1975An06); 486.8γ to (7/2)$^+$, 370γ to 3/2$^+$.
945.0 *10*			GH	J^{π}: 945γ to 5/2$^+$. B(E2)↑: 0.020 *5* in Coulomb excitation.
962.4 *4*	(1/2,3/2)$^+$	<0.2 ps	B E HI	XREF: E(964)I(961.4). J^{π}: L=0 in ^{106}Pd(p,d) (1975An06); 401.75γ to 3/2$^+$, 962.45γ to 5/2$^+$. $T_{1/2}$: from B(E2)↑(962.45γ)=0.008 *5* in Coulomb excitation.
970.0[@] *3*	15/2$^-$		I KLM	J^{π}: 480.8γ E2 to 11/2$^-$; band member.
970	(1/2$^+$ to 7/2$^+$)		EFG	XREF: E(972)G(979). J^{π}: L=(2) in ^{104}Pd(d,p) (1963Cu02).

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Adopted Levels, Gammas (continued)

^{105}Pd Levels (continued)

E(level)[†]	J$^{\pi}$	XREF	Comments
1011.47[#] *24*	(11/2$^+$)	I KLM	J$^{\pi}$: 228.9γ M1+E2 to 9/2$^+$, 705.2γ E2 to 7/2$^+$, 523.6γ to 11/2$^-$.
1072.2 *8*	(5/2$^+$,7/2$^+$,9/2$^+$)	C G	XREF: G(1068). J$^{\pi}$: 629.7γ to (7/2)$^+$, 1072.2γ to 5/2$^+$; log *ft*= 6.84 *10* in ^{105}Ag ε decay (7.23 min).
1074.6 *4*	(3/2$^+$)	F I	XREF: F(1075). J$^{\pi}$: L=(0) in ^{104}Pd(d,p) (1963Cu02); 768.4γ to 7/2$^+$, 793.8γ to 3/2$^+$.
1088.2 *4*	3/2$^-$	B I	J$^{\pi}$: L=(0) in ^{104}Pd(d,p) (1963Cu02); 360.72γ E1 to 5/2$^+$, 414.85γ (E1) to 1/2$^+$, 807.57γ E1(+M2) to 3/2$^+$.
1098.1 *5*	(5/2$^+$,7/2$^+$,9/2$^+$)	C E I	J$^{\pi}$: 818γ to 3/2$^+$, 656.5γ to (7/2)$^+$; log *ft*=5.94 *10* in ^{105}Ag ε decay (7.23 min).
1102.3 *5*	(1/2$^+$ to 5/2$^+$)	FG I	XREF: F(1103)G(1105). J$^{\pi}$: L=2 in ^{104}Pd(d,p) (1963Cu02); 821.7γ to 3/2$^+$.
1125.1 *6*	(1/2$^+$ to 7/2$^+$)	B	J$^{\pi}$: 844.6γ to 3/2$^+$, 1125.2γ to 5/2$^+$.
1142.34 *17*	(1/2$^+$,3/2$^+$)	FG I	XREF: F(1141)G(1155). J$^{\pi}$: L=(0) in ^{104}Pd(d,p) (1963Cu02); 582.1γ to 3/2$^+$, 1142.2γ to 5/2$^+$.
1177.7 *3*	(1/2$^+$,3/2$^+$)	IJ	J$^{\pi}$: 1177.7γ to 5/2$^+$; 5918γ primary from 7094.1-keV level in ^{104}Pd(n,γ) E=th.
1201.7 *4*	(1/2$^+$,3/2$^+$)	F I	J$^{\pi}$: L=(2) ^{104}Pd(d,p) (1963Cu02); 640.8γ to 3/2$^+$.
1259.22 *22*	(3/2$^+$)	FG I	XREF: F(1263)G(1242). J$^{\pi}$: L=(0) in ^{104}Pd(d,p) (1963Cu02); 952.6γ to 7/2$^+$, 979.0γ to 3/2$^+$.
1271.41[‡] *24*	(11/2)$^+$	G KL	XREF: G(1288). J$^{\pi}$: 489.5γ M1+E2 to 9/2$^+$, 829.1γ E2 to (7/2)$^+$.
1324.2 *3*	(11/2$^+$)	K	J$^{\pi}$: 312.6γ to (11/2$^+$), 881.3γ (E2) to (7/2)$^+$.
1357.0[b] *8*	(13/2$^-$)	L	J$^{\pi}$: 387γ to 15/2$^-$, 868γ to 11/2$^-$.
1405.2 *3*	(3/2$^+$,5/2$^+$)	F I	XREF: F(1402). J$^{\pi}$: 263.3γ to (1/2$^+$,3/2), 1098.5γ to 7/2$^+$, 1405.5γ to 5/2$^+$.
1410.9 *3*	(13/2$^+$)	G K	XREF: G(1417). J$^{\pi}$: L=5 in ^{106}Pd(d,t) (1980Sc23); 140.0γ to (11/2)$^+$, 399.9γ to (11/2$^+$), 628.1γ to 9/2$^+$; assumed near-yrast level.
1520.8 *5*	(3/2$^+$ to 7/2$^+$)	F I	XREF: F(1522). J$^{\pi}$: 1078.0γ to (7/2)$^+$, 1240.8γ to 3/2$^+$.
1601.3 *5*	(1/2$^+$ to 5/2$^+$)	F I	XREF: F(1602). J$^{\pi}$: L=(2) in ^{104}Pd(d,p) (1963Cu02), 459.0γ to (1/2$^+$,3/2), 1600.4γ to 5/2$^+$.
1650.6 *5*	(7/2$^-$)	F I	XREF: F(1652). J$^{\pi}$: 1162.1γ to 11/2$^-$, 1208.7γ to (7/2)$^+$, 1305.5γ to 1/2$^+$.
1671.14[‡] *24*	(13/2)$^+$	L	J$^{\pi}$: 399.76γ E2+M1 to (11/2)$^+$, 889.24γ E2 to 9/2$^+$; band member.
1701.0 *8*	(1/2$^+$ to 9/2$^+$)	F I	XREF: F(1702). J$^{\pi}$: 973.3γ to 5/2$^+$.
1741.8[@] *3*	19/2$^-$	KLM	J$^{\pi}$: 771.83γ E2 to 15/2$^-$; band member.
1749.6 *3*	(13/2)$^+$	L	J$^{\pi}$: 847.6γ E2 to 9/2$^+$; near-yrast state assumed.
1763.2 *3*	(15/2)$^-$	L	J$^{\pi}$: 793.17γ M1+E2 to 15/2$^-$, 1274.15γ to 11/2$^-$; near yrast state.
1774.7 *6*	(1/2$^+$ to 9/2$^+$)	F I	XREF: F(1772). J$^{\pi}$: 1455.3γ to 5/2$^+$.
1854.1 *3*	(13/2$^+$)	K	J$^{\pi}$: 530.3γ to (11/2$^+$), 442γ to (13/2$^+$); assumed near-yrast.
1865.6 *4*	(1/2$^+$ to 7/2$^+$)	F I	XREF: F(1867). J$^{\pi}$: 1305.5γ to 3/2$^+$.
1873.9 *3*	(15/2$^+$)	K	J$^{\pi}$: 602.7γ to (11/2)$^+$; 862.7γ to (11/2$^+$) assumed to be (E2) in ^{104}Ru(α,3nγ) (1977Gr22).
1901.8[#] *3*	(15/2)$^+$	KLM	XREF: K(1900.8)L(1902.17)M(1903). J$^{\pi}$: 889.8γ E2 to (11/2$^+$); band member.
1922.9 *5*	(1/2$^+$,3/2$^+$)	F I	XREF: F(1923). J$^{\pi}$: L=(0) in ^{104}Pd(d,p) (1963Cu02); 1360.7γ to 3/2$^+$.
1961.3[b] *3*	(17/2)$^-$	L	J$^{\pi}$: 991.38γ M1+E2 to 15/2$^-$; 814.22γ (E2) from (21/2$^-$).
1988.9 *5*	(1/2,3/2,5/2)$^+$	F I	XREF: F(1990).

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Adopted Levels, Gammas (continued)

^{105}Pd Levels (continued)

E(level)[†]	J^π	XREF	Comments
2064.7 *7*	(1/2$^+$,3/2$^+$)	F I	J^π: 1026.7γ to (1/2,3/2)$^+$; L=(2) from ^{104}Pd(d,p) (1963Cu02). XREF: F(2062). J^π: L=(2) in ^{104}Pd(d,p) (1963Cu02); 1745.2γ to 5/2$^+$, 1784.3γ to 3/2$^+$.
2101.5 *7*	(7/2$^-$,9/2,11/2$^+$)	F I	XREF: F(2102). J^π: 1611.8γ to 11/2$^-$, 1660.0γ to (7/2)$^+$.
2197.1[‡] *3*	(15/2)$^+$	L	J^π: 925.8γ E2 to (11/2)$^+$; near yrast state.
2280.6 *4*	(15/2,17/2)$^-$	L	J^π: 1310.6γ M1+E2 to 15/2$^-$.
2344.6 *3*	(19/2)$^-$	L	J^π: 581.45γ E2 to (15/2)$^-$, 602.78γ M1+E2 to 19/2$^-$.
2420		F	
2490.9 *4*	(19/2$^-$)	L	J^π: 749.1γ to 19/2$^-$, 1520.9γ (E2) to 15/2$^-$.
2552.0[‡] *3*	(17/2)$^+$	L	J^π: 881.0γ E2 to (13/2)$^+$, 649.9γ to (15/2)$^+$, 1582.0γ to 15/2$^-$; band member.
2565.01 *24*	(17/2)$^+$	L	J^π: 367.9γ to (15/2)$^+$, 815.4γ E2 to (13/2)$^+$, 893.88γ (E2) to (13/2)$^+$.
2613 *8*		F	
2700.2[@] *3*	23/2$^-$	KLM	XREF: K(2698.9). J^π: 958.42γ to E2 to 19/2$^-$; band member.
2703.9 *3*	(19/2)$^-$	L	J^π: 962.10γ M1+E2 to 19/2$^-$.
2755.9[#] *3*	19/2$^+$	KLM	XREF: K(2754.5)M(2757). J^π: 854.02γ E2 to (15/2)$^+$, 1014.3γ E1+M2 to 19/2$^-$; band member.
2775.6[b] *3*	(21/2$^-$)	L	J^π: 1033.7γ M1+E2 to 19/2$^-$; near-yrast state assumed.
2806.5[c] *3*	(19/2)$^+$	L	J^π: 254.53γ M1+E2 to (17/2)$^+$, 904.7γ E2 to (15/2)$^+$.
2900.7[&] *3*	(21/2)$^-$	L	J^π: 1158.94γ M1+E2 to 19/2$^-$, 939.4γ to (17/2)$^-$.
3072.8[a] *3*	(21/2)$^+$	L	J^π: 372.6γ E1+M2 to 23/2$^-$, 508.0γ E2 to (17/2)$^+$, 1331.0γ E1+M2 to 19/2$^-$; band member.
3119.2[c] *3*	(21/2)$^+$	L	J^π: 312.67γ M1+E2 to (19/2)$^+$, 1377.3γ to 19/2$^-$; band member.
3153.3 *3*	(23/2)$^-$	KL	J^π: 452.98γ M1(+E2) to 23/2$^-$, 808.8γ E2 to (19/2)$^-$; J^π=(27/2)$^-$ in ^{104}Ru(α,3nγ).
3294.7[#] *3*	23/2$^+$	KLM	J^π: 538.83γ E2 to 19/2$^+$; band member.
3320		F	
3468.6[c] *3*	(23/2)$^+$	L	J^π: 349.38γ M1+E2 to (21/2)$^+$; near-yrast state assumed.
3527.6[a] *3*	(25/2)$^+$	L	J^π: 232.8γ M1+E2 to 23/2$^+$; 454.82 γ E2 to (21/2)$^+$; band member.
3570		F	
3690		F	
3694.4 *4*	(25/2$^-$)	L	J^π: 918.8γ E2 to (21/2$^-$), 994.12γ M1+E2 to 23/2$^-$.
3800.5[@] *3*	(27/2$^-$)	KLM	XREF: K(3797.7). J^π: 1100.24γ (E2) to 23/2$^-$; band member.
3859.4[&] *6*	(25/2$^-$)	L	J^π: 1084γ to (21/2$^-$), 1159γ to 23/2$^-$; band member.
3873.0[#] *3*	27/2$^+$	KLM	XREF: K(3871.3)M(3874). J^π: 578.27γ E2 to 23/2$^+$; band member.
4000		F	
4110		F	
4254.4[a] *4*	(29/2)$^+$	L	J^π: 726.8γ E2 to (25/2)$^+$; band member.
4510		F	
4668.2[#] *4*	(31/2$^+$)	LM	XREF: M(4669). J^π: 795.23γ (E2) to 27/2$^+$; band member.
4690		F	
4783.4[b] *7*	(29/2$^-$)	L	J^π: 1089γ (E2) to 25/2$^-$; band member.
4840		F	
4953.1[@] *4*	(31/2$^-$)	LM	J^π: 1152.64γ (E2) to (27/2$^-$); band member.
4955.9[&] *8*	(29/2$^-$)	L	J^π: 1261γ to 25/2$^-$; band member.
5255.3[a] *5*	(33/2$^+$)	L	J^π: 1000.9γ (E2) to (29/2)$^+$; band member.
5682.2[#] *11*	(35/2$^+$)	M	J^π: 1014γ to (31/2$^+$); assumed near-yrast state.

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Adopted Levels, Gammas (continued)

^{105}Pd Levels (continued)

E(level)[†]	J^π	$T_{1/2}$	XREF	Comments
5847.4[b] *12*	(33/2⁻)		L	J^π: 1064γ (E2) to (29/2⁻); band member.
6073.1[@] *11*	(35/2⁻)		LM	J^π: 1120γ to (31/2⁻); band member.
6860.3[#] *15*	(39/2⁺)		M	J^π: 1178γ to (35/2⁺); band member.
6995.4[b] *16*	(37/2⁻)		L	
(7094.5 *7*)		5.1 fs *8*	J	J^π: assumed s-wave neutron capture.
7193.1[@] *15*	(39/2⁻)		LM	J^π: 1120γ to (35/2⁻); band member.
8127.3[#] *18*	(43/2⁺)		M	J^π: 1267γ to (39/2⁺); band member.
8297.4[b] *19*	(41/2⁻)		L	J^π: 1302γ to (37/2⁻); band member.
8410.1[@] *18*	(43/2⁻)		LM	J^π: 1217γ to (39/2⁻); band member.
9440.3[#] *21*	(47/2⁺)		M	J^π: 1313γ to (43/2⁺); band member.
10875.3[#] *23*	(51/2⁺)		M	J^π: 1435γ to (47/2⁺); band member.
x[d]	[43/2⁺]		M	Additional information 1. J^π: from systemaitcs.
x+1209.0[d] *10*	[47/2⁺]		M	J^π: 1209γ to [43/2⁺]; band member.
x+2491.0[d] *15*	[51/2⁺]		M	J^π: 1282γ to [47/2⁺]; band member.
x+3870.0[d] *18*	[55/2⁺]		M	J^π: 1379γ to [51/2⁺]; band member.
x+5358.0[d] *20*	[59/2⁺]		M	J^π: 1488γ to [55/2⁺]; band member.
x+6955.0[d] *23*	[63/2⁺]		M	J^π: 1597γ to [59/2⁺]; band member.
x+8675.1[d] *25*	[67/2⁺]		M	J^π: 1720γ to [63/2⁺]; band member.
x+10521[d] *3*	[71/2⁺]		M	J^π: 1846γ to [67/2⁺]; band member.
x+12528[d] *3*	[75/2⁺]		M	J^π: 2007γ to [71/2⁺]; band member.
x+14669[d] *3*	[79/2⁺]		M	J^π: 2141γ to [75/2⁺]; band member.

[†] From a least-squares fit to Eγ.
[‡] Band(A): ΔJ=1 band built on J^π=5/2⁺.
[#] Band(B): ΔJ=2 band built on J^π=7/2⁺.
[@] Band(C): ΔJ=2 band built on J^π=11/2⁻.
[&] Band(D): ΔJ=2 signature partner of J^π=11/2⁻ band.
[a] Band(E): ΔJ=2 band built on J^π=(21/2⁺).
[b] Band(F): ΔJ=2 wobbling band on J^π=(13/2⁻).
[c] Band(G): ΔJ=1 band, built on J^π=(17/2⁺).
[d] Band(H): ΔJ=2 superdeformed band.

Adopted Levels, Gammas (continued)

$\gamma(^{105}Pd)$

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.	δ	α[†]	Comments
280.62	3/2$^+$	280.54	100	0.0	5/2$^+$	M1+E2	+0.143 *7*	0.0238	α(K)=0.0207 *3*; α(L)=0.00249 *4*; α(M)=0.000469 *7*; α(N+..)=7.89×10^{-5} *12* α(N)=7.89×10^{-5} *12* B(M1)(W.u.)=0.0203 *22*; B(E2)(W.u.)=4.6 *7* Mult.: A_{22}=0.156 *8*, A_{44}=0.031 *9* in ^{105}Ag ε decay (41.29 d) (1983Si08); Also A_{22}=−0.048 *10*, A_{44}=0.015 *10* (1977Ri05) and R_{DCO}=2.19 *6* (1977Ri05) in ^{96}Zr(^{12}C,3nγ). Mult.: α(K)exp=0.0209 *13* in ^{105}Ag ε decay (41.29 d) (1970Ka13), 0.020 *4* (1965Pi01). δ: weighted average of 0.178 *14* (1983Si08) and +0.132 *8* (1977Wi10); Others: 0.01 *1* (1977Ri05), +0.07 *7* (1976Ba39), +0.013 *3* (1972Be67), +0.035 *22* (1962Bh03), +0.11 *3* (1958Ra01).
306.41	7/2$^+$	306.30	100	0.0	5/2$^+$	M1+E2	+0.055 *2*	0.0188	α(K)=0.01640 *23*; α(L)=0.00196 *3*; α(M)=0.000368 *6*; α(N+..)=6.20×10^{-5} *9* α(N)=6.20×10^{-5} *9* B(M1)(W.u.)=0.0106 *12*; B(E2)(W.u.)=0.30 *4* Mult.: A_{22}=−0.048 *10*, A_{44}=0.015 *10* (1977Ri05); R_{DCO}=2.19 *6* (1977Ri05). Mult.: α(K)exp=0.0209 *13* (1970Ka13); 0.016 *2* (1964Ka23). δ: from 1976Ba39; Other: 0.06 *1* (1977Wi10), 0.01 *1* (1977Ri05), +0.02 *4* (1977Ri05).
319.38	5/2$^+$	38.77 *17*	0.14	280.62	3/2$^+$	M1(+E2)		24 *18*	α(K)=12 *7*; α(L)=10 *10*; α(M)=1.9 *18*; α(N+..)=0.3 *3* α(N)=0.3 *3* Mult.: α(K)exp=5.8 *6* in ^{105}Rh β^- decay (35.3 h) (1965Pi01).
		319.24	100.0	0.0	5/2$^+$	M1+E2	+0.103 *8*	0.01697	α(K)=0.01481 *21*; α(L)=0.001769 *25*; α(M)=0.000332 *5*; α(N+..)=5.60×10^{-5} *8* α(N)=5.60×10^{-5} *8* B(M1)(W.u.)=0.019 *3*; B(E2)(W.u.)=1.8 *4* Mult.: A_{22}=0.21 *4*, A_{44}=0.01 *5* (1977Ri05); R_{DCO}=1.08 *19* (1977Ri05) in ^{96}Zr(^{12}C,3nγ); Also, α(K)exp=0.013 (1964Ka23) in ^{105}Rh β^- decay (35.3 h) and 0.014 *9* (1970Ka13) in ^{105}Ag ε decay (41.29 d). δ: weighted average of +0.137 *9* (1981Al19), +0.11 *1* (1977Wi10) and +0.091 *13* (1976Ba39);
344.9	1/2$^+$	64.072	26.8	280.62	3/2$^+$	M1(+E2)	−0.025 *30*	1.354 *23*	α(K)=1.175 *19*; α(L)=0.147 *5*; α(M)=0.0276 *9*; α(N+..)=0.00463 *14* α(N)=0.00463 *14* B(M1)(W.u.)=0.0149 *+20−21*; B(E2)(W.u.)=2.0 *+91−16* Mult.: α(K)exp=1.17 *7* (1970Ka13) in ^{105}Ag ε decay (41.29 d). δ: from (1981Al19) in ^{105}Ag ε decay (41.29 d).
		344.61	100.0	0.0	5/2$^+$	E2		0.0188	α(K)=0.01611 *23*; α(L)=0.00219 *3*; α(M)=0.000413 *6*; α(N+..)=6.80×10^{-5} *10*

$^{105}_{46}Pd_{59}$-6

Adopted Levels, Gammas (continued)

$\gamma(^{105}Pd)$ (continued)

E_i(level)	J^{π}_i	E_{γ}‡	I_{γ}‡	E_f	J^{π}_f	Mult.	δ	α†	Comments
									α(N)=6.80×10^{-5} *10* B(E2)(W.u.)=2.64 *15* Mult.: α(K)exp=0.0163 *10* (1970Ka13) in ^{105}Ag ε decay (41.29 d).
442.53	(7/2)$^+$	442.25	100	0.0	5/2$^+$	M1+E2	−0.23 *6*	0.00756 *11*	B(M1)(W.u.)=0.20 *+17−7*; B(E2)(W.u.)=47 *+55−24* α=0.00756 *11*; α(K)=0.00661 *10*; α(L)=0.000784 *13*; α(M)=0.0001471 *23*; α(N+..)=2.48×10^{-5} α(N)=2.48×10^{-5} *4* Mult.: A_{22}=−0.610 *21*, A_{44}=0.031 *24* (1977Ri05); R_{DCO}=4.1 *7* (1977Ri05) in ^{96}Zr(^{12}C,3nγ). δ: weighted average of −0.33 *13* or −0.20 *7* (1977Ri05) in ^{96}Zr(^{12}C,3nγ); Also: −0.2 or −0.3 (1977Wi10) and −0.8 *+7−4* (1976Ba39) in ^{105}Rh β^- decay (35.3 h).
489.1	11/2$^-$	182.92	100	306.41	7/2$^+$	M2		0.453	α(K)=0.383 *6*; α(L)=0.0567 *8*; α(M)=0.01087 *16*; α(N+..)=0.00182 *3* α(N)=0.00182 *3* B(M2)(W.u.)=0.132 *4* Mult.: A_{22}=0.03 *4*, A_{44}=0.00 *4* (1977Ri05) in ^{96}Zr(^{12}C,3nγ); Also α(K)exp=0.40 *5* (1970Ka13) in ^{105}Ag ε decay (41.29 d).
560.50	3/2$^+$	216.1	2.44	344.9	1/2$^+$				
		560.79	100	0.0	5/2$^+$	M1+E2		0.00427 *7*	α=0.00427 *7*; α(K)=0.00372 *6*; α(L)=0.000451 *18*; α(M)=8.5×10^{-5} *4*; α(N+..)=1.42×10^{-5} *5* α(N)=1.42×10^{-5} *5* Mult.: α(K)exp=0.0038 *4* (1970Ka13) in ^{105}Ag ε decay (41.29 d).
644.7	7/2$^-$	155.38	4.05	489.1	11/2$^-$	E2		0.289	α(K)=0.238 *4*; α(L)=0.0423 *6*; α(M)=0.00808 *12*; α(N+..)=0.001290 *18* α(N)=0.001290 *18* B(E2)(W.u.)=63.5 *23* Mult.: α(K)exp=0.235 *21* (1970Ka13).
		202.21	0.29	442.53	(7/2)$^+$				
		325.43	1.98	319.38	5/2$^+$	E1		0.00559 *8*	α=0.00559 *8*; α(K)=0.00489 *7*; α(L)=0.000571 *8*; α(M)=0.0001067 *15*; α(N+..)=1.79×10^{-5} *3* α(N)=1.79×10^{-5} *3* B(E1)(W.u.)=1.289×10^{-6} *24* Mult.: α(K)exp=0.0043 *8* (1970Ka13).
		644.63	100	0.0	5/2$^+$	E1+M2	−0.016 *4*	0.001061 *15*	α=0.001061 *15*; α(K)=0.000930 *13*; α(L)=0.0001070 *15*; α(M)=2.00×10^{-5} *3*; α(N+..)=3.37×10^{-6} α(N)=3.37×10^{-6} *5* B(E1)(W.u.)=8.38×10^{-6} *14*; B(M2)(W.u.)=0.024 *12* Mult.: A_{22}=−0.170 *5*, 0.001 *1* (1977Ba32); Also, α(K)exp=0.00090 *6* (1970Ka13) in ^{105}Ag ε decay (41.29 d). δ: weighted average of −0.020 *+5−6* (1977Ba32) and −0.012 *4* (1981Al19) in ^{105}Ag ε decay (41.29 d).
650.9	(3/2)$^+$	90.01	0.81	560.50	3/2$^+$				
		331.58	100	319.38	5/2$^+$	M1+E2	−0.084 *7*	0.01539	B(M1)(W.u.)>0.047; B(E2)(W.u.)>2.2

$\gamma(^{105}Pd)$ (continued)

E_i(level)	J^π_i	E_γ‡	I_γ‡	E_f	J^π_f	Mult.	δ	α†	Comments
									α(K)=0.01343 *19*; α(L)=0.001602 *23*; α(M)=0.000301 *5*; α(N+..)=5.07×10^{-5} *8* α(N)=5.07×10^{-5} *8* Mult.: A_{22}=−0.104 *11*, A_{44}=−0.10 *10* (1977Ba32) in ^{105}Ag ε decay (41.29 d); Also α(K)exp=0.0122 *8* (1970Ka13) in ^{105}Ag ε decay (41.29 d). δ: −0.084 *7* (1983Si08), and −0.062 *9* (1981Al19) in ^{105}Ag ε decay (41.29 d).
650.9	(3/2)$^+$	370.28	17.85	280.62	3/2$^+$	M1+E2	0.11 *3*	0.01167	B(M1)(W.u.)>0.0059; B(E2)(W.u.)>0.21 α(K)=0.01020 *15*; α(L)=0.001212 *18*; α(M)=0.000228 *4*; α(N+..)=3.84×10^{-5} *6* α(N)=3.84×10^{-5} *6* Mult.: A_{22}=−0.072 *12*, A_{44}=−0.001 *16* (1983Si08) and A_{22}=−0.098 *16*, A_{44}=−0.030 *45* (1977Ba32) in ^{105}Ag ε decay (41.29 d); Also α(K)exp=0.0094 *8* (1970Ka13) in ^{105}Ag ε decay (41.29 d). δ: from 1983Si08 in ^{105}Ag ε decay (41.29 d), based on γ-$\gamma(\theta)$; Other: 0.000 *3* (1977Ba32) in ^{105}Ag ε decay (41.29 d).
		650.78	60.85	0.0	5/2$^+$	M1+E2		0.00293 *7*	α=0.00293 *7*; α(K)=0.00256 *7*; α(L)=0.000306 *5*; α(M)=5.74×10^{-5} *9*; α(N+..)=9.64×10^{-6} *14* α(N)=9.64×10^{-6} *14* Mult.: α(K)exp=0.00264 *18* (1970Ka13) in ^{105}Ag ε decay (41.29 d).
673.2	1/2$^+$	112.51	1.76	560.50	3/2$^+$				
		328.61	10.25	344.9	1/2$^+$	(M1)		0.01570	α(K)=0.01371 *20*; α(L)=0.001632 *23*; α(M)=0.000307 *5*; α(N+..)=5.17×10^{-5} *8* α(N)=5.17×10^{-5} *8* B(M1)(W.u.)=0.0078 *8* Mult.: α(K)exp=0.0084 *9* (1970Ka13) in ^{105}Ag ε decay (41.29 d).
		353.8	0.42	319.38	5/2$^+$				
		392.73	100	280.62	3/2$^+$	M1+E2	+0.06 *3*	0.01006 *15*	B(M1)(W.u.)=0.045 *+6−5*; B(E2)(W.u.)=0.9 *+12−7* α(K)=0.00879 *13*; α(L)=0.001042 *15*; α(M)=0.000196 *3*; α(N+..)=3.30×10^{-5} *5* α(N)=3.30×10^{-5} *5* Mult.: A_{22}=0.182 *17*, A_{44}=0.020 *25* (1983Si08) and 0.149 *13*, −0.014 *20* (1977Ba32) in ^{105}Ag ε decay (41.29 d); Also α(K)exp=0.0083 *6* (1970Ka13) in ^{105}Ag ε decay (41.29 d). δ: weighted average of 0.05 *4* (1983Si08) and +0.10 *7* (1981Al19) in ^{105}Ag ε decay (41.29 d); Other: −0.84 *+3−17* (1977Ba32).
		673.24	48.74	0.0	5/2$^+$	E2		0.00263 *4*	B(E2)(W.u.)=8.4 *9* α=0.00263 *4*; α(K)=0.00229 *4*; α(L)=0.000280 *4*; α(M)=5.26×10^{-5} *8*; α(N+..)=8.79×10^{-6} *13* α(N)=8.79×10^{-6} *13* Mult.: α(K)exp=0.00224 *19* (1970Ka13) in ^{105}Ag ε decay (41.29 d).

$^{105}_{46}Pd_{59}$-8

$\gamma(^{105}Pd)$ (continued)

E_i(level)	J^π_i	E_γ[‡]	I_γ[‡]	E_f	J^π_f	Mult.	δ	α[†]	Comments
696.66	$(7/2^+)$	135.8[#] *3*	22[#] *5*	560.50	$3/2^+$				
		254.3[#] *3*	92[#] *27*	442.53	$(7/2)^+$				
		415.8[#] *3*	38[#] *11*	280.62	$3/2^+$				
		697.1[#] *3*	100[#]	0.0	$5/2^+$				
727.5	$5/2^+$	284.8	65.71	442.53	$(7/2)^+$	M1		0.0226	α(K)=0.0197 *3*; α(L)=0.00236 *4*; α(M)=0.000443 *7*; α(N+..)=7.47×10^{-5} *11* α(N)=7.47×10^{-5} *11* B(M1)(W.u.)>0.025 Mult.: α(K)exp=0.0162 *23* (1970Ka13) in ^{105}Ag ε decay (41.29 d).
		408.08	28.57	319.38	$5/2^+$	M1(+E2)		0.0101 *10*	α(K)=0.0087 *8*; α(L)=0.00109 *15*; α(M)=0.00021 *3*; α(N+..)=3.4×10^{-5} *5* α(N)=3.4×10^{-5} *5* Mult.: α(K)exp=0.0070 *25* (1970Ka13) in ^{105}Ag ε decay (41.29 d).
		421.03	82.86	306.41	$7/2^+$	M1(+E2)		0.0092 *8*	α=0.0092 *8*; α(K)=0.0080 *7*; α(L)=0.00100 *13*; α(M)=0.000188 *25*; α(N+..)=3.1×10^{-5} *4* α(N)=3.1×10^{-5} *4* Mult.: α(K)exp=0.0069 *17* (1970Ka13) in ^{105}Ag ε decay (41.29 d).
		446.8	68.57	280.62	$3/2^+$	M1+E2	0.9 *+9−5*	0.0078 *4*	B(M1)(W.u.)>0.00040 α=0.0078 *4*; α(K)=0.0068 *3*; α(L)=0.00083 *6*; α(M)=0.000157 *11*; α(N+..)=2.62×10^{-5} *17* α(N)=2.62×10^{-5} *17* Mult.: A_{22}=0.043 (32); A_{44}=0.053 (47) (1983Si08) in ^{105}Ag ε decay (41.29 d). δ: from 1983Si08 in ^{105}Ag ε decay (41.29 d), based on $\gamma\gamma(\theta)$.
		727.28	100	0.0	$5/2^+$	M1(+E2)		0.00223 *9*	α=0.00223 *9*; α(K)=0.00195 *8*; α(L)=0.000231 *5*; α(M)=4.34×10^{-5} *9*; α(N+..)=7.30×10^{-6} *18* α(N)=7.30×10^{-6} *18* Mult.: α(K)exp=0.0028 *9* (1970Ka13) in ^{105}Ag ε decay (41.29 d).
781.99	$9/2^+$	339.4[#] *1*	[#]	442.53	$(7/2)^+$	M1(+E2)	−0.04 *4*	0.01448	α(K)=0.01264 *18*; α(L)=0.001505 *22*; α(M)=0.000283 *4*; α(N+..)=4.76×10^{-5} *7* α(N)=4.76×10^{-5} *7* Mult.: A_{22}=−0.29 *5*, A_4=0.03 *8* (1977Ri05); R_{DCO}=2.5 *5* (1977Ri05) in ^{96}Zr(^{12}C,3nγ). δ: from 1977Ri05 in ^{96}Zr(^{12}C,3nγ), based on $\gamma(\theta)$. δ: Also: −0.08 *8* (1977Ri05) in ^{96}Zr(^{12}C,3nγ).
		475.1[@]	100[@]	306.41	$7/2^+$				

$^{105}_{46}Pd_{59}$-9

Adopted Levels, Gammas (continued)

$\gamma(^{105}$Pd) (continued)

E_i(level)	J^{π}_i	E_{γ}[‡]	I_{γ}[‡]	E_f	J^{π}_f	Mult.	δ	α[†]	Comments
781.99	9/2$^+$	781.3[@]	54[@]	0.0	5/2$^+$	E2		0.00180 *3*	B(E2)(W.u.)=14.7 *13* α=0.00180 *3*; α(K)=0.001571 *22*; α(L)=0.000189 *3*; α(M)=3.55×10^{-5} *5*; α(N+..)=5.95×10^{-6} *9* α(N)=5.95×10^{-6} *9* Mult.: A_{22}=0.33 *3*, A_{44}=−0.05 *4* (1977Ri05); R_{DCO}=1.01 *18* (1977Ri05) in ^{96}Zr(^{12}C,3nγ).
785.0	(1/2$^+$ to 9/2$^+$)	785[d]		0.0	5/2$^+$				
902.12	9/2$^+$	459.6[&] *3*	41[&] *7*	442.53	(7/2)$^+$	M1+E2	+0.24 *9*	0.00688 *11*	α=0.00688 *11*; α(K)=0.00601 *9*; α(L)=0.000712 *12*; α(M)=0.0001337 *23*; α(N+..)=2.25×10^{-5} *4* α(N)=2.25×10^{-5} *4* Mult.: A_{22}=0.10 *11*, A_{44}=−0.07 *4* (1977Ri05) in ^{96}Zr(^{12}C,3nγ). δ: from $\gamma(\theta)$ in 1977Ri05.
		582.74[&] *25*	66[&] *7*	319.38	5/2$^+$	E2		0.00387 *6*	α=0.00387 *6*; α(K)=0.00336 *5*; α(L)=0.000418 *6*; α(M)=7.87×10^{-5} *11*; α(N+..)=1.312×10^{-5} *19* α(N)=1.312×10^{-5} *19* Mult.: A_{22}=0.46 *5*, A_{44}=−0.11 *7* (1977Ri05), and R_{DCO}=0.92 *16* (1977Ri05) in ^{96}Zr(^{12}C,3nγ).
		595.73[&] *15*	100[&] *7*	306.41	7/2$^+$	M1+E2	+0.16 *3*	0.00367 *6*	α=0.00367 *6*; α(K)=0.00321 *5*; α(L)=0.000376 *6*; α(M)=7.06×10^{-5} *10*; α(N+..)=1.191×10^{-5} *17* α(N)=1.191×10^{-5} *17* Mult.: A_{22}=−0.01 *3*, A_{44}=0.02 *4* (1977Ri05) and R_{DCO}=2.4 *5* (1977Ri05) in ^{96}Zr(^{12}C,3nγ). δ: from $\gamma(\theta)$ in ^{96}Zr(^{12}C,3nγ) (1977Ri05); Also there: −0.04 *8* (1977Ri05).
921.3	(1/2$^+$ to 5/2$^+$)	270.5	4.29	650.9	(3/2)$^+$				
		576.7	85.71	344.9	1/2$^+$				
		640.5	100	280.62	3/2$^+$				
		921.2	57	0.0	5/2$^+$				
929.6	(5/2$^+$)	285.0[@][f]	[@]	644.7	7/2$^-$				E_{γ}: observed only in (n,n′γ), where BRs are different from the two ^{105}Ag ε decay data sets.
		370[a]	20[a]	560.50	3/2$^+$				
		486.8	33	442.53	(7/2)$^+$				
		610.0	60.61 *3*	319.38	5/2$^+$				
		649.2[a]	27.59[a]	280.62	3/2$^+$				
		929.1	100	0.0	5/2$^+$				
945.0		945[d]		0.0	5/2$^+$				
962.4	(1/2,3/2)$^+$	289.37	10.14	673.2	1/2$^+$	M1		0.0217	B(M1)(W.u.)>0.31 α(K)=0.0189 *3*; α(L)=0.00226 *4*; α(M)=0.000425 *6*; α(N+..)=7.17×10^{-5} *10*

$^{105}_{46}$Pd$_{59}$-10

$\gamma(^{105}Pd)$ (continued)

E_i(level)	J^π_i	E_γ‡	I_γ‡	E_f	J^π_f	Mult.	δ	α†	Comments
									α(N)=7.17×10^{-5} *10* Mult.: α(K)exp=0.0147 *17* (1970Ka13) in ^{105}Ag ε decay (41.29 d).
962.4	(1/2,3/2)$^+$	311.74	6.64	650.9	(3/2)$^+$	M1		0.0179	B(M1)(W.u.)>0.16 α(K)=0.01566 *22*; α(L)=0.00187 *3*; α(M)=0.000351 *5*; α(N+..)=5.92×10^{-5} *9* α(N)=5.92×10^{-5} *9* Mult.: α(K)exp=0.0096 *14* (1970Ka13) in ^{105}Ag ε decay (41.29 d).
		401.75	16.08	560.50	3/2$^+$	M1		0.00950 *14*	B(M1)(W.u.)>0.18 α=0.00950 *14*; α(K)=0.00831 *12*; α(L)=0.000983 *14*; α(M)=0.000185 *3*; α(N+..)=3.11×10^{-5} *5* α(N)=3.11×10^{-5} *5* Mult.: α(K)exp=0.0065 *10* (1970Ka13) in ^{105}Ag ε decay (41.29 d).
		617.90	100	344.9	1/2$^+$	M1(+E2)		0.00334 *6*	α=0.00334 *6*; α(K)=0.00291 *6*; α(L)=0.000350 *7*; α(M)=6.56×10^{-5} *14*; α(N+..)=1.101×10^{-5} *19* α(N)=1.101×10^{-5} *19* Mult.: α(K)exp=0.00306 *25* (1970Ka13) in ^{105}Ag ε decay (41.29 d).
		681.94	6.29	280.62	3/2$^+$	M1(+E2)		0.00261 *8*	α=0.00261 *8*; α(K)=0.00228 *8*; α(L)=0.000272 *4*; α(M)=5.10×10^{-5} *8*; α(N+..)=8.57×10^{-6} *15* α(N)=8.57×10^{-6} *15* Mult.: α(K)exp=0.0034 *8* (1970Ka13) in ^{105}Ag ε decay (41.29 d).
		962.45	9.44	0.0	5/2$^+$	M1(+E2)		0.00116 *7*	α=0.00116 *7*; α(K)=0.00102 *6*; α(L)=0.000119 *6*; α(M)=2.23×10^{-5} *11*; α(N+..)=3.75×10^{-6} *19* α(N)=3.75×10^{-6} *19* Mult.: α(K)exp=0.00119 *23* (1970Ka13) in ^{105}Ag ε decay (41.29 d).
970.0	15/2$^-$	480.8@ *2*	100@	489.1	11/2$^-$	E2		0.00670 *10*	α=0.00670 *10*; α(K)=0.00580 *9*; α(L)=0.000741 *11*; α(M)=0.0001395 *20*; α(N+..)=2.32×10^{-5} *4* α(N)=2.32×10^{-5} *4* Mult.: A_{22}=0.334 *9*, A_{44}=−0.084 *9* (1977Ri05); R_{DCO}=0.99 *2* (1977Ri05) in ^{96}Zr(^{12}C,3nγ).
1011.47	(11/2$^+$)	228.9@	64.29@	781.99	9/2$^+$	M1+E2	−0.05 *9*	0.0399 *8*	α(K)=0.0348 *7*; α(L)=0.00420 *11*; α(M)=0.000789 *21*; α(N+..)=0.000133 *4* α(N)=0.000133 *4* Mult.: A_{22}=−0.33 *15*, A_{44}=0.21 *19* (1977Ri05) in ^{96}Zr(^{12}C,3nγ). δ: from 1977Ri05 in ^{96}Zr(^{12}C,3nγ), based on $\gamma(\theta)$.

γ(^{105}Pd) (continued)

E_i(level)	J^π_i	E_γ[‡]	I_γ[‡]	E_f	J^π_f	Mult.	α[†]	Comments
1011.47	(11/2$^+$)	523.6[@] *7*	32[@] *6*	489.1	11/2$^-$			
		705.2[@] *2*	100[@] *7*	306.41	7/2$^+$	E2	0.00233 *4*	α=0.00233 *4*; α(K)=0.00203 *3*; α(L)=0.000247 *4*; α(M)=4.64×10^{-5} *7*; α(N+..)=7.76×10^{-6} *11* α(N)=7.76×10^{-6} *11* Mult.: A_{22}=0.346 *17*, A_{44}=−0.102 *24* (1977Ri05); R_{DCO}=0.99 *4* (1977Ri05) in ^{96}Zr(^{12}C,3nγ).
1072.2	(5/2$^+$,7/2$^+$,9/2$^+$)	629.7[a]	50[a]	442.53	(7/2)$^+$			
		1072.2[a]	100[a]	0.0	5/2$^+$			
1074.6	(3/2$^+$)	768.4[@] *5*	40[@] *20*	306.41	7/2$^+$			
		793.8[@] *5*	100[@] *20*	280.62	3/2$^+$			
1088.2	3/2$^-$	159.0	0.29	929.6	(5/2$^+$)			
		360.72	4.36	727.5	5/2$^+$	E1	0.00427 *6*	α=0.00427 *6*; α(K)=0.00374 *6*; α(L)=0.000436 *6*; α(M)=8.15×10^{-5} *12*; α(N+..)=1.365×10^{-5} *20* α(N)=1.365×10^{-5} *20* Mult.: α(K)exp=0.0039 *4* (1970Ka13) in ^{105}Ag ε decay (41.29 d).
		414.85	2.78	673.2	1/2$^+$	(E1)	0.00299 *5*	α=0.00299 *5*; α(K)=0.00262 *4*; α(L)=0.000305 *5*; α(M)=5.69×10^{-5} *8*; α(N+..)=9.55×10^{-6} *14* α(N)=9.55×10^{-6} *14* Mult.: α(K)exp=0.0040 *8* (1970Ka13) in ^{105}Ag ε decay (41.29 d).
		437.30	2.66	650.9	(3/2)$^+$	E1	0.00263 *4*	α=0.00263 *4*; α(K)=0.00230 *4*; α(L)=0.000267 *4*; α(M)=4.99×10^{-5} *7*; α(N+..)=8.37×10^{-6} *12* α(N)=8.37×10^{-6} *12* Mult.: α(K)exp=0.0029 *6* (1970Ka13) in ^{105}Ag ε decay (41.29 d).
		443.44	100	644.7	7/2$^-$	E2	0.00853 *12*	α=0.00853 *12*; α(K)=0.00737 *11*; α(L)=0.000954 *14*; α(M)=0.000180 *3*; α(N+..)=2.98×10^{-5} *5* α(N)=2.98×10^{-5} *5* Mult.: α(K)exp=0.0075 *5* (1970Ka13) in ^{105}Ag ε decay (41.29 d).
		527.34	1.00	560.50	3/2$^+$	E1	0.001673 *24*	α=0.001673 *24*; α(K)=0.001466 *21*; α(L)=0.0001694 *24*; α(M)=3.17×10^{-5} *5*; α(N+..)=5.32×10^{-6} α(N)=5.32×10^{-6} *8* Mult.: α(K)exp=0.0015 *4* (1970Ka13) in ^{105}Ag ε decay (41.29 d).
		646.00	0.62	442.53	(7/2)$^+$			
		743.45	4.9	344.9	1/2$^+$	E1	0.000778 *11*	α=0.000778 *11*; α(K)=0.000683 *10*; α(L)=7.83×10^{-5} *11*; α(M)=1.463×10^{-5} *21*; α(N+..)=2.46×10^{-6} α(N)=2.46×10^{-6} *4* Mult.: α(K)exp=0.00070 *11* (1970Ka13) in ^{105}Ag ε decay (41.29 d).
		768.9	0.09	319.38	5/2$^+$			

From ENSDF

$^{105}_{46}$Pd$_{59}$-12

γ(^{105}Pd) (continued)

E_i(level)	J^π_i	E_γ[‡]	I_γ[‡]	E_f	J^π_f	Mult.	δ	α[†]	Comments
1088.2	3/2$^-$	807.57	10.62	280.62	3/2$^+$	E1(+M2)	0.03 *+4−3*	0.000659 *19*	α=0.000659 *19*; α(K)=0.000579 *17*; α(L)=6.62×10^{-5} *20*; α(M)=1.24×10^{-5} *4*; α(N+..)=2.08×10^{-6} *7* α(N)=2.08×10^{-6} *7* Mult.: A_{22}=−0.108 *15*; A_{44}=−0.2 *2* (1983Si08) in ^{105}Ag ε decay (41.29 d); Also: α(K)exp=0.00061 *7* (1970Ka13) in ^{105}Ag ε decay (41.29 d). δ: 0.03 *+4−3* (1983Si08) in ^{105}Ag ε decay (41.29 d), based on $\gamma\gamma(\theta)$.
		1088.05	33.20	0.0	5/2$^+$				Mult.: α(K)exp=0.000299 *22* (1970Ka13) in ^{105}Ag ε decay (41.29 d).
1098.1	(5/2$^+$,7/2$^+$,9/2$^+$)	656.5[a]	12[a]	442.53	(7/2)$^+$				
		818[a]	6.06[a]	280.62	3/2$^+$				
		1098.39[a]	100[a]	0.0	5/2$^+$				
1102.3	(1/2$^+$ to 5/2$^+$)	821.7[@] *4*	100[@]	280.62	3/2$^+$				
1125.1	(1/2$^+$ to 7/2$^+$)	564.4	22	560.50	3/2$^+$				
		844.6	100	280.62	3/2$^+$				
		1125.2	45	0.0	5/2$^+$				
1142.34	(1/2$^+$,3/2$^+$)	491.2[@] *5*	58[@] *4*	650.9	(3/2)$^+$				
		582.1[@] *2*	100[@]	560.50	3/2$^+$				
		1142.2[@] *2*	62[@] *5*	0.0	5/2$^+$				
1177.7	(1/2$^+$,3/2$^+$)	1177.7[@] *3*	100[@]	0.0	5/2$^+$				
1201.7	(1/2$^+$,3/2$^+$)	640.8[@] *5*	100[@] *6*	560.50	3/2$^+$				
		921.3[@] *4*	46[@] *6*	280.62	3/2$^+$				
1259.22	(3/2$^+$)	952.6[@] *3*	100[@] *8*	306.41	7/2$^+$				
		979.0[@] *4*	49[@] *8*	280.62	3/2$^+$				
		1259.2[@] *3*	85[@] *8*	0.0	5/2$^+$				
1271.41	(11/2)$^+$	260.0[#] *3*	28[#] *9*	1011.47	(11/2$^+$)				
		489.5[#] *3*	93[#] *28*	781.99	9/2$^+$	M1+E2	−0.13 *6*	0.00588 *9*	α=0.00588 *9*; α(K)=0.00514 *8*; α(L)=0.000605 *9*; α(M)=0.0001136 *17*; α(N+..)=1.92×10^{-5} *3* α(N)=1.92×10^{-5} *3* Mult.: A_{22}=−0.46 *5*, A_{44}=0.04 *6* (1977Ri05) and R_{DCO}=3.1 *10* (1977Ri05) in ^{96}Zr(^{12}C,3nγ). δ: from 1977Ri05 in ^{96}Zr(^{12}C,3nγ), but also −0.05 *8* (1977Ri05).
		829.1[#] *3*	100[#]	442.53	(7/2)$^+$	E2		0.001558 *22*	α=0.001558 *22*; α(K)=0.001359 *19*; α(L)=0.0001628 *23*; α(M)=3.05×10^{-5} *5*; α(N+..)=5.12×10^{-6}

From ENSDF

$^{105}_{46}$Pd$_{59}$-13

$\gamma(^{105}Pd)$ (continued)

E_i(level)	J^π_i	E_γ[‡]	I_γ[‡]	E_f	J^π_f	Mult.	δ	α[†]	Comments
									α(N)=5.12×10^{-6} *8* Mult.: A_{22}=0.20 *5*, A_{44}=−0.09 *7* (1977Ri05) and R_{DCO}=1.2 *4* (1977Ri05) in ^{96}Zr(^{12}C,3nγ).
1324.2	(11/2$^+$)	312.6[#] *3*	53[#] *16*	1011.47	(11/2$^+$)				
		834.9[#] *3*	≤44[#]	489.1	11/2$^-$				
		881.3[#]	100[#]	442.53	(7/2)$^+$	(E2)		0.001347 *19*	α=0.001347 *19*; α(K)=0.001176 *17*; α(L)=0.0001401 *20*; α(M)=2.63×10^{-5} *4*; α(N+..)=4.41×10^{-6} α(N)=4.41×10^{-6} *7*
1357.0	(13/2$^-$)	387[e]		970.0	15/2$^-$				
		868[e]		489.1	11/2$^-$				
1405.2	(3/2$^+$,5/2$^+$)	263.3[@] *5*	25[@] *5*	1142.34	(1/2$^+$,3/2$^+$)				
		1098.5[@] *3*	100[@]	306.41	7/2$^+$				
		1405.5[@] *7*	13[@] *3*	0.0	5/2$^+$				
1410.9	(13/2$^+$)	140.0[#] *3*	40[#] *10*	1271.41	(11/2)$^+$				
		399.9[#] *3*	100[#] *30*	1011.47	(11/2$^+$)				
		628.1[#] *3*	50[#] *15*	781.99	9/2$^+$				
1520.8	(3/2$^+$ to 7/2$^+$)	1078.0[@] *5*	100[@] *21*	442.53	(7/2)$^+$				
		1240.8[@] *7*	62[@] *15*	280.62	3/2$^+$				
1601.3	(1/2$^+$ to 5/2$^+$)	459.0[@] *5*	100[@] *10*	1142.34	(1/2$^+$,3/2$^+$)				
		1600.4[@] *16*	13[@] *7*	0.0	5/2$^+$				
1650.6	(7/2$^-$)	1162.1[@] *8*	31[@] *8*	489.1	11/2$^-$	[E2]		0.000727 *11*	α=0.000727 *11*; α(K)=0.000633 *9*; α(L)=7.40×10^{-5} *11*; α(M)=1.385×10^{-5} *20*; α(N+..)=5.67×10^{-6} *1* α(N)=2.33×10^{-6} *4*; α(IPF)=3.34×10^{-6} *8*
		1208.7[@] *8*	34[@] *9*	442.53	(7/2)$^+$	[E1+M2]		0.0010 *7*	α=0.0010 *7*; α(K)=0.0009 *6*; α(L)=0.00010 *8*; α(M)=1.9×10^{-5} *14*; α(N+..)=2.5×10^{-5} *18* α(N)=3.2×10^{-6} *23*; α(IPF)=2.2×10^{-5} *21*
		1305.5[@] *4*	100[@] *14*	344.9	1/2$^+$	[E3]		0.001091 *16*	α=0.001091 *16*; α(K)=0.000944 *14*; α(L)=0.0001143 *16*; α(M)=2.15×10^{-5} *3*; α(N+..)=1.123×10^{-5} α(N)=3.61×10^{-6} *5*; α(IPF)=7.62×10^{-6} *12*
1671.14	(13/2)$^+$	399.76[&] *10*	35.1[&] *21*	1271.41	(11/2)$^+$	E2+M1	−0.08 *4*	0.00964 *14*	α=0.00964 *14*; α(K)=0.00842 *12*; α(L)=0.000997 *15*; α(M)=0.000187 *3*; α(N+..)=3.16×10^{-5} *5* α(N)=3.16×10^{-5} *5*

$^{105}_{46}Pd_{59}$-14

$\gamma(^{105}Pd)$ (continued)

E_i(level)	J^π_i	E_γ[‡]	I_γ[‡]	E_f	J^π_f	Mult.	δ	α[†]	Comments
									Mult.: A_{22}=−0.38 *4*, A_{44}=−0.05 *5* (1977Ri05) and R_{DCO}=3.9 *11* (1977Ri05) in $^{96}Zr(^{12}C,3n\gamma)$. δ: from 1977Ri05 in $^{96}Zr(^{12}C,3n\gamma)$, but also −0.19 *11* (1977Ri05).
1671.14	$(13/2)^+$	889.24[&] *25*	100[&]	781.99	$9/2^+$	E2		0.001318 *19*	α=0.001318 *19*; α(K)=0.001151 *17*; α(L)=0.0001371 *20*; α(M)=2.57×10^{-5} *4*; α(N+..)=4.31×10^{-6} α(N)=4.31×10^{-6} *6* Mult.: A_{22}=0.329 *16*, A_{44}=−0.06 *21* (1977Ri05) and R_{DCO}=1.15 *20* (1977Ri05) in $^{96}Zr(^{12}C,3n\gamma)$.
1701.0	($1/2^+$ to $9/2^+$)	973.3[@] *8*	100[@] *25*	727.5	$5/2^+$				
		1382.4[@] *16*	54[@] *29*	319.38	$5/2^+$				
1741.8	$19/2^-$	771.83[&] *5*	100[&]	970.0	$15/2^-$	E2		0.00186 *3*	α=0.00186 *3*; α(K)=0.001618 *23*; α(L)=0.000195 *3*; α(M)=3.66×10^{-5} *6*; α(N+..)=6.13×10^{-6} *9* α(N)=6.13×10^{-6} *9* Mult.: A_{22}=0.353 *10*, A_{44}=−0.104 *11* (1977Ri05); R_{DCO}=0.96 *2* (1977Ri05) in $^{96}Zr(^{12}C,3n\gamma)$.
1749.6	$(13/2)^+$	847.6[&] *3*	100[&]	902.12	$9/2^+$	E2		0.001477 *21*	α=0.001477 *21*; α(K)=0.001290 *18*; α(L)=0.0001541 *22*; α(M)=2.89×10^{-5} *4*; α(N+..)=4.85×10^{-6} α(N)=4.85×10^{-6} *7* Mult.: R_{DCO}=1.12 *21* (1977Ri05) in $^{96}Zr(^{12}C,3n\gamma)$.
1763.2	$(15/2)^-$	793.17[&] *25*	100[&] *11*	970.0	$15/2^-$	M1+E2	+1.0 *5*	0.00181 *6*	α=0.00181 *6*; α(K)=0.00159 *5*; α(L)=0.000187 *5*; α(M)=3.51×10^{-5} *8*; α(N+..)=5.91×10^{-6} *14* α(N)=5.91×10^{-6} *14* Mult.: A_{22}=0.28 *4*, A_{44}, −0.08 *6* (1977Ri05) and R_{DCO}=1.2 *3* (1977Ri05) in $^{96}Zr(^{12}C,3n\gamma)$. δ: from DCO measurements in 1977Ri05; Also: 1.0 *5* (1977Ri05) in $^{96}Zr(^{12}C,3n\gamma)$.
		1274.15[&] *15*	41[&] *5*	489.1	$11/2^-$				Mult.: A_{22}=0.27 *12*, A_{44}=0.02 *18* (1977Ri05) in $^{96}Zr(^{12}C,3n\gamma)$.
1774.7	($1/2^+$ to $9/2^+$)	1455.3[@] *5*	100[@]	319.38	$5/2^+$				
1854.1	$(13/2^+)$	442[#] *3*	[#]	1410.9	$(13/2^+)$				
		530.3[#] *3*	53[#] *15*	1324.2	$(11/2^+)$				
		582.0[#] *3*	100[#]	1271.41	$(11/2)^+$				
		843.0[#] *3*	70[#] *20*	1011.47	$(11/2^+)$				
1865.6	($1/2^+$ to $7/2^+$)	1305.5[@] *4*	100[@]	560.50	$3/2^+$				
		1583.9[@] *6*	49[@] *13*	280.62	$3/2^+$				
1873.9	$(15/2^+)$	463.1[#] *3*	13[#] *4*	1410.9	$(13/2^+)$				

Adopted Levels, Gammas (continued)

$\gamma(^{105}Pd)$ (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.	δ	α[†]	Comments
1873.9	$(15/2^+)$	549.1[#] *3*	7.3[#] *18*	1324.2	$(11/2^+)$				
		602.7[#] *3*	100[#]	1271.41	$(11/2)^+$				
		862.7[#] *3*	24[#] *7*	1011.47	$(11/2^+)$				
1901.8	$(15/2)^+$	578.0[#]	31[#] *9*	1324.2	$(11/2^+)$				
		889.8[#] *3*	100[#]	1011.47	$(11/2^+)$	E2		0.001317 *19*	α=0.001317 *19*; α(K)=0.001150 *17*; α(L)=0.0001369 *20*; α(M)=2.57×10^{-5} *4*; α(N+..)=4.31×10^{-6} α(N)=4.31×10^{-6} *6* Mult.: A_{22}=0.329 *16*, A_{44}=−0.096 *21* (1977Ri05) and R_{DCO}=0.96 *4* (1977Ri05) in $^{96}Zr(^{12}C,3n\gamma)$.
1922.9	$(1/2^+,3/2^+)$	825.1[@] *3*	100[@] *17*	1098.1	$(5/2^+,7/2^+,9/2^+)$				
		1360.7[@] *8*	42[@] *11*	560.50	$3/2^+$				
1961.3	$(17/2)^-$	604[e]		1357.0	$(13/2^-)$				
		991.38[&] *5*	100[&]	970.0	$15/2^-$	M1+E2	1.8 *5*	0.001055 *23*	α=0.001055 *23*; α(K)=0.000923 *20*; α(L)=0.0001083 *21*; α(M)=2.03×10^{-5} *4*; α(N+..)=3.42×10^{-6} α(N)=3.42×10^{-6} *7* Mult.: A_{22}=0.436 *25*, A_{44}=0.01 *3* (1977Ri05) and R_{DCO}=0.58 *8* (1977Ri05) in $^{96}Zr(^{12}C,3n\gamma)$. δ: from DCO and linear pol. in 2019Ti02; Also: +0.46 *10* or 1.3 *7* from DCO measurements in 1977Ri05.
1988.9	$(1/2,3/2,5/2)^+$	890.7[@] *4*	100[@]	1098.1	$(5/2^+,7/2^+,9/2^+)$				
		1026.7[@] *4*	63[@] *11*	962.4	$(1/2,3/2)^+$				
2064.7	$(1/2^+,3/2^+)$	1745.2[@] *7*	100[@]	319.38	$5/2^+$				
		1784.3[@] *16*	27[@] *13*	280.62	$3/2^+$				
2101.5	$(7/2^-,9/2,11/2^+)$	1611.8[@] *8*	100[@]	489.1	$11/2^-$				
		1660.0[@] *10*	40[@] *14*	442.53	$(7/2)^+$				
2197.1	$(15/2)^+$	925.8[&] *3*	100[&]	1271.41	$(11/2)^+$	E2		0.001200 *17*	α=0.001200 *17*; α(K)=0.001048 *15*; α(L)=0.0001244 *18*; α(M)=2.33×10^{-5} *4*; α(N+..)=3.92×10^{-6} α(N)=3.92×10^{-6} *6* Mult.: R_{DCO}=0.7 *3* (1977Ri05) in $^{96}Zr(^{12}C,3n\gamma)$.
2280.6	$(15/2,17/2)^-$	1310.6[&] *2*	100[&]	970.0	$15/2^-$	M1+E2	+1.3 *7*	0.000612 *25*	α=0.000612 *25*; α(K)=0.000515 *23*; α(L)=5.94×10^{-5} *24*; α(M)=1.11×10^{-5} *5*; α(N+..)=2.73×10^{-5} *15*

$^{105}_{46}Pd_{59}$-16

$\gamma(^{105}$Pd) (continued)

E_i(level)	J_i^π	E_γ‡	I_γ‡	E_f	J_f^π	Mult.	δ	α†	Comments
									α(N)=1.88×10^{-6} *8*; α(IPF)=2.54×10^{-5} *15* Mult.: A_{22}=1.4 *7*, A_{44}=−0.4 *8* (1977Ri05) and R_{DCO}=0.8 *3* (1977Ri05) in ^{96}Zr(^{12}C,3nγ). δ: from ^{96}Zr(^{12}C,3nγ) (1977Ri05), based on DCO measurements, but also 4 *4* (1977Ri05) can not be excluded.
2344.6	(19/2)$^-$	581.45& *25*	39& *8*	1763.2	(15/2)$^-$	E2		0.00390 *6*	α=0.00390 *6*; α(K)=0.00338 *5*; α(L)=0.000421 *6*; α(M)=7.92×10^{-5} *12*; α(N+..)=1.320×10^{-5} *19* α(N)=1.320×10^{-5} *19* Mult.: A_{22}=0.46 *5*, A_{44}=−0.11 *7* (1977Ri05) and R_{DCO}=0.9 *5* (1977Ri05) in ^{96}Zr(^{12}C,3nγ).
		602.78& *15*	100&	1741.8	19/2$^-$	M1+E2	−0.01 *60*	0.00357 *6*	α=0.00357 *6*; α(K)=0.00313 *5*; α(L)=0.000366 *7*; α(M)=6.86×10^{-5} *13*; α(N+..)=1.157×10^{-5} *19* α(N)=1.157×10^{-5} *19* Mult.: A_{22}=0.42 *3*, A_{44}=−0.04 *5* (1977Ri05) and R_{DCO}=0.86 *13* (1977Ri05) in ^{96}Zr(^{12}C,3nγ). δ: from 1977Ri05, based on DCO measurements; Alternatively: 0.0 *5* (1977Ri05) in ^{96}Zr(^{12}C,3nγ).
2490.9	(19/2$^-$)	749.1& *4*	73& *12*	1741.8	19/2$^-$				
		1520.9& *3*	100& *19*	970.0	15/2$^-$	(E2)		0.000507 *7*	α=0.000507 *7*; α(K)=0.000366 *6*; α(L)=4.21×10^{-5} *6*; α(M)=7.87×10^{-6} *11*; α(N+..)=9.13×10^{-5} *13* α(N)=1.327×10^{-6} *19*; α(IPF)=9.00×10^{-5} *13* Mult.: R_{DCO}=0.75 *21* (1977Ri05) in ^{96}Zr(^{12}C,3nγ).
2552.0	(17/2)$^+$	649.9& *3*	26& *7*	1901.8	(15/2)$^+$				
		881.0& *2*	100&	1671.14	(13/2)$^+$	E2		0.001348 *19*	α=0.001348 *19*; α(K)=0.001177 *17*; α(L)=0.0001402 *20*; α(M)=2.63×10^{-5} *4*; α(N+..)=4.41×10^{-6} α(N)=4.41×10^{-6} *7* Mult.: A_{22}=0.376 *24*, A_{44}=−0.18 *3* (1977Ri05) and R_{DCO}=1.0 *3* (1977Ri05) in ^{96}Zr(^{12}C,3nγ).
		1582.0& *3*	23& *7*	970.0	15/2$^-$				
2565.01	(17/2)$^+$	367.9& *2*	12.5& *25*	2197.1	(15/2)$^+$				
		815.4& *2*	40& *5*	1749.6	(13/2)$^+$	E2		0.001622 *23*	α=0.001622 *23*; α(K)=0.001415 *20*; α(L)=0.0001697 *24*; α(M)=3.18×10^{-5} *5*; α(N+..)=5.34×10^{-6} α(N)=5.34×10^{-6} *8* Mult.: A_{22}=0.27 *8*, A_{44}=−0.01 *11* (1977Ri05) and R_{DCO}=1.07 *23* (1977Ri05) in ^{96}Zr(^{12}C,3nγ).
		893.88& *10*	100&	1671.14	(13/2)$^+$	(E2)		0.001302 *19*	α=0.001302 *19*; α(K)=0.001137 *16*; α(L)=0.0001353 *19*; α(M)=2.54×10^{-5} *4*; α(N+..)=4.26×10^{-6} α(N)=4.26×10^{-6} *6*

From ENSDF

$^{105}_{46}$Pd$_{59}$-17

$\gamma(^{105}Pd)$ (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.	δ	α[†]	Comments
									Mult.: A_{22}=0.37 *5*, A_{44}=−0.11 *7* (1977Ri05) and R_{DCO}=0.81 *14* in $^{96}Zr(^{12}C,3n\gamma)$.
2700.2	23/2$^-$	958.42[&] *5*	100[&]	1741.8	19/2$^-$	E2		0.001108 *16*	α=0.001108 *16*; α(K)=0.000968 *14*; α(L)=0.0001146 *16*; α(M)=2.15×10^{-5} *3*; α(N+..)=3.61×10^{-6} α(N)=3.61×10^{-6} *5* Mult.: A_{22}=0.283 *19*, A_{44}=−0.075 *24* (1977Ri05) and R_{DCO}=1.12 *4* (1977Ri05) in $^{96}Zr(^{12}C,3n\gamma)$.
2703.9	(19/2)$^-$	962.10[&] *15*	100[&]	1741.8	19/2$^-$	M1+E2	+0.2 *4*	0.00122 *4*	α=0.00122 *4*; α(K)=0.00107 *3*; α(L)=0.000124 *3*; α(M)=2.32×10^{-5} *6*; α(N+..)=3.92×10^{-6} *10* α(N)=3.92×10^{-6} *10* Mult.: A_{22}=0.42 *4*, A_{44}=−0.08 *5* (1977Ri05) and R_{DCO}=0.93 *24* (1977Ri05) in $^{96}Zr(^{12}C,3n\gamma)$. δ: from DCO measurements in 1977Ri05; Alternatively: 0.2 *6* (1977Ri05) in $^{96}Zr(^{12}C,3n\gamma)$.
2755.9	19/2$^+$	854.02[&] *5*	100[&]	1901.8	(15/2)$^+$	E2		0.001451 *21*	α=0.001451 *21*; α(K)=0.001267 *18*; α(L)=0.0001513 *22*; α(M)=2.84×10^{-5} *4*; α(N+..)=4.76×10^{-6} α(N)=4.76×10^{-6} *7* Mult.: A_{22}=0.326 *25*, A_{44}=−0.08 *4* (1977Ri05)and R_{DCO}=1.02 *5* (1977Ri05) in $^{96}Zr(^{12}C,3n\gamma)$.
		881.3[#]	65[#] *20*	1873.9	(15/2$^+$)				
		1014.3[&] *3*	19[&] *3*	1741.8	19/2$^-$	E1+M2	−0.25 *25*	0.0005 *4*	α=0.0005 *4*; α(K)=0.0005 *3*; α(L)=6.E−5 *4*; α(M)=1.0×10^{-5} *7*; α(N+..)=1.7×10^{-6} *11* α(N)=1.7×10^{-6} *11* Mult.: A_{22}=0.28 *8*, A_{44}=−0.05 *11* (1977Ri05)and R_{DCO}=1.0 3 (1977Ri05) in $^{96}Zr(^{12}C,3n\gamma)$. δ: from DCO measurements in $^{96}Zr(^{12}C,3n\gamma)$ (1977Ri05), but also 0.08 *8* (1977Ri05) can not be excluded.
2775.6	(21/2$^-$)	814.22[&] *20*	50[&] *10*	1961.3	(17/2)$^-$	(E2)		0.001628 *23*	α=0.001628 *23*; α(K)=0.001420 *20*; α(L)=0.0001704 *24*; α(M)=3.20×10^{-5} *5*; α(N+..)=5.36×10^{-6} α(N)=5.36×10^{-6} *8* Mult.: A_{22}=0.27 *8*, A_{44}=−0.01 *11* (1977Ri05) and R_{DCO}=0.7 *3* (1977Ri05) in $^{96}Zr(^{12}C,3n\gamma)$.
		1033.77[&] *10*	100[&]	1741.8	19/2$^-$	M1+E2	2.3 *3*	0.000952 *15*	α=0.000952 *15*; α(K)=0.000833 *13*; α(L)=9.77×10^{-5} *15*; α(M)=1.83×10^{-5} *3*; α(N+..)=3.08×10^{-6} *5* α(N)=3.08×10^{-6} *5* Mult.: A_{22}=0.57 *6*, A_{44}=0.14 *8* (1977Ri05) and R_{DCO}=0.62 *14* (1977Ri05) in $^{96}Zr(^{12}C,3n\gamma)$. δ: from DCO and linear pol. in 2019Ti02; Also: +0.62 *18* or 0.8 *3* from DCO measurements in 1977Ri05.

γ(^{105}Pd) (continued)

E_i(level)	J^{π}_i	E_{γ}‡	I_{γ}‡	E_f	J^{π}_f	Mult.	δ	α†	Comments
2806.5	(19/2)+	241.6& 2	6.5& 22	2565.01	(17/2)+				
		254.53& 10	100.0& 22	2552.0	(17/2)+	M1+E2	+0.09 1	0.0304	α(K)=0.0265 4; α(L)=0.00319 5; α(M)=0.000599 9; α(N+..)=0.0001009 15 α(N)=0.0001009 15 Mult.: A_{22}=−0.11 3, A_{44}=0.04 4 (1977Ri05) and R_{DCO}=1.64 18 (1977Ri05) in ^{96}Zr(^{12}C,3nγ). δ: from DCO measurements in ^{96}Zr(^{12}C,3nγ) (1977Ri05), but also 0.13 4 can not be excluded (1977Ri05).
		904.7& 1	26& 4	1901.8	(15/2)+	E2		0.001266 18	α=0.001266 18; α(K)=0.001106 16; α(L)=0.0001315 19; α(M)=2.47×10^{-5} 4; α(N+..)=4.14×10^{-6} α(N)=4.14×10^{-6} 6 Mult.: A_{22}=0.37 19, A_{44}=−0.3 3 (1977Ri05) and R_{DCO}=1.0 4 (1977Ri05) in ^{96}Zr(^{12}C,3nγ).
2900.7	(21/2)−	939.4& 3	46& 13	1961.3	(17/2)−				
		1158.94& 10	100&	1741.8	19/2−	M1+E2	+1.3 9	0.00076 5	α=0.00076 5; α(K)=0.00067 4; α(L)=7.7×10^{-5} 5; α(M)=1.45×10^{-5} 8; α(N+..)=5.34×10^{-6} 16 α(N)=2.44×10^{-6} 14; α(IPF)=2.9×10^{-6} 3 Mult.: A_{22}=0.65 8, A_{44}=−0.03 12 (1977Ri05) and R_{DCO}=0.58 16 (1977Ri05) in ^{96}Zr(^{12}C,3nγ). δ: from DCO measurements in ^{96}Zr(^{12}C,3nγ) (1977Ri05), but also 1.6 11 (1977Ri05) can not be excluded.
3072.8	(21/2)+	372.6& 2	8.0& 20	2700.2	23/2−	E1+M2	−0.20 13	0.0055 24	α=0.0055 24; α(K)=0.0048 21; α(L)=0.0006 3; α(M)=0.00011 6; α(N+..)=1.8×10^{-5} 9 α(N)=1.8×10^{-5} 9 Mult.: A_{22}=0.13 20, A_{44}=−0.0 3 in ^{96}Zr(^{12}C,3nγ) (1977Ri05). δ: from ^{96}Zr(^{12}C,3nγ) (1977Ri05).
		508.0& 3	100&	2565.01	(17/2)+	E2		0.00571 8	α=0.00571 8; α(K)=0.00494 7; α(L)=0.000627 9; α(M)=0.0001179 17; α(N+..)=1.96×10^{-5} 3 α(N)=1.96×10^{-5} 3 Mult.: A_{22}=0.263 23, A_{44}=−0.10 3 (1977Ri05) and R_{DCO}=0.91 9 (1977Ri05) in ^{96}Zr(^{12}C,3nγ).
		1331.0& 2	48& 6	1741.8	19/2−	E1+M2	+0.8 8	0.0008 4	α=0.0008 4; α(K)=0.0006 4; α(L)=7.E−5 5; α(M)=1.3×10^{-5} 9; α(N+..)=8.E−5 4 α(N)=2.2×10^{-6} 14; α(IPF)=7.E−5 5 δ: R_{DCO}=1.8 5 (1977Ri05) in ^{96}Zr(^{12}C,3nγ).
3119.2	(21/2)+	312.67& 10	100&	2806.5	(19/2)+	M1+E2	+0.12 3	0.0179	α(K)=0.01564 23; α(L)=0.00187 3; α(M)=0.000352 6; α(N+..)=5.92×10^{-5} 9

$^{105}_{46}$Pd$_{59}$-19

Adopted Levels, Gammas (continued)

γ(^{105}Pd) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.	δ	α[†]	Comments
									α(N)=5.92×10^{-5} *9* Mult.: A_{22}=−0.05 *3*, A_{44}=−0.01 *4* (1977Ri05) and R_{DCO}=1.60 *17* (1977Ri05) in ^{96}Zr(^{12}C,3nγ). δ: from DCO measurements in ^{96}Zr(^{12}C,3nγ) (1977Ri05), but also 0.11 *4* (1977Ri05) can not be excluded.
3119.2	(21/2)$^+$	1377.3[&] *3*	38[&] *9*	1741.8	19/2$^-$				
3153.3	(23/2)$^-$	452.98[&] *20*	58[&] *6*	2700.2	23/2$^-$	M1(+E2)	0.0 *6*	0.0071 *3*	α=0.0071 *3*; α(K)=0.00619 *21*; α(L)=0.00073 *5*; α(M)=0.000137 *9*; α(N+..)=2.31×10^{-5} *13* α(N)=2.31×10^{-5} *13* Mult.: A_{22}=0.42 *5*, A_{44}=−0.13 *8* (1977Ri05) and R_{DCO}=0.8 *3* (1977Ri05) in ^{96}Zr(^{12}C,3nγ). δ: from DCO measurements in ^{96}Zr(^{12}C,3nγ) (1977Ri05), but also 0.0 *7* (1977Ri05) can not be excluded.
		808.8[&] *2*	100[&]	2344.6	(19/2)$^-$	E2		0.001655 *24*	α=0.001655 *24*; α(K)=0.001443 *21*; α(L)=0.0001732 *25*; α(M)=3.25×10^{-5} *5*; α(N+..)=5.45×10^{-6} α(N)=5.45×10^{-6} *8* Mult.: A_{22}=0.28 *5*, A_{44}=−0.07 *8* (1977Ri05) and R_{DCO}=1.0 *3* (1977Ri05) in ^{96}Zr(^{12}C,3nγ).
3294.7	23/2$^+$	538.83[&] *15*	100[&]	2755.9	19/2$^+$	E2		0.00482 *7*	α=0.00482 *7*; α(K)=0.00418 *6*; α(L)=0.000526 *8*; α(M)=9.89×10^{-5} *14*; α(N+..)=1.646×10^{-5} *23* α(N)=1.646×10^{-5} *23* Mult.: A_{22}=0.358 *19*, A_{44} −0.08 *3* (1977Ri05) and R_{DCO}=1.02 *5* (1977Ri05) in ^{96}Zr(^{12}C,3nγ).
3468.6	(23/2)$^+$	349.38[&] *15*	100[&]	3119.2	(21/2)$^+$	M1+E2	+0.14 *2*	0.01354 *20*	α(K)=0.01182 *17*; α(L)=0.001410 *21*; α(M)=0.000265 *4*; α(N+..)=4.46×10^{-5} *7* α(N)=4.46×10^{-5} *7* Mult.: A_{22}=−0.02 *3*, A_{44}=0.01 *5* (1977Ri05) and R_{DCO}=1.6 *3* (1977Ri05) in ^{96}Zr(^{12}C,3nγ). δ: from DCO measurements in ^{96}Zr(^{12}C,3nγ) (1977Ri05), but also 0.11 *6* (1977Ri05)can not be excluded.
3527.6	(25/2)$^+$	232.8[&] *3*	5.3[&] *13*	3294.7	23/2$^+$	M1+E2	−0.27 *7*	0.0403 *13*	α(K)=0.0350 *11*; α(L)=0.00433 *19*; α(M)=0.00082 *4*; α(N+..)=0.000137 *6* α(N)=0.000137 *6* Mult.: A_{22}=−0.69 *10*, A_{44}=0.14 *13* (1977Ri05) in ^{96}Zr(^{12}C,3nγ).
		454.82[&] *10*	100[&]	3072.8	(21/2)$^+$	E2		0.00791 *11*	α=0.00791 *11*; α(K)=0.00683 *10*; α(L)=0.000880 *13*; α(M)=0.0001659 *24*; α(N+..)=2.75×10^{-5}

From ENSDF

$^{105}_{46}Pd_{59}$-20

$\gamma(^{105}$Pd) (continued)

E_i(level)	J^π_i	E_γ[‡]	I_γ[‡]	E_f	J^π_f	Mult.	δ	α[†]	Comments
									α(N)=2.75×10^{-5} *4* Mult.: A_{22}=0.36 *3*, A_{44}=−0.07 *4* (1977Ri05) and R_{DCO}=1.19 *12* (1977Ri05) in ^{96}Zr(^{12}C,3nγ).
3694.4	(25/2⁻)	918.8[&] *3*	100[&]	2775.6	(21/2⁻)	E2		0.001221 *18*	α=0.001221 *18*; α(K)=0.001067 *15*; α(L)=0.0001267 *18*; α(M)=2.38×10^{-5} *4*; α(N+..)=3.99×10^{-6} α(N)=3.99×10^{-6} *6* Mult.: R_{DCO}=1.0 *4* in ^{96}Zr(^{12}C,3nγ) (1977Ri05).
		994.12[&] *20*	89[&] *17*	2700.2	23/2⁻	M1+E2	2.7 *6*	0.001035 *17*	α=0.001035 *17*; α(K)=0.000905 *15*; α(L)=0.0001064 *17*; α(M)=1.99×10^{-5} *3*; α(N+..)=3.35×10^{-6} α(N)=3.35×10^{-6} *6* Mult.: A_{22}=0.8 *3*, A_{44}=−0.2 *4* in ^{96}Zr(^{12}C,3nγ) (1977Ri05). δ: from DCO and linear pol. in 2019Ti02; Also: +1.5 *10* in 1977Ri05.
3800.5	(27/2⁻)	1100.24[&] *10*	100[&]	2700.2	23/2⁻	(E2)		0.000815 *12*	α=0.000815 *12*; α(K)=0.000713 *10*; α(L)=8.35×10^{-5} *12*; α(M)=1.564×10^{-5} *22*; α(N+..)=3.17×10^{-6} α(N)=2.63×10^{-6} *4*; α(IPF)=5.44×10^{-7} *8* Mult.: A_{22}=0.14 *4*, A_{44}=−0.08 *5* (1977Ri05) and R_{DCO}=1.54 *16* (1977Ri05) in ^{96}Zr(^{12}C,3nγ).
3859.4	(25/2⁻)	959[e]		2900.7	(21/2)⁻				
		1084[e]		2775.6	(21/2⁻)				
		1159[e]		2700.2	23/2⁻				
3873.0	27/2⁺	578.27[&] *5*	100[&]	3294.7	23/2⁺	E2		0.00396 *6*	α=0.00396 *6*; α(K)=0.00344 *5*; α(L)=0.000428 *6*; α(M)=8.04×10^{-5} *12*; α(N+..)=1.341×10^{-5} *19* α(N)=1.341×10^{-5} *19* Mult.: A_{22}=0.44 *3*, A_{44}=−0.11 *4* (1977Ri05) and R_{DCO}=1.04 *6* (1977Ri05) in ^{96}Zr(^{12}C,3nγ).
4254.4	(29/2)⁺	726.8[&] *2*	100[&]	3527.6	(25/2)⁺	E2		0.00216 *3*	α=0.00216 *3*; α(K)=0.00188 *3*; α(L)=0.000228 *4*; α(M)=4.28×10^{-5} *6*; α(N+..)=7.17×10^{-6} *10* α(N)=7.17×10^{-6} *10* Mult.: A_{22}=0.26 *3*, A_{44}=−0.02 *4* (1977Ri05) and R_{DCO}=0.91 *16* (1977Ri05) in ^{96}Zr(^{12}C,3nγ).
4668.2	(31/2⁺)	795.23[&] *25*	100[&]	3873.0	27/2⁺	(E2)		0.001724 *25*	α=0.001724 *25*; α(K)=0.001504 *21*; α(L)=0.000181 *3*; α(M)=3.39×10^{-5} *5*; α(N+..)=5.69×10^{-6} *8* α(N)=5.69×10^{-6} *8* Mult.: A_{22}=0.28 *4*, A_{44}=−0.08 *6* (1977Ri05) and R_{DCO}=1.21 *18* (1977Ri05) in ^{96}Zr(^{12}C,3nγ).
4783.4	(29/2⁻)	924[e]		3859.4	(25/2⁻)				
		983[e]		3800.5	(27/2⁻)				
		1089[e]		3694.4	(25/2⁻)	(E2)		0.000833 *12*	α=0.000833 *12*; α(K)=0.000729 *11*; α(L)=8.54×10^{-5} *12*;

$^{105}_{46}$Pd$_{59}$-21

$\gamma(^{105}Pd)$ (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.	α[†]	Comments
								α(M)=1.600×10^{-5} *23*; α(N+..)=2.69×10^{-6} α(N)=2.69×10^{-6} *4* Mult.: from DCO and γ polarization measurements in ^{96}Zr(^{13}C,4nγ) (2019Ti02).
4953.1	(31/2$^-$)	1152.64[&] *20*	100[&]	3800.5	(27/2$^-$)	(E2)	0.000739 *11*	α=0.000739 *11*; α(K)=0.000645 *9*; α(L)=7.53×10^{-5} *11*; α(M)=1.410×10^{-5} *20*; α(N+..)=5.02×10^{-6} *8* α(N)=2.37×10^{-6} *4*; α(IPF)=2.65×10^{-6} *4* Mult.: A_{22}=0.19 *8*, A_{44}=−0.11 *2* (1977Ri05) and R_{DCO}=0.43 *23* (1977Ri05) in ^{96}Zr(^{12}C,3nγ).
4955.9	(29/2$^-$)	1097[e]		3859.4	(25/2$^-$)			
		1261[e]		3694.4	(25/2$^-$)			
5255.3	(33/2$^+$)	1000.9[&] *3*	100[&]	4254.4	(29/2)$^+$	(E2)	0.001004 *14*	α=0.001004 *14*; α(K)=0.000878 *13*; α(L)=0.0001035 *15*; α(M)=1.94×10^{-5} *3*; α(N+..)=3.26×10^{-6} α(N)=3.26×10^{-6} *5* Mult.: A_{22}=0.02 *9*, A_{44}=0.04 *14* (1977Ri05) and R_{DCO}=0.9 *3* (1977Ri05) in ^{96}Zr(^{12}C,3nγ).
5682.2	(35/2$^+$)	1014[b]	100[b]	4668.2	(31/2$^+$)			
5847.4	(33/2$^-$)	1064[e]		4783.4	(29/2$^-$)	(E2)	0.000876 *13*	α=0.000876 *13*; α(K)=0.000767 *11*; α(L)=9.00×10^{-5} *13*; α(M)=1.687×10^{-5} *24*; α(N+..)=2.84×10^{-6} α(N)=2.84×10^{-6} *4* Mult.: from DCO and γ polarization measurements in 2019Ti02.
6073.1	(35/2$^-$)	1120[b]	100[b]	4953.1	(31/2$^-$)			
6860.3	(39/2$^+$)	1178[b]	100[b]	5682.2	(35/2$^+$)			
6995.4	(37/2$^-$)	1148[e]		5847.4	(33/2$^-$)			
(7094.5)		5918[c] *3*		1177.7	(1/2$^+$,3/2$^+$)			
		6534.0[c] *10*		560.50	3/2$^+$			
		6652[c] *8*		442.53	(7/2)$^+$			
		6749.4[c] *10*		344.9	1/2$^+$			
		6812.9[c] *14*		280.62	3/2$^+$			
7193.1	(39/2$^-$)	1120[b]	100[b]	6073.1	(35/2$^-$)			E_γ: 1119 in ^{96}Zr(^{13}C,4nγ) (2019Ti02).
8127.3	(43/2$^+$)	1267[b]	100[b]	6860.3	(39/2$^+$)			
8297.4	(41/2$^-$)	1302[e]		6995.4	(37/2$^-$)			
8410.1	(43/2$^-$)	1217[b]	100[b]	7193.1	(39/2$^-$)			E_γ: 1215 in ^{96}Zr(^{13}C,4nγ) (2019Ti02).
9440.3	(47/2$^+$)	1313[b]	100[b]	8127.3	(43/2$^+$)			
10875.3	(51/2$^+$)	1435[b]	100[b]	9440.3	(47/2$^+$)			
x+1209.0	[47/2$^+$]	1209[b]	100[b]	x	[43/2$^+$]			
x+2491.0	[51/2$^+$]	1282[b]	100[b]	x+1209.0	[47/2$^+$]			
x+3870.0	[55/2$^+$]	1379[b]	100[b]	x+2491.0	[51/2$^+$]			
x+5358.0	[59/2$^+$]	1488[b]	100[b]	x+3870.0	[55/2$^+$]			

$^{105}_{46}Pd_{59}$-22

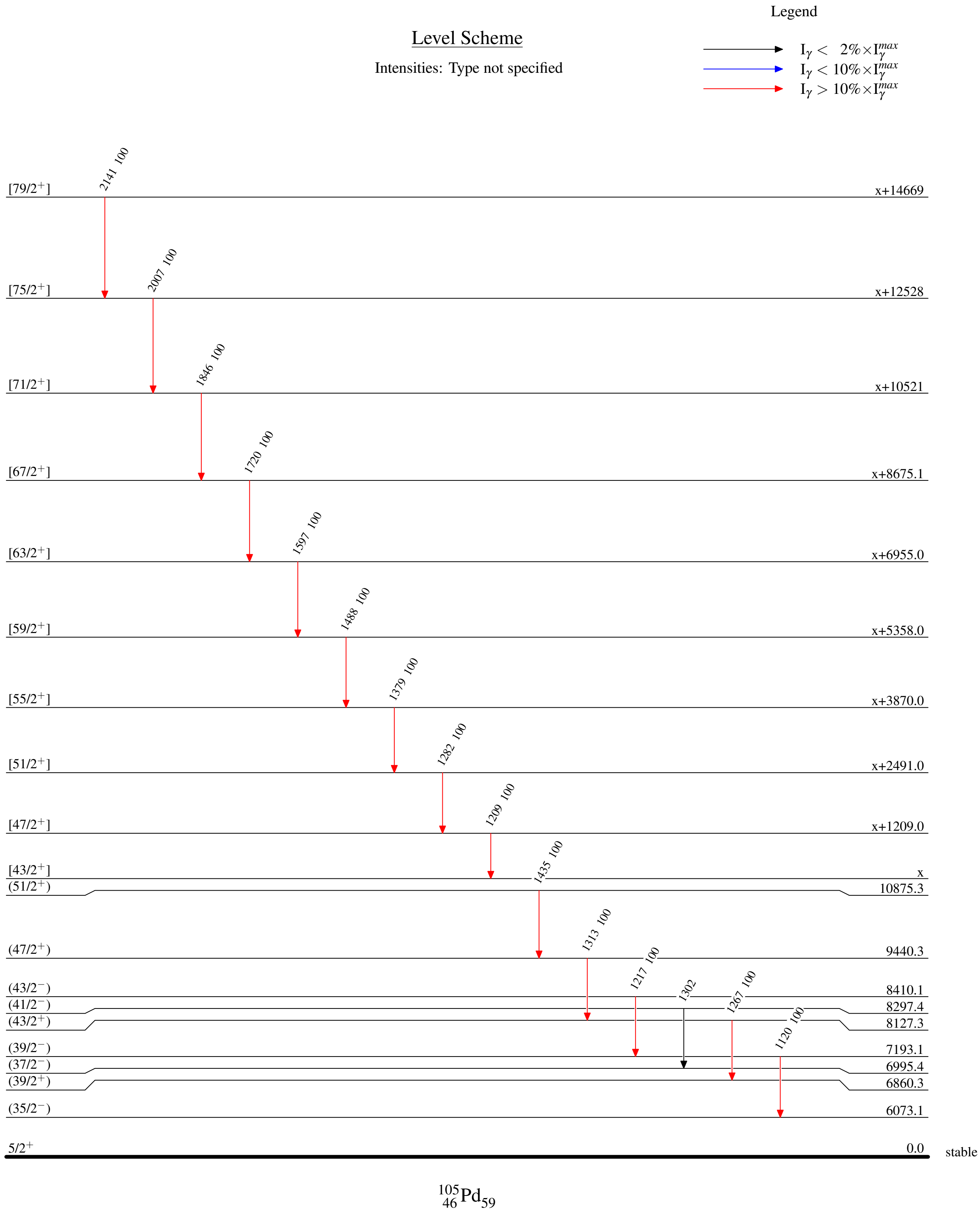
$\gamma(^{105}Pd)$ (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π
x+6955.0	[63/2$^+$]	1597[b]	100[b]	x+5358.0	[59/2$^+$]
x+8675.1	[67/2$^+$]	1720[b]	100[b]	x+6955.0	[63/2$^+$]
x+10521	[71/2$^+$]	1846[b]	100[b]	x+8675.1	[67/2$^+$]
x+12528	[75/2$^+$]	2007[b]	100[b]	x+10521	[71/2$^+$]
x+14669	[79/2$^+$]	2141[b]	100[b]	x+12528	[75/2$^+$]

† Additional information 2.
‡ From ^{105}Ag ε decay (41.29 d), unless otherwise noted. ΔE=1 keV assumed by the evaluators for all transitions where ΔE not explicitely given by the authors.
# From ^{104}Ru(α,3nγ).
@ From ^{105}Pd(n,n′γ).
& From ^{96}Zr(^{12}C,3nγ) (1977Ri05).
a From ^{105}Ag ε decay (7.23 min).
b From ^{64}Ni(^{48}Ca,α3n).
c From ^{104}Pd(n,γ) E=th.
d From Coulomb excitation.
e From ^{96}Zr(^{13}C,4nγ) (2019Ti02).
f Placement of transition in the level scheme is uncertain.

$^{105}_{46}$Pd$_{59}$-23

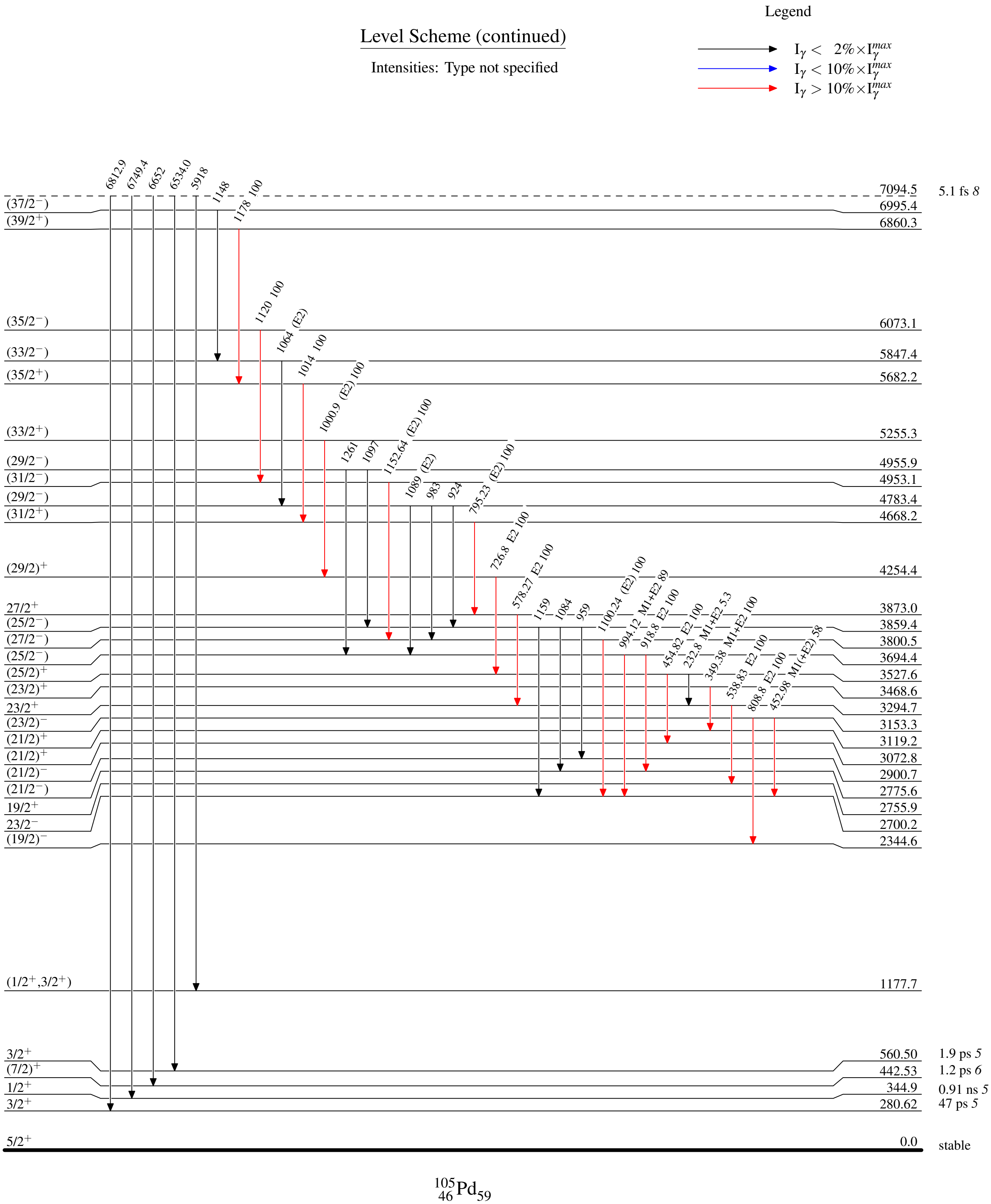
Adopted Levels, Gammas



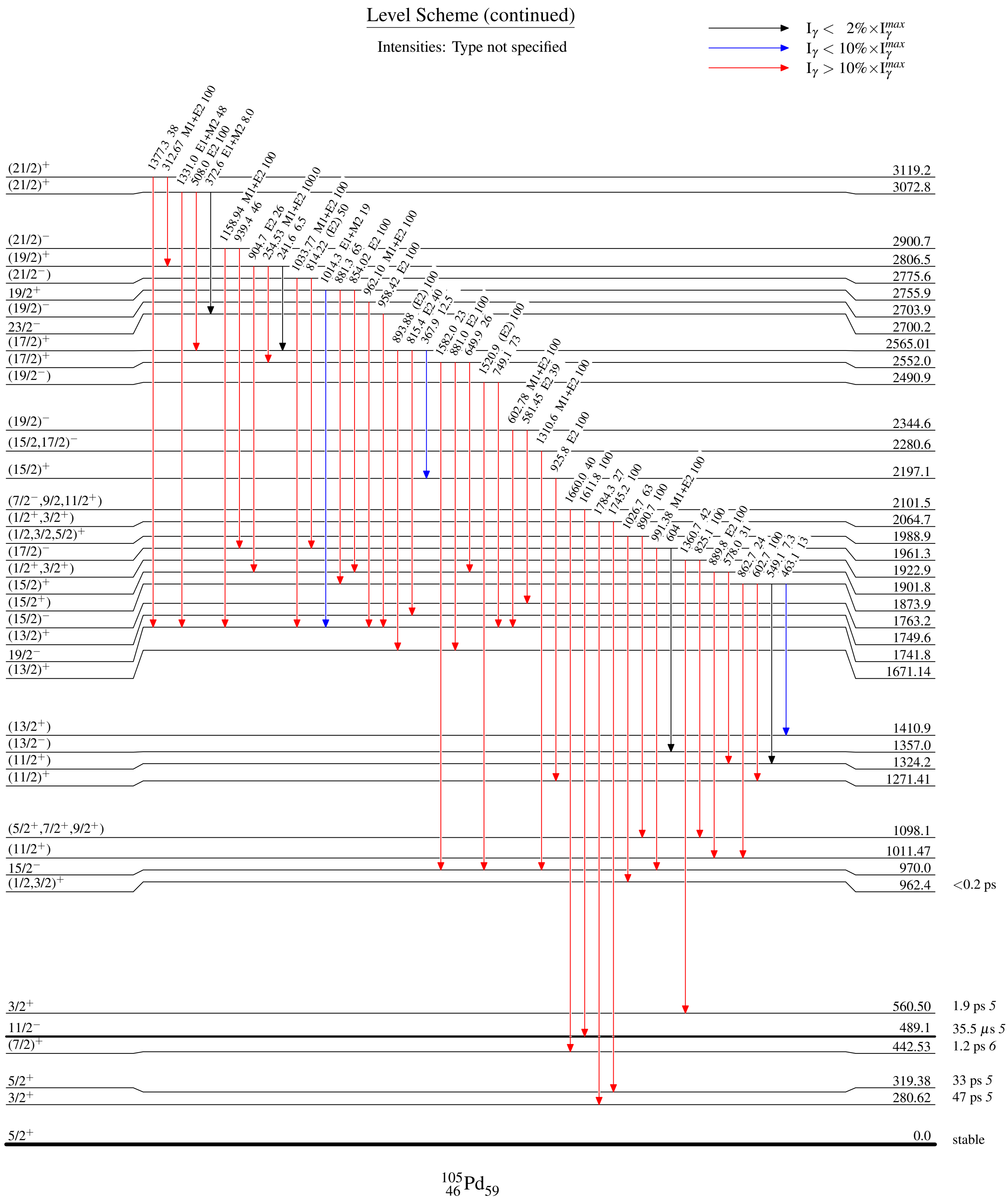
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified



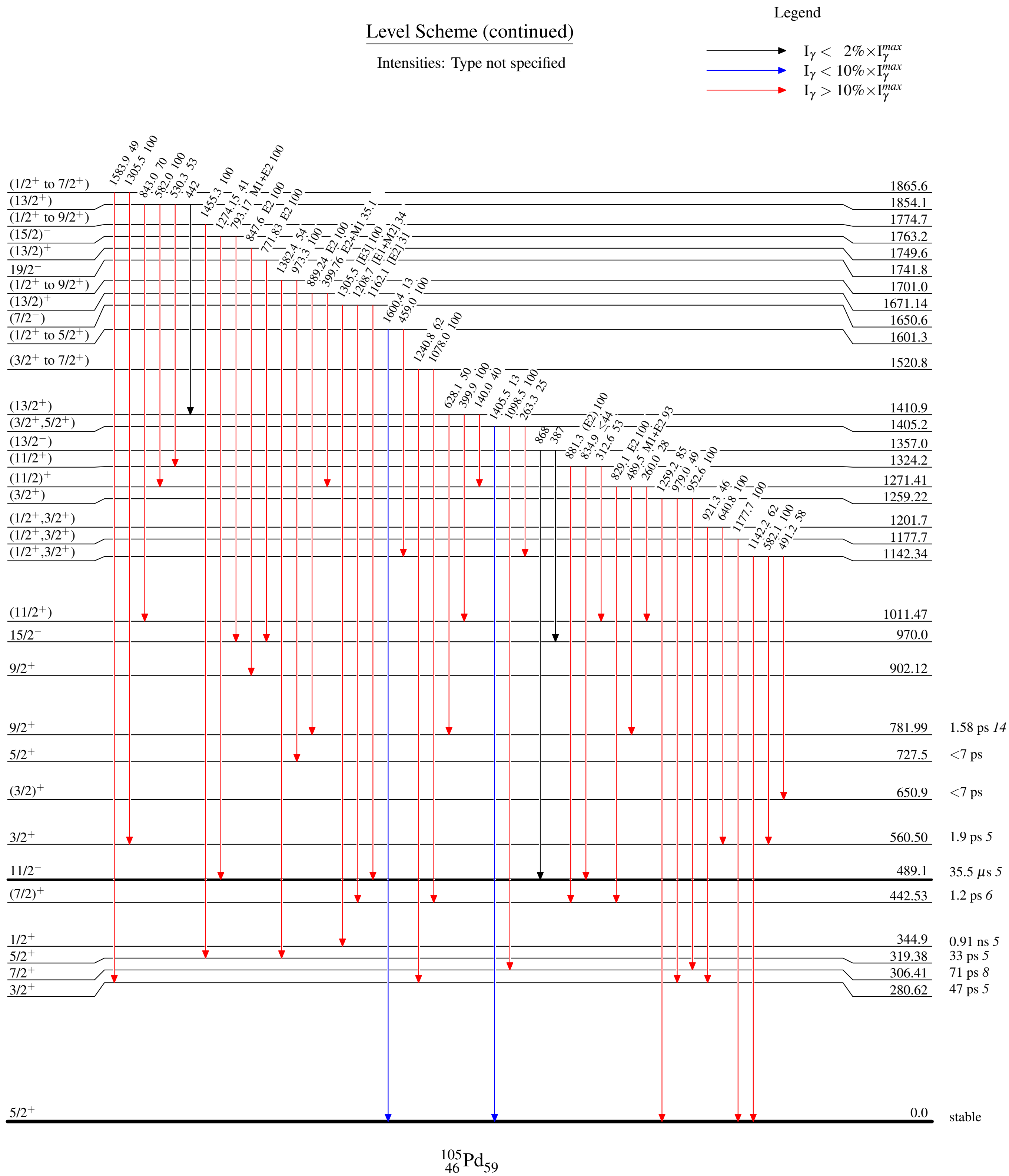
Adopted Levels, Gammas



Adopted Levels, Gammas

Level Scheme (continued)

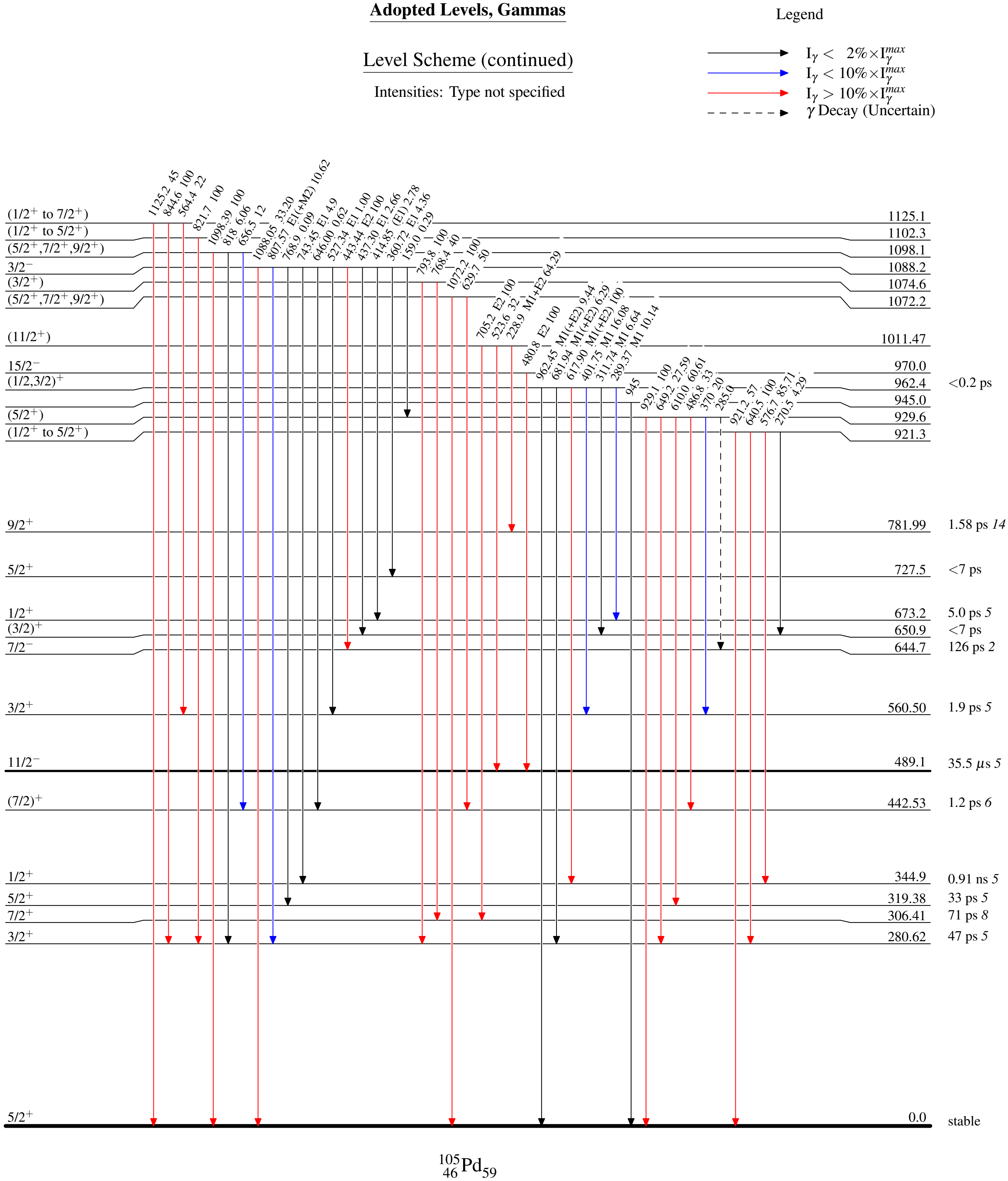
Intensities: Type not specified



Adopted Levels, Gammas

Level Scheme (continued)

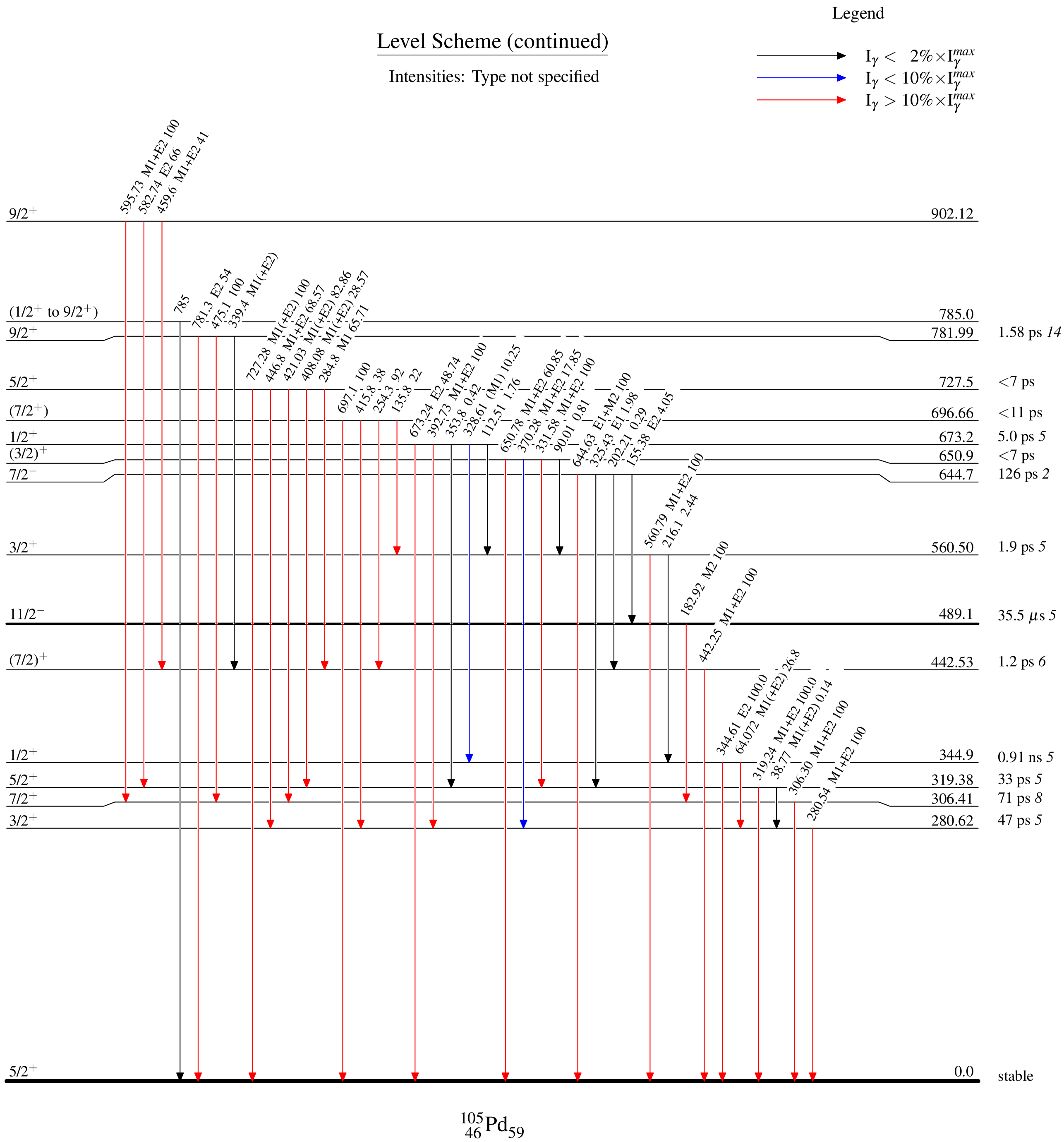
Intensities: Type not specified



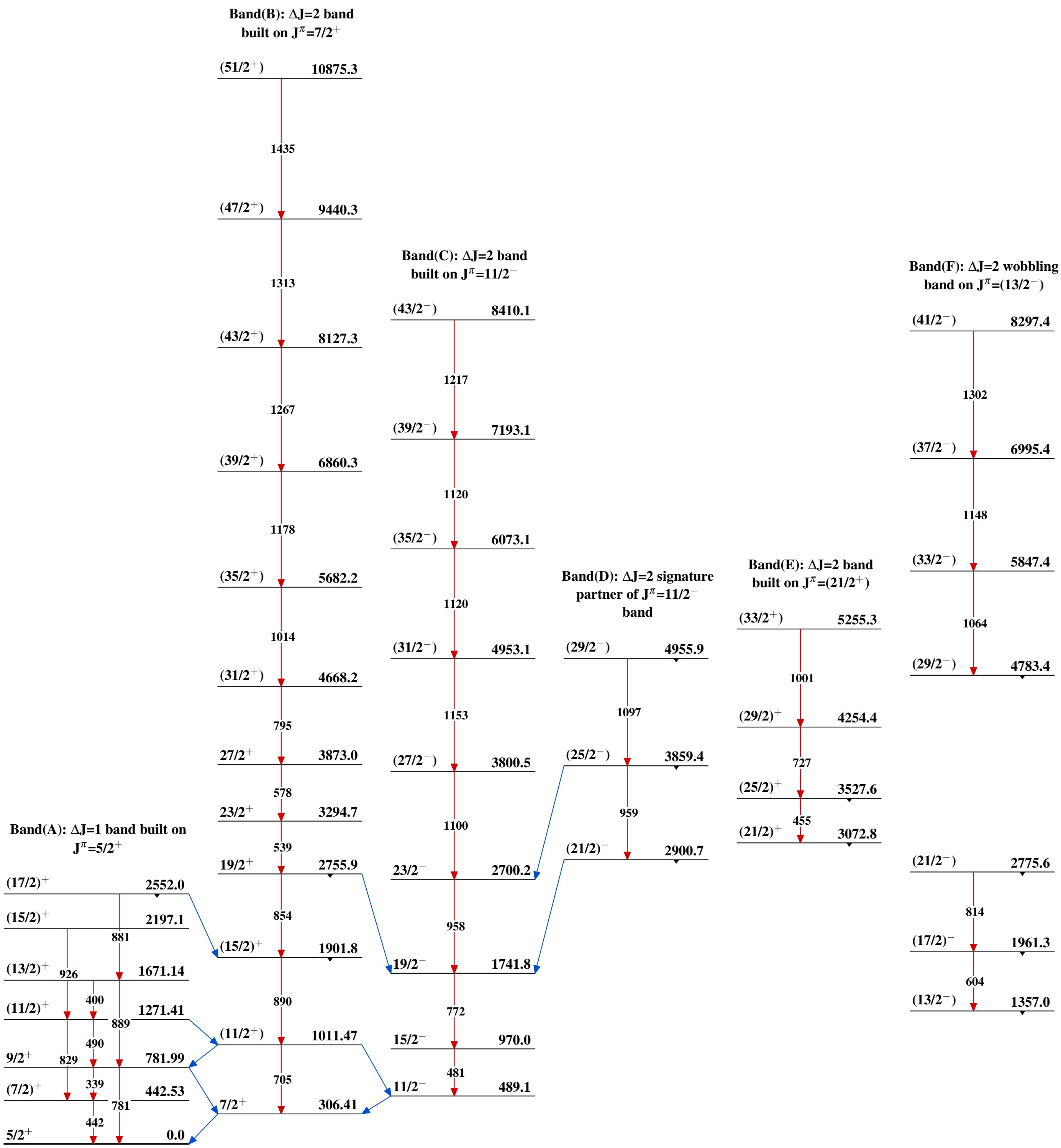
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

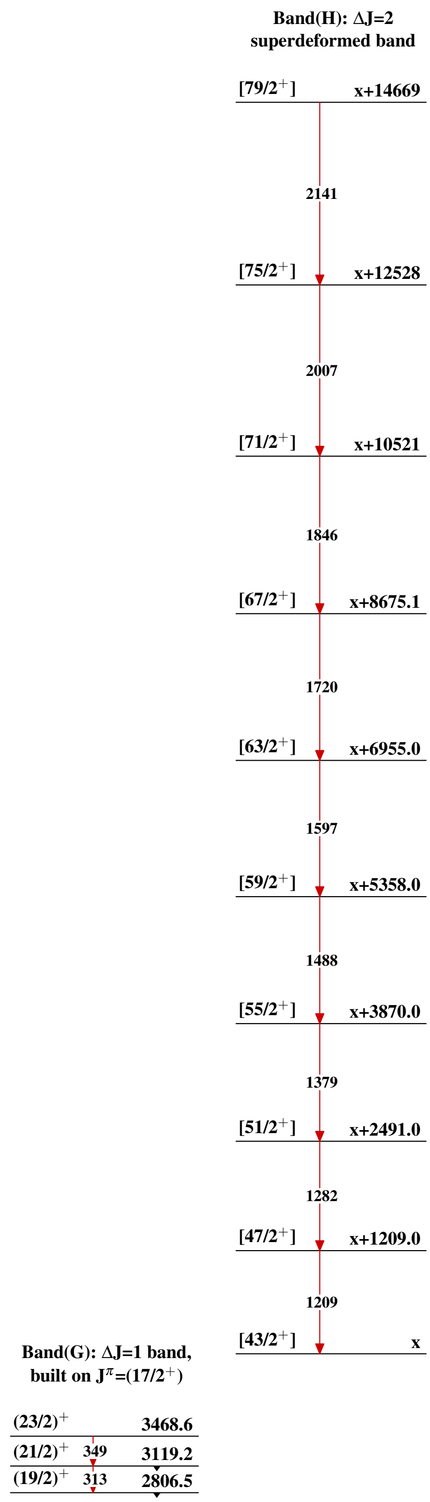


Adopted Levels, Gammas



$^{105}_{46}Pd_{59}$

Adopted Levels, Gammas (continued)



$^{105}_{46}Pd_{59}$

^{105}Rh β^- decay (35.3 h) 2010Kr05,1965Pi01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Lalkovski, J. Timar and Z. Elekes	NDS 161, 1 (2019)	1-Apr-2019

Parent: ^{105}Rh: E=0.0; $J^{\pi}=7/2^+$; $T_{1/2}$=35.341 h *19*; $Q(\beta^-)$=566.7 *24*; $\%\beta^-$ decay=100.0

^{105}Rh-$T_{1/2}$: weighted average of 35.357 h *37* and 35.319 h *24*, from γ(t) measurements performed respectively at room temperature and at T=19 K in 2009Go29, 35.47 h *8* in 1967ko?? and 35.4 h *1* 1965Pi01; Others: 35.88 h *2* (1962Br15);

2010Kr05: Facility: Oregon State University TRIGA reactor; Source: from a natural 5-20 mg Ru (^{104}Ru abundance is 18.6%) metal and RuO_2 powder samples, irradiated with thermal and epithermal neutrons; Detectors: flux monitors, one HPGe detector; Measured: γ, Eγ, Iγ.

2005Mo07: Facility: Kyoto University Research Reactor Institute; Source: chemically separrated from irradiated 0.1mg Ru sample enriched to 99.21% in ^{104}Ru; Detectors: $4\pi\beta$, one HPGe detector; Measured: β-γ coinc., Iβ, Iγ, Eγ; Deduced: ^{105}Ru level scheme, Iγ normalization.

1967Sc01: Facility: McMaster nuclear reactor; Source: chemically separated from irradiated 100 μg ^{104}Ru target; Detectors: two NaI(Tl), several Ge(Li), magnetic spectrometer (Δp/p=0.5%) and a lens spectrometer (Δp/p$\approx$3%); Measured: γ, β, β-γ and γ-γ coinc., Eγ, Iγ, Eβ, Iβ, I(ce).

1965Pi01: Facility: Univ. Michigan Ford Nuclear Reactor; Source: chemicaly separated from irradiated ^{105}Rh sample, enriched to 99.8% in ^{105}Rh; Detectors: NaI(Tl), Ge(Li), proportional counters, magnets and Pilot β scintillator; Measured: β, ce, γ, β-β , β-γ and γ-γ coinc.; Deduced: ^{105}Pd level scheme, α(K)exp.

1962Me07: Facility: Oak Ridge National Lab. Research Reactor; Source: mass-separated from 5-10 mg thick target eneriched to 98.16% in ^{104}Ru and exposed in a slow neutron flux 2.5x10^{14} n/cm^2.s; Detectors: ultracentrifuge, Pd and Ag scatterers, two PMT′s and a mirror, one NaI shielded by Pb in front; Measured: γ, $\gamma(\theta)$, Eγ; Deduced: δ, $T_{1/2}$.

Others: 2009Go29, 1977Wi10, 1976Ba39, 1974Be71, 1969Od01, 1964Ka23, 1962Br15, and 1967ko?? for Kobayashi in J.Inorg.Nucl.Chem.29 (1967) 1374.

^{105}Pd Levels

E(level)†	J^{π}‡	$T_{1/2}$	Comments
0.0	5/2$^+$	stable	
280.522 *10*	3/2$^+$		
306.311 *10*	7/2$^+$		
319.233 *10*	5/2$^+$	40 ps *10*	$T_{1/2}$: from 250β^-315γ(t) in 1974Be71; Others: 51 ps *3* in 1962Me07.
442.418 *10*	(7/2)$^+$		

† From a least-squares fit to Eγ.
‡ From the Adopted Levels.

β^- radiations

E(decay)	E(level)	Iβ^-†	Log *ft*	Comments
(124.3 *24*)	442.418	0.0355 *8*	6.91 *3*	av Eβ=33.04 *68*
(247.5 *24*)	319.233	17.8 *6*	5.152 *20*	av Eβ=69.72 *75*
(260.4 *24*)	306.311	4.75 *10*	5.797 *16*	av Eβ=73.79 *76*
(286.2‡ *24*)	280.522	<0.01	>8.6	av Eβ=81.99 *78*
(566.7 *24*)	0.0	77.9 *5*	5.710 *7*	av Eβ=179.31 *89*

† Absolute intensity per 100 decays.
‡ Existence of this branch is questionable.

^{105}Rh β^- decay (35.3 h) 2010Kr05,1965Pi01 (continued)

$\gamma(^{105}$Pd)

Iγ normalization: from the intensity balance to the 306-keV level; Iβ=4.76 *5* in 2005Mo07 and $I(\gamma+ce)_{306\gamma}$.

E_γ [‡]	I_γ [‡@]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [#]	δ [#]	α [†]	Comments
38.77 *7*	0.135 *2*	319.233	5/2⁺	280.522	3/2⁺	M1(+E2)		24 *18*	α(K)=12 *7*; α(L)=10 *10*; α(M)=1.9 *18*; α(N+..)=0.3 *3* α(N)=0.3 *3* α(N)=0.0200 *3* (1965Pi01) E_γ: 38.72 *3* in 1972De67; I_γ: from intensity balance to the 280-keV level. α(K)exp: 5.8 *6* (1965Pi01).
280.523 *10*	0.905 *9*	280.522	3/2⁺	0.0	5/2⁺	M1+E2	+0.143 *7*	0.0238	α(K)=0.0207 *3*; α(L)=0.00249 *4*; α(M)=0.000469 *7*; α(N+..)=7.89×10^{-5} *12* α(N)=7.89×10^{-5} *12* α(N)=7.81×10^{-5} *11* δ: +0.132 *8* (1977Wi10), +0.07 *7* (1976Ba39). α(K)exp=0.020 *4* (1965Pi01).
306.311 *10*	27.6 *3*	306.311	7/2⁺	0.0	5/2⁺	M1+E2	+0.055 *2*	0.0188	α(K)=0.01640 *23*; α(L)=0.00196 *3*; α(M)=0.000368 *6*; α(N+..)=6.20×10^{-5} *9* α(N)=6.20×10^{-5} *9* δ: Other: +0.055 *2* (1976Ba39) and 0.06 *1* (1977Wi10). α(K)exp: 0.016 *2* from Ice/Iγ and comparison with low energy Iβ (1964Ka23).
319.231 *10*	100.0 *10*	319.233	5/2⁺	0.0	5/2⁺	M1+E2	+0.103 *8*	0.01697	α(K)exp=0.013 *2*; K/L=8 *1* α(K)=0.01481 *21*; α(L)=0.001769 *25*; α(M)=0.000332 *5*; α(N+..)=5.60×10^{-5} *8* α(N)=5.60×10^{-5} *8* δ: from the adopted gammas; Others: +0.11 *1* (1977Wi10), +0.091 *13* or +1.35 *3* (1976Ba39), −0.11 (1962Me07). α(K)exp: From Ice/Iγ and comparison with low-energy Iβ (1964Ka23).
442.417 *10*	0.210 *2*	442.418	(7/2)⁺	0.0	5/2⁺	M1+E2	−0.23 *6*	0.00756 *11*	α=0.00756 *11*; α(K)=0.00660 *10*; α(L)=0.000783 *12*; α(M)=0.0001470 *23*; α(N+..)=2.48×10^{-5} α(N)=2.48×10^{-5} *4* δ: From the adopted

Continued on next page (footnotes at end of table)

^{105}Rh β^- decay (35.3 h) 2010Kr05,1965Pi01 (continued)

$\gamma(^{105}Pd)$ (continued)

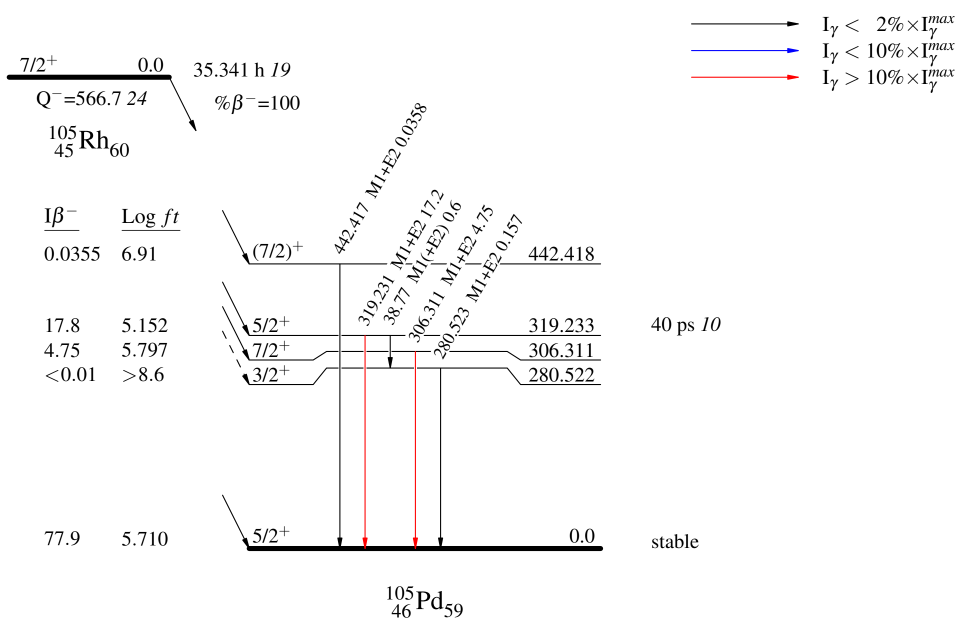
E_γ[‡]	E_i(level)	Comments
		gammas; Others: −0.8 *+7−4* (1976Ba39), −0.2 or −0.3 (1977Wi10).

† Additional information 1.
‡ From 2010Kr05, unless otherwise noted.
# From the adopted gammas.
@ For absolute intensity per 100 decays, multiply by 0.169 *3*.

^{105}Rh β^- decay (35.3 h) 2010Kr05,1965Pi01

Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays



^{105}Pd IT decay (35.5 μs) 1965Mc03,1958Du80,1956Ve03

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Lalkovski, J. Timar and Z. Elekes	NDS 161, 1 (2019)	1-Apr-2019

Parent: ^{105}Pd: E=489.2 *15*; J^{π}=11/2^{-}; $T_{1/2}$=35.5 μs *5*; %IT decay=100.0

1965Mc03: Facility: Univ.Pittsburg cyclotron; Beam: E(d)=15 MeV, pulsed; Detectors: one NaI(Tl); Measured: Eγ, γ(t); Deduced: $T_{1/2}$.

1956Ve03, 1958Du80: Facility: Univ. Illinois betatron; Beam: bremsstrahlung from E(β)=22 MeV; Detectors: one NaI, shielded with Pb; Measured: γ(t), Eγ, Iγ(t); Deduced: $T_{1/2}$.

^{105}Pd Levels

E(level)†	J^{π}‡	$T_{1/2}$‡
0.0	5/2^{+}	
306.3 *10*	7/2^{+}	71 ps *8*
489.2 *15*	11/2^{-}	35.5 μs *5*

† From a least-squares fit to Eγ. ΔEγ=1 assumed by the evaluators.
‡ From the Adopted Levels.

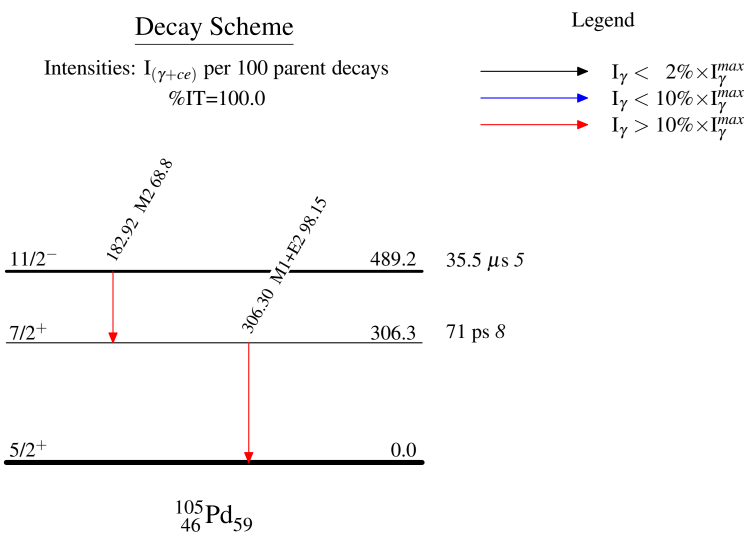
γ(^{105}Pd)

Iγ normalization: from I(γ+ce)(to g.s.)=100%.

E$_{\gamma}$‡	I$_{\gamma}$#	E$_i$(level)	J^{π}_i	E$_f$	J^{π}_f	Mult.‡	δ‡	α†	I$_{(\gamma+ce)}$#	Comments
182.92	68.8 *3*	489.2	11/2^{-}	306.3	7/2^{+}	M2		0.453	100	α(K)=0.383 *6*; α(L)=0.0567 *8*; α(M)=0.01087 *16*; α(N+..)=0.00182 *3* α(N)=0.00182 *3*
306.30	98.15 *3*	306.3	7/2^{+}	0.0	5/2^{+}	M1+E2	+0.055 *2*	0.0188	100	α(K)=0.01640 *23*; α(L)=0.00196 *3*; α(M)=0.000368 *6*; α(N+..)=6.20×10^{-5} *9* α(N)=6.20×10^{-5} *9*

† Additional information 1.
‡ From the Adopted Levels.
# Absolute intensity per 100 decays.

^{105}Pd IT decay (35.5 μs) 1965Mc03,1958Du80,1956Ve03



^{105}Ag ε decay (41.29 d) 1996Me17,1970Ka13

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Lalkovski, J. Timar and Z. Elekes	NDS 161, 1 (2019)	1-Apr-2019

Parent: ^{105}Ag: E=0.0; J^{π}=1/2$^-$; $T_{1/2}$=41.29 d *7*; Q(ε)=1347 *5*; %ε+%β^+ decay=100.0

1996Me17: Facility: LNL ICT accelerator; Source: from (n,γ) reactions on 50-100 mg thick target enriched to 82.09% in ^{106}Cd. Neutron flux= 6x10^{12} n/sec in 4π from ^{2}H(^{3}H,^{4}He)n reaction; Detectors: one large Ge(Li) and one small Ge(Li) x-ray detector; Measured: γ, Eγ, Iγ; Deduced: ^{105}Pd level scheme, log *ft*, J.

1983Si08: Facility: AERE, Harawell Tandem Accelerator; Source: from ^{103}Rh(α,2n), E(α)=28 MeV; Detectors: one Ge(Li), one NaI(Tl); Measured: γ, $\gamma\gamma$, $\gamma\gamma(\theta)$, Eγ, Iγ; Deduced: δ, Mult., ^{105}Pd level scheme.

1970Ka13: Facility: Tokyio Institute of Technology cyclotron; Source: ^{105}Ag, chemically separated from ^{nat}Pd(p,2n) and ^{106}Pd(p,2n) and mounted on 10 μm Pt and 2 μm Ni foils; Detectors: β-spectrometer with σ=0.013% for 662-keV line, one proportional gas counter, and one Si(Li) detector; Measured: γ, β, Ice, Iγ, E$_\beta$, Eγ; Deduced: level scheme, δ.

1981Al19: Facility: KFZ Karlsruhe cyclotron; Soruce: chemically separated from (α,2n) on natural Rh and (d,2n) on enriched in ^{105}Pd target and beam energies E(α)=50 MeV, E(d)=15 MeV. Measurements taken 6 weeks after irradiation to eliminate contribution from ^{105m}Ag; Detectors: three large-volume plannar Ge detectors, two cooled pure NaI detectors; Measured: γ, $\gamma\gamma$, $\gamma\gamma(\theta)$, Eγ, Iγ; Deduced: level scheme, g-factors, $T_{1/2}$.

1977Ba32: Source: from ^{105}Pd(p,n) reaction with E(p)=6.7 MeV and target enriched to 94% in ^{105}Pd; Detectors: one Ge(Li), one NaI(Tl); Measured: γ, $\gamma\gamma(\theta)$, Eγ, Iγ; Deduced: δ, ^{105}Pd level scheme.

1970Sc10: Facility: ISOLDE synchro-cyclotron; Beam: E(p)=600 MeV; Target: Sn; Source: mass-separated ^{105}Cd. Measurements perfofrmed few days after irradiation; Detectors: on-line separator, one planar Ge(Li), one plastic (Pilot β) and one NaI(Tl); Measured: γ, γ(t), Eγ, Iγ; Deduced: $T_{1/2}$.

Others: 1984BeZQ, 1979Be66, 1979BeYM, 1978Ve04, 1976BaYL, 1976JaZU, 1975BeYC, 1974ArZY, 1973Se20, 1973ThZL, 1972Be67, 1972Bf01, 1971BeWF, 1971BeWG, 1971RiZH, 1970BlZT, 1969Ho36, 1969Ka02, 1969McZY, 1968An14, 1968Ri10.

^{105}Pd Levels

E(level)†	J^{π}‡	$T_{1/2}$	Comments
0.0	5/2$^+$		
280.5 *4*	3/2$^+$#		g=−0.049 *12* from IPAC in 1981Al19, assuming $T_{1/2}$=67 ps *12*.
306.3 *7*	7/2$^+$		
319.2 *5*	5/2$^+$#		g=+38 *8* from IPAC in 1981Al19, assuming $T_{1/2}$=38 *2* ps.
344.6 *5*	1/2$^+$	1.01 ns *5*	$T_{1/2}$: from 618γ-344γ(t) and 22X-344γ(t) in 1970Sc10; Others: 0.88 ns *5* in 1974Be71, 0.801 ns *64* in 1969Ka02.
442.3 *6*	(7/2)$^+$#		
489.2 *9*	11/2$^-$		
560.7 *5*	3/2$^+$		
644.6 *6*	7/2$^-$	126 ps *2*	$T_{1/2}$: 443-645γ(t) with cooled NaI detectors (1981Al19). g=−0.427 *25* from IPAC in 1981Al19. configuration: 2$^+\otimes\nu h_{11/2}$.
650.8 *5*	(3/2)$^+$		
673.2 *5*	1/2$^+$#		
727.3 *5*	5/2$^+$		
921.2 *6*	(1/2$^+$ to 5/2$^+$)		
929.1 *6*	(5/2$^+$)		
962.5 *5*	(1/2,3/2)$^+$		
1088.1 *4*	3/2$^-$		
1125.2 *7*	(1/2$^+$ to 7/2$^+$)		

† From a least-squares fit to Eγ. ΔEγ=1 keV adopted by the evaluators.
‡ From the Adopted Levels.
# Possible member of the 2$^+\otimes\nu d_{5/2}$ multiplet.

^{105}Ag ε decay (41.29 d) 1996Me17,1970Ka13 (continued)

ε,β^+ radiations

E(decay)	E(level)	Iε†	Log *ft*	I($\varepsilon+\beta^+$)†	Comments
(222 *5*)	1125.2	0.042 *5*	8.84 *6*	0.042 *5*	εK=0.8420 *7*; εL=0.1266 *6*; εM+=0.03144 *16*
(259 *5*)	1088.1	17.5 *17*	6.36 *5*	17.5 *17*	εK=0.8461 *5*; εL=0.1234 *4*; εM+=0.03053 *11*
(385 *5*)	962.5	1.79 *17*	7.72 *5*	1.79 *17*	εK=0.8536 *2*; εL=0.11752 *16*; εM+=0.02886 *5*
(426 *5*)	921.2	0.073 *7*	9.21 *5*	0.073 *7*	εK=0.8551 *2*; εL=0.11640 *13*; εM+=0.02854 *4*
(620 *5*)	727.3	0.036 *4*	9.99^{1u} *5*	0.036 *4*	εK=0.8458 *3*; εL=0.12361 *18*; εM+=0.03064 *6*
(674 *5*)	673.2	2.9 *3*	8.02 *5*	2.9 *3*	εK=0.8598; εL=0.11270 *5*; εM+=0.02749 *2*
(696 *5*)	650.8	7.2 *7*	7.66 *5*	7.2 *7*	εK=0.8601; εL=0.11250 *5*; εM+=0.02744 *2*
(702‡ *5*)	644.6	0.053 *7*	10.30^{2u} *6*	0.053 *7*	εK=0.8323 *4*; εL=0.1340 *3*; εM+=0.03370 *9*
(786 *5*)	560.7	0.14 *4*	9.83^{1u} *13*	0.14 *4*	εK=0.8514 *2*; εL=0.1192 *1*; εM+=0.02938 *3*
(905 *5*)	442.3	0.27 *3*	9.32 *5*	0.27 *3*	εK=0.8618; εL=0.11113 *3*; εM+=0.027051 *8*
(1002 *5*)	344.6	67 *7*	7.01 *5*	67 *7*	εK=0.8624; εL=0.11069 *2*; εM+=0.026927 *6*
(1028‡ *5*)	319.2	0.19 *10*	10.17^{1u} *23*	0.19 *10*	εK=0.8558; εL=0.11579 *6*; εM+=0.02838 *2*
(1041‡ *5*)	306.3	0.136 *14*	9.74 *5*	0.136 *14*	εK=0.8626; εL=0.11054 *2*; εM+=0.026885 *6*
(1067 *5*)	280.5	1.2 *4*	8.82 *15*	1.2 *4*	εK=0.8627; εL=0.11045 *2*; εM+=0.026859 *5*
1347 *5*	0.0	≈1	≈9.9^{1u}	≈1	εK=0.8586; εL=0.11331 *4*; εM+=0.027677 *9*

† Absolute intensity per 100 decays.

‡ Existence of this branch is questionable.

$\gamma(^{105}$Pd)

Iγ normalization: I$_{\beta+}$= 8.5×10^{-6} *14* in 1967Pi03, ε/I$_{\beta+}$=2.7×10^{3} *202* from theory and (100-I$_{\beta+\varepsilon}$)/I(γ+ce)(g.s.).

E$_\gamma$[‡]	I$_\gamma$[‡@]	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.[#]	δ[#]	α[†]	Comments
38.77	0.13	319.2	5/2$^+$	280.5	3/2$^+$	M1(+E2)		24 *18*	α(K)=12 *7*; α(L)=10 *10*; α(M)=1.9 *18*; α(N+..)=0.3 *3* α(N)=0.3 *3*
64.072	268	344.6	1/2$^+$	280.5	3/2$^+$	M1(+E2)	−0.025 *30*	1.354 *23*	α(K)exp=1.17 *7* (1970Ka13) α(K)=1.175 *19*; α(L)=0.147 *5*; α(M)=0.0276 *9*; α(N+..)=0.00463 *14* α(N)=0.00463 *14* δ: from $\gamma\gamma(\theta)$ in 1981Al19.
90.01	0.8	650.8	(3/2)$^+$	560.7	3/2$^+$	[M1+E2]		1.3 *8*	α(K)=1.0 *6*; α(L)=0.23 *18*; α(M)=0.04 *4*; α(N+..)=0.007 *6* α(N)=0.007 *6*
112.51	0.84	673.2	1/2$^+$	560.7	3/2$^+$	[M1+E2]		0.6 *4*	α(K)=0.48 *25*; α(L)=0.09 *7*; α(M)=0.018 *13*; α(N+..)=0.0029 *20* α(N)=0.0029 *20*
155.38	9.8	644.6	7/2$^-$	489.2	11/2$^-$	E2		0.289	α(K)exp=0.235 *21* (1970Ka13) α(K)=0.238 *4*; α(L)=0.0423 *6*; α(M)=0.00808 *12*; α(N+..)=0.001290 *18* α(N)=0.001290 *18*
159.0	0.75	1088.1	3/2$^-$	929.1	(5/2$^+$)	[E1]		0.0405	α(K)=0.0354 *5*; α(L)=0.00420 *6*; α(M)=0.000783 *11*; α(N+..)=0.0001301 *19* α(N)=0.0001301 *19*
182.92	8.6	489.2	11/2$^-$	306.3	7/2$^+$	M2		0.453	α(K)exp=0.40 *5* (1970Ka13) α(K)=0.383 *6*; α(L)=0.0567 *8*; α(M)=0.01087 *16*; α(N+..)=0.00182 *3* α(N)=0.00182 *3*
202.21	0.7	644.6	7/2$^-$	442.3	(7/2)$^+$	[E1+M2]		0.17 *15*	α(K)=0.15 *13*; α(L)=0.021 *19*; α(M)=0.004 *4*; α(N+..)=0.0007 *6* α(N)=0.0007 *6*
216.1	0.33	560.7	3/2$^+$	344.6	1/2$^+$	[M1+E2]		0.068 *23*	α(K)=0.058 *18*; α(L)=0.008 *4*; α(M)=0.0016 *7*; α(N+..)=0.00026 *11* α(N)=0.00026 *11*
270.5	0.03	921.2	(1/2$^+$ to 5/2$^+$)	650.8	(3/2)$^+$				
280.54	744	280.5	3/2$^+$	0.0	5/2$^+$	M1+E2	+0.143 *7*	0.0238	α(K)=0.0207 *3*; α(L)=0.00249 *4*; α(M)=0.000469 *7*; α(N+..)=7.89×10^{-5} *12* α(N)=7.89×10^{-5} *12* Mult.: A$_{22}$=0.156 *8*, A$_{44}$=0.031 *9* (1983Si08). δ: 0.178 *14* in 1983Si08. α(K)exp=0.0209 *13* (1970Ka13).
284.8	2.3	727.3	5/2$^+$	442.3	(7/2)$^+$	M1		0.0226	α(K)exp=0.0162 *23* (1970Ka13) α(K)=0.0197 *3*; α(L)=0.00236 *4*; α(M)=0.000443 *7*;

$^{105}_{46}$Pd$_{59}$-3

$\gamma(^{105}Pd)$ (continued)

E_γ [‡]	I_γ [‡@]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [#]	δ [#]	α [†]	Comments
									α(N+..)=7.47×10^{-5} *11* α(N)=7.47×10^{-5} *11*
289.37	2.9	962.5	(1/2,3/2)$^+$	673.2	1/2$^+$	M1		0.0217	α(K)exp=0.0147 *17* (1970Ka13) α(K)=0.0189 *3*; α(L)=0.00226 *4*; α(M)=0.000425 *6*; α(N+..)=7.17×10^{-5} *10* α(N)=7.17×10^{-5} *10*
306.30	18.3	306.3	7/2$^+$	0.0	5/2$^+$	M1+E2	+0.055 *2*	0.0188	α(K)=0.01640 *23*; α(L)=0.00196 *3*; α(M)=0.000368 *6*; α(N+..)=6.20×10^{-5} *9* α(N)=6.20×10^{-5} *9* Mult.: A_{22}=−0.064 *17*, A_{44}=−0.081 *24* (1983Si08); Other: A_{22}=−0.200 *33*, A_{44}=0.043 *71* (1977Ba32). Mult.: α(K)exp=0.0142 *14* (1970Ka13). δ: 0.02 *4* (1983Si08), −0.39 *+13−6* from $\gamma\gamma(\theta)$ in 1977Ba32.
311.74	1.9	962.5	(1/2,3/2)$^+$	650.8	(3/2)$^+$	M1		0.0179	α(K)exp=0.0096 *14* (1970Ka13) α(K)=0.01566 *22*; α(L)=0.00187 *3*; α(M)=0.000351 *5*; α(N+..)=5.92×10^{-5} *9* α(N)=5.92×10^{-5} *9*
319.24	106	319.2	5/2$^+$	0.0	5/2$^+$	M1+E2	+0.103 *8*	0.01697	α(K)exp=0.014 *9* (1970Ka13) α(K)=0.01481 *21*; α(L)=0.001769 *25*; α(M)=0.000332 *5*; α(N+..)=5.60×10^{-5} *8* α(N)=5.60×10^{-5} *8* Mult.: A_{22}=−0.157 *8*; A_{44}=0.026 *11* (1983Si08). δ: Also, −0.007 *20* (1983Si08),−0.16 *3* from $\gamma\gamma(\theta)$ in 1977Ba32; +0.137 (9) from $\gamma\gamma(\theta)$ in 1981Al19;
325.43	4.8	644.6	7/2$^-$	319.2	5/2$^+$	E1		0.00559 *8*	α(K)exp=0.0043 *8* (1970Ka13) α=0.00559 *8*; α(K)=0.00489 *7*; α(L)=0.000571 *8*; α(M)=0.0001067 *15*; α(N+..)=1.79×10^{-5} *3* α(N)=1.79×10^{-5} *3*
328.61	4.9	673.2	1/2$^+$	344.6	1/2$^+$	(M1)		0.01570	α(K)exp=0.0084 *9* (1970Ka13) α(K)=0.01371 *20*; α(L)=0.001632 *23*; α(M)=0.000307 *5*; α(N+..)=5.17×10^{-5} *8* α(N)=5.17×10^{-5} *8*
331.58	98.6	650.8	(3/2)$^+$	319.2	5/2$^+$	M1+E2	−0.084 *7*	0.01539	α(K)=0.01343 *19*; α(L)=0.001602 *23*; α(M)=0.000301 *5*; α(N+..)=5.07×10^{-5} *8* α(N)=5.07×10^{-5} *8* Mult.: A_{22}=−0.104 *11*, A_{44}=−0.10 *10* (1977Ba32); Also α(K)exp=0.0122 *8* (1970Ka13). δ: −0.084 *7* from γ-$\gamma(\theta)$ in 1983Si08, and −0.062 *9* from γ-$\gamma(\theta)$ in 1981Al19.
344.51 [&]		650.8	(3/2)$^+$	306.3	7/2$^+$				
344.61	1000	344.6	1/2$^+$	0.0	5/2$^+$	E2		0.0188	α(K)exp=0.0163 *10* (1970Ka13) α(K)=0.01611 *23*; α(L)=0.00219 *3*; α(M)=0.000413 *6*;

From ENSDF

$^{105}_{46}Pd_{59}$-4

$\gamma(^{105}$Pd) (continued)

E_γ [‡]	I_γ [‡@]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [#]	δ [#]	α [†]	Comments
									α(N+..)=6.80×10^{-5} *10* α(N)=6.80×10^{-5} *10*
353.8	0.2	673.2	1/2$^+$	319.2	5/2$^+$	[E2]		0.01725	α(K)=0.01482 *21*; α(L)=0.00200 *3*; α(M)=0.000377 *6*; α(N+..)=6.22×10^{-5} *9* α(N)=6.22×10^{-5} *9*
360.72	11.3	1088.1	3/2$^-$	727.3	5/2$^+$	E1		0.00427 *6*	α(K)exp=0.0039 *4* (1970Ka13) α=0.00427 *6*; α(K)=0.00374 *6*; α(L)=0.000436 *6*; α(M)=8.15×10^{-5} *12*; α(N+..)=1.365×10^{-5} *20* α(N)=1.365×10^{-5} *20*
370.28	17.6	650.8	(3/2)$^+$	280.5	3/2$^+$	M1+E2	0.11 *3*	0.01167	α(K)=0.01020 *15*; α(L)=0.001212 *18*; α(M)=0.000228 *4*; α(N+..)=3.84×10^{-5} *6* α(N)=3.84×10^{-5} *6* Mult.: A_{22}=−0.072 *12*, A_{44}=−0.001 *16* (1983Si08); Other: A_{22}=−0.098 *16* A_{44}=−0.030 *45* (1977Ba32); Also α(K)exp=0.0094 *8* (1970Ka13). δ: Also: 0.000 *3* (1977Ba32).
392.73	47.8	673.2	1/2$^+$	280.5	3/2$^+$	M1+E2	+0.06 *3*	0.01006 *15*	α(K)=0.00879 *13*; α(L)=0.001042 *15*; α(M)=0.000196 *3*; α(N+..)=3.30×10^{-5} *5* α(N)=3.30×10^{-5} *5* Mult.: A_{22}=0.182 *17*, A_{44}=0.020 *25* (1983Si08); Other: 0.149 *13*, −0.014 *20* (1977Ba32); Also α(K)exp=0.0083 *6* (1970Ka13). δ: 0.05 *4* in 1983Si08 from γ-$\gamma(\theta)$, −0.84 *+3−17* from $\gamma\gamma(\theta)$ in 1977Ba32; and +0.10 *7* from γ-$\gamma(\theta)$ in 1981Al19.
401.75	4.6	962.5	(1/2,3/2)$^+$	560.7	3/2$^+$	M1		0.00950 *14*	α(K)exp=0.0065 *10* (1970Ka13) α=0.00950 *14*; α(K)=0.00831 *12*; α(L)=0.000983 *14*; α(M)=0.000185 *3*; α(N+..)=3.11×10^{-5} *5* α(N)=3.11×10^{-5} *5*
408.08	1.0	727.3	5/2$^+$	319.2	5/2$^+$	M1(+E2)		0.0101 *10*	α(K)exp=0.0070 *25* (1970Ka13) α(K)=0.0087 *8*; α(L)=0.00109 *15*; α(M)=0.00021 *3*; α(N+..)=3.4×10^{-5} *5* α(N)=3.4×10^{-5} *5*
414.85	7.2	1088.1	3/2$^-$	673.2	1/2$^+$	(E1)		0.00299 *5*	α(K)exp=0.0040 *8* (1970Ka13) α=0.00299 *5*; α(K)=0.00262 *4*; α(L)=0.000305 *5*; α(M)=5.69×10^{-5} *8*; α(N+..)=9.55×10^{-6} *14* α(N)=9.55×10^{-6} *14*
421.03	2.9	727.3	5/2$^+$	306.3	7/2$^+$	M1(+E2)		0.0092 *8*	α(K)exp=0.0069 *17* (1970Ka13) α=0.0092 *8*; α(K)=0.0080 *7*; α(L)=0.00100 *13*; α(M)=0.000188 *25*; α(N+..)=3.1×10^{-5} *4* α(N)=3.1×10^{-5} *4*
437.30	6.9	1088.1	3/2$^-$	650.8	(3/2)$^+$	E1		0.00263 *4*	α(K)exp=0.0029 *6* (1970Ka13) α=0.00263 *4*; α(K)=0.00230 *4*; α(L)=0.000267 *4*; α(M)=4.99×10^{-5} *7*;

$^{105}_{46}$Pd$_{59}$-5

γ(^{105}Pd) (continued)

E_γ ‡	I_γ ‡@	E_i(level)	J^π_i	E_f	J^π_f	Mult.#	δ#	α†	Comments
									α(N+..)=8.37×10^{-6} *12* α(N)=8.37×10^{-6} *12*
442.2	11.4	442.3	(7/2)$^+$	0.0	5/2$^+$	M1+E2	−0.23 *6*	0.00756 *11*	α=0.00756 *11*; α(K)=0.00661 *10*; α(L)=0.000784 *13*; α(M)=0.0001472 *23*; α(N+..)=2.48×10^{-5} α(N)=2.48×10^{-5} *4* E_γ: 422.2γ in 1996Me17 assumed by the evaluators to be a typo.
443.44	259	1088.1	3/2$^-$	644.6	7/2$^-$	E2		0.00853 *12*	α(K)exp=0.0075 *5* (1970Ka13) α=0.00853 *12*; α(K)=0.00737 *11*; α(L)=0.000954 *14*; α(M)=0.000180 *3*; α(N+..)=2.98×10^{-5} *5* α(N)=2.98×10^{-5} *5*
446.8	2.4	727.3	5/2$^+$	280.5	3/2$^+$	M1+E2	0.9 *+9−5*	0.0078 *4*	α=0.0078 *4*; α(K)=0.0068 *3*; α(L)=0.00083 *6*; α(M)=0.000157 *11*; α(N+..)=2.62×10^{-5} *17* α(N)=2.62×10^{-5} *17* Mult.: A_{22}=0.043 *32*; A_{44}=0.053 *47* (1983Si08).
486.8	0.11	929.1	(5/2$^+$)	442.3	(7/2)$^+$	[M1+E2]		0.0062 *3*	α=0.0062 *3*; α(K)=0.00540 *21*; α(L)=0.00066 *6*; α(M)=0.000125 *10*; α(N+..)=2.08×10^{-5} *15* α(N)=2.08×10^{-5} *15*
527.34	2.6	1088.1	3/2$^-$	560.7	3/2$^+$	E1		0.001673 *24*	α(K)exp=0.0015 *4* (1970Ka13) α=0.001673 *24*; α(K)=0.001466 *21*; α(L)=0.0001694 *24*; α(M)=3.17×10^{-5} *5*; α(N+..)=5.32×10^{-6} α(N)=5.32×10^{-6} *8*
560.79	13.5	560.7	3/2$^+$	0.0	5/2$^+$	M1+E2		0.00427 *7*	α(K)exp=0.0038 *4* (1970Ka13) α=0.00427 *7*; α(K)=0.00372 *6*; α(L)=0.000451 *18*; α(M)=8.5×10^{-5} *4*; α(N+..)=1.42×10^{-5} *5* α(N)=1.42×10^{-5} *5*
564.4	0.13 *4*	1125.2	(1/2$^+$ to 7/2$^+$)	560.7	3/2$^+$				
576.7	0.6	921.2	(1/2$^+$ to 5/2$^+$)	344.6	1/2$^+$				
610.0	0.2	929.1	(5/2$^+$)	319.2	5/2$^+$	[M1+E2]		0.00345 *6*	α=0.00345 *6*; α(K)=0.00301 *6*; α(L)=0.000361 *8*; α(M)=6.79×10^{-5} *16*; α(N+..)=1.139×10^{-5} *22* α(N)=1.139×10^{-5} *22*
617.90	28.6 *3*	962.5	(1/2,3/2)$^+$	344.6	1/2$^+$	M1(+E2)		0.00334 *6*	α(K)exp=0.00306 *25* (1970Ka13) α=0.00334 *6*; α(K)=0.00291 *6*; α(L)=0.000350 *7*; α(M)=6.56×10^{-5} *14*; α(N+..)=1.101×10^{-5} *19* α(N)=1.101×10^{-5} *19*
640.5	0.7	921.2	(1/2$^+$ to 5/2$^+$)	280.5	3/2$^+$				
644.63	242	644.6	7/2$^-$	0.0	5/2$^+$	E1+M2	−0.016 *4*	0.001061 *15*	α(K)exp=0.00090 *6* (1970Ka13) α=0.001061 *15*; α(K)=0.000930 *13*; α(L)=0.0001070 *15*; α(M)=2.00×10^{-5} *3*; α(N+..)=3.37×10^{-6} α(N)=3.37×10^{-6} *5* δ: −0.020 *+5−6* from $\gamma\gamma(\theta)$ in 1977Ba32; Other: −0.012 *4*

γ(^{105}Pd) (continued)

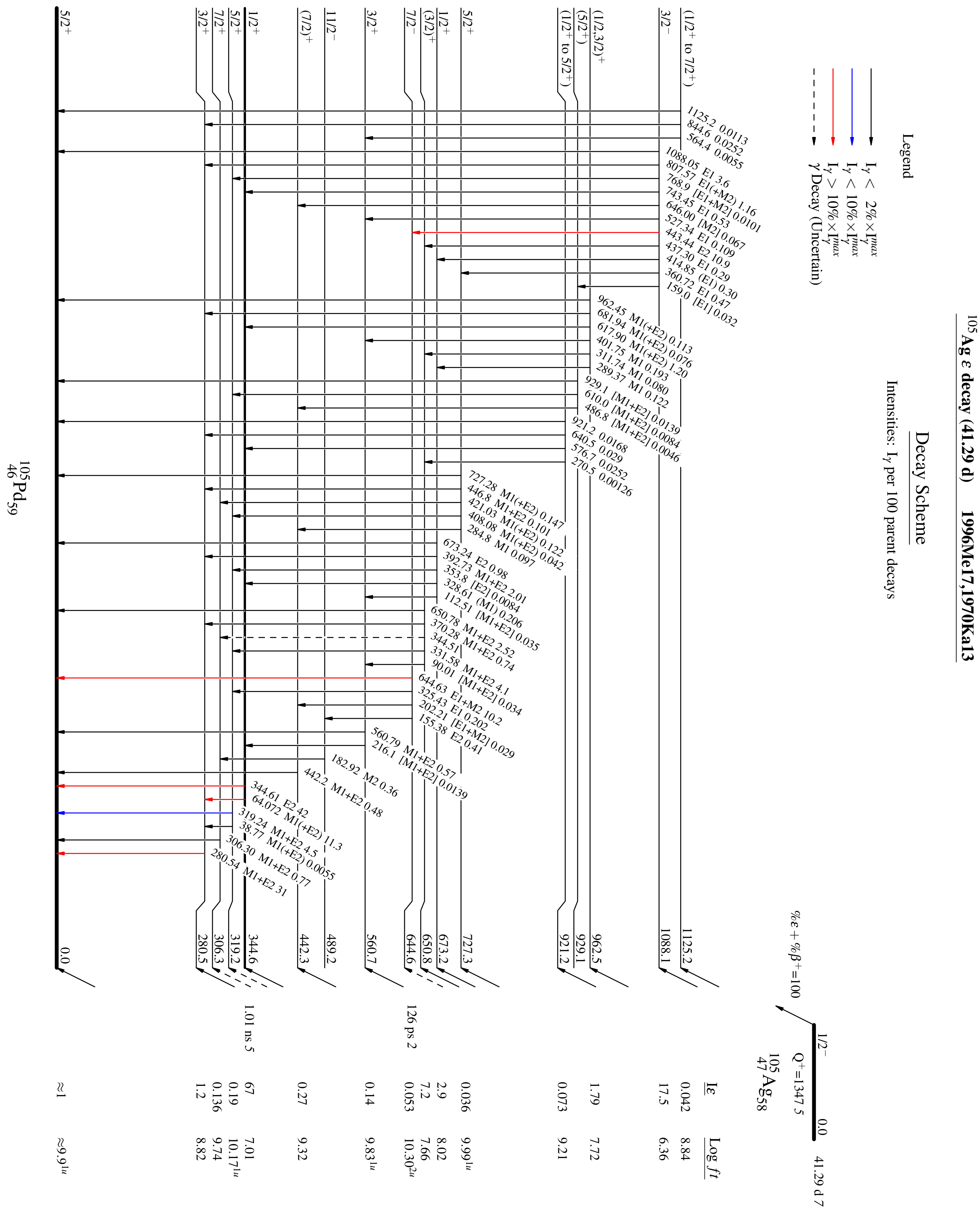
E_γ ‡	I_γ ‡@	E_i(level)	J_i^π	E_f	J_f^π	Mult.#	δ#	α†	Comments
									from $\gamma\gamma(\theta)$ in 1981Al19. Mult.: A_{22}=−0.170 *5*, 0.001 *1* (1977Ba32).
646.00	1.6	1088.1	3/2$^-$	442.3	(7/2)$^+$	[M2]		0.00876 *13*	α=0.00876 *13*; α(K)=0.00762 *11*; α(L)=0.000940 *14*; α(M)=0.0001774 *25*; α(N+..)=2.99×10^{-5} α(N)=2.99×10^{-5} *5*
650.78	60.0	650.8	(3/2)$^+$	0.0	5/2$^+$	M1+E2		0.00293 *7*	α(K)exp=0.00264 *18* (1970Ka13) α=0.00293 *7*; α(K)=0.00256 *7*; α(L)=0.000306 *5*; α(M)=5.74×10^{-5} *9*; α(N+..)=9.64×10^{-6} *14* α(N)=9.64×10^{-6} *14*
673.24	23.3	673.2	1/2$^+$	0.0	5/2$^+$	E2		0.00263 *4*	α(K)exp=0.00224 *19* (1970Ka13) α=0.00263 *4*; α(K)=0.00229 *4*; α(L)=0.000280 *4*; α(M)=5.26×10^{-5} *8*; α(N+..)=8.79×10^{-6} *13* α(N)=8.79×10^{-6} *13*
681.94	1.8	962.5	(1/2,3/2)$^+$	280.5	3/2$^+$	M1(+E2)		0.00261 *8*	α(K)exp=0.0034 *8* (1970Ka13) α=0.00261 *8*; α(K)=0.00228 *8*; α(L)=0.000272 *4*; α(M)=5.10×10^{-5} *8*; α(N+..)=8.57×10^{-6} *15* α(N)=8.57×10^{-6} *15*
727.28	3.5	727.3	5/2$^+$	0.0	5/2$^+$	M1(+E2)		0.00223 *9*	α(K)exp=0.0028 *9* (1970Ka13) α=0.00223 *9*; α(K)=0.00195 *8*; α(L)=0.000231 *5*; α(M)=4.34×10^{-5} *9*; α(N+..)=7.30×10^{-6} *18* α(N)=7.30×10^{-6} *18*
743.45	12.7	1088.1	3/2$^-$	344.6	1/2$^+$	E1		0.000778 *11*	α(K)exp=0.00070 *11* (1970Ka13) α=0.000778 *11*; α(K)=0.000683 *10*; α(L)=7.83×10^{-5} *11*; α(M)=1.463×10^{-5} *21*; α(N+..)=2.46×10^{-6} α(N)=2.46×10^{-6} *4*
768.9	0.24	1088.1	3/2$^-$	319.2	5/2$^+$	[E1+M2]		0.0031 *24*	α=0.0031 *24*; α(K)=0.0027 *21*; α(L)=0.0003 *3*; α(M)=6.E−5 *5*; α(N+..)=1.0×10^{-5} *8* α(N)=1.0×10^{-5} *8*
807.57	27.5 *17*	1088.1	3/2$^-$	280.5	3/2$^+$	E1(+M2)	0.03 *+4−3*	0.000659 *19*	α(K)exp=0.00061 *7* (1970Ka13) α=0.000659 *19*; α(K)=0.000579 *17*; α(L)=6.62×10^{-5} *20*; α(M)=1.24×10^{-5} *4*; α(N+..)=2.08×10^{-6} *7* α(N)=2.08×10^{-6} *7* Mult.: A_{22}=−0.108 *15*; A_{44}=−0.2 *2* (1983Si08). δ: 0.03 *+4−3* in 1983Si08, based on $\gamma\gamma(\theta)$.
844.6	0.6	1125.2	(1/2$^+$ to 7/2$^+$)	280.5	3/2$^+$				
921.2	0.4	921.2	(1/2$^+$ to 5/2$^+$)	0.0	5/2$^+$				
929.1	0.33	929.1	(5/2$^+$)	0.0	5/2$^+$	[M1+E2]		0.00126 *7*	α=0.00126 *7*; α(K)=0.00110 *7*; α(L)=0.000129 *6*; α(M)=2.42×10^{-5} *11*; α(N+..)=4.07×10^{-6} *20* α(N)=4.07×10^{-6} *20*
962.45	2.7	962.5	(1/2,3/2)$^+$	0.0	5/2$^+$	M1(+E2)		0.00116 *7*	α(K)exp=0.00119 *23* (1970Ka13) α=0.00116 *7*; α(K)=0.00102 *6*; α(L)=0.000119 *6*;

γ(^{105}Pd) (continued)

E_γ[‡]	I_γ[‡@]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[†]	Comments
								α(M)=2.23×10^{-5} *11*; α(N+..)=3.75×10^{-6} *19* α(N)=3.75×10^{-6} *19*
1088.05	86.	1088.1	3/2$^-$	0.0	5/2$^+$	E1	0.000366 *6*	α(K)exp=0.000299 *22* (1970Ka13) α=0.000366 *6*; α(K)=0.000322 *5*; α(L)=3.66×10^{-5} *6*; α(M)=6.83×10^{-6} *10*; α(N+..)=1.152×10^{-6} *17* α(N)=1.152×10^{-6} *17*
1125.2	0.27	1125.2	(1/2$^+$ to 7/2$^+$)	0.0	5/2$^+$			

† Additional information 1.
‡ From 1996Me17.
# Unless otherwise noted from 1983Si08, based on $\gamma\gamma(\theta)$ from DCO measurments.
@ For absolute intensity per 100 decays, multiply by 0.042 *4*.
& Placement of transition in the level scheme is uncertain.

$^{105}_{46}Pd_{59}$-8



^{105}Ag ε decay (41.29 d) 1996Me17,1970Ka13
Decay Scheme
Intensities: I_γ per 100 parent decays
Legend
$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$
γ Decay (Uncertain)
1/2⁻ 0.0 41.29 d 7
$^{105}_{47}$Ag$_{58}$
Q⁺=1347 5
%ε + %β⁺=100
Iε Log ft
(1/2⁺ to 7/2⁺) 1125.2 0.042 8.84
3/2⁻ 1088.1 17.5 6.36
(1/2,3/2)⁺ 962.5 1.79 7.72
(5/2⁺) 929.1
(1/2⁺ to 5/2⁺) 921.2 0.073 9.21
5/2⁺ 727.3 0.036 9.99¹ᵘ
1/2⁺ 673.2 2.9 8.02
(3/2)⁺ 650.8 7.2 7.66
7/2⁻ 644.6 126 ps 2 0.053 10.30²ᵘ
3/2⁺ 560.7 0.14 9.83¹ᵘ
11/2⁻ 489.2
(7/2)⁺ 442.3 0.27 9.32
1/2⁺ 344.6 1.01 ns 5 67 7.01
5/2⁺ 319.2 0.19 10.17¹ᵘ
7/2⁺ 306.3 0.136 9.74
3/2⁺ 280.5 1.2 8.82
5/2⁺ 0.0 ≈1 ≈9.9¹ᵘ
$^{105}_{46}$Pd$_{59}$

^{105}Ag ε decay (7.23 min) 1996Me17,1972Kr28

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Lalkovski, J. Timar and Z. Elekes	NDS 161, 1 (2019)	1-Apr-2019

Parent: ^{105}Ag: E=25.468 *16*; J$^{\pi}$=7/2^{+}; T$_{1/2}$=7.23 min *16*; Q(ε)=1347 *5*; %ε+%β^{+} decay=0.34 *7*

1996Me17: Facility: LNL ICT accelerator; Source: from (n,γ) reactions on 50-100 mg thick target enriched to 82.09% in ^{106}Cd. Neutron flux= 6x10^{12} n/sec in 4π from ^{2}H(^{3}H,^{4}He)n reaction; Detectors: one large Ge(Li) and one small Ge(Li) x-ray detector; Measured: γ, Eγ, Iγ; Deduced: ^{105}Pd level scheme, log *ft*, J.

1972Kr28: Facility: Princeton cyclotron; Source: from ^{nat}Ag(p,xn)^{105}Cd reaction. Chemically separated ^{105m}Ag; Detectors: one Ge(Li) and one NaI(Tl) x-ray detector; Measured: γ, X rays; Eγ, Iγ.

Others: 1978Ve04.

^{105}Pd Levels

E(level)†	J$^{\pi}$‡	E(level)†	J$^{\pi}$‡	E(level)†	J$^{\pi}$‡
0.0	5/2^{+}	344.5 *7*	1/2^{+}	929.6 *6*	(5/2^{+})
280.5 *5*	3/2^{+}	442.3 *6*	(7/2)$^{+}$	1072.1 *8*	(5/2^{+},7/2^{+},9/2^{+})
306.3 *9*	7/2^{+}	560.3 *7*	3/2^{+}	1098.6 *7*	(5/2^{+},7/2^{+},9/2^{+})
319.3 *5*	5/2^{+}	781.3 *9*	9/2^{+}		

† From a least-squares fit to Eγ, where ΔEγ=1 keV assumed by the evaluators.
‡ From the Adopted Levels.

ε,β^{+} radiations

E(decay)	E(level)	Iβ^{+} ‡	Iε‡	Log *ft*	I($\varepsilon+\beta^{+}$)†‡	Comments
(274 *5*)	1098.6		0.0064 *14*	5.94 *10*	0.0064 *14*	εK=0.8474 *5*; εL=0.1224 *4*; εM+=0.03024 *10*
(300 *5*)	1072.1		0.00098 *21*	6.84 *10*	0.00098 *21*	εK=0.8493 *4*; εL=0.1208 *3*; εM+=0.02981 *8*
(443 *5*)	929.6		0.021 *5*	5.87 *11*	0.021 *5*	εK=0.8556 *2*; εL=0.1160 *2*; εM+=0.02843 *4*
(591 *5*)	781.3		0.0013 *3*	7.34 *10*	0.0013 *3*	εK=0.8587; εL=0.11357 *7*; εM+=0.02774 *2*
(812 *5*)	560.3		0.0049 *10*	7.05 *9*	0.0049 *10*	εK=0.8612; εL=0.11165 *4*; εM+=0.027197 *9*
(930 *5*)	442.3		0.0086 *18*	6.92 *10*	0.0086 *18*	εK=0.8620; εL=0.11101 *3*; εM+=0.027016 *7*
(1053 *5*)	319.3		0.15 *4*	5.79 *12*	0.15 *4*	εK=0.8626; εL=0.11050 *2*; εM+=0.026872 *6*
(1066 *5*)	306.3		0.030 *7*	6.50 *11*	0.030 *7*	εK=0.8627; εL=0.11045 *2*; εM+=0.026859 *6*
(1092# *5*)	280.5		≤0.002	≥7.7	≤0.002	εK=0.8628; εL=0.11036 *2*; εM+=0.026834 *5*
(1372 *5*)	0.0	0.00049 *11*	0.117 *25*	6.14 *10*	0.117 *25*	av Eβ=162.3 *22*; εK=0.8602 *2*; εL=0.10915 *4*; εM+=0.02651 *1*

† Note that uncertainties only reflect the uncertainty on the normalization factor, as Iγ values are reported without uncertainties.
‡ Absolute intensity per 100 decays.
# Existence of this branch is questionable.

$\gamma(^{105}$Pd)

Iγ normalization: from I(319.16γ)=48 % (1972Kr28) and Branching= 0.0034 *7* fom ^{105m}Ag.

E_γ[‡]	I_γ[‡@]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[#]	δ[#]	α[†]	Comments
38.77[#] *17*	0.11[#]	319.3	5/2$^+$	280.5	3/2$^+$	M1(+E2)		24 *18*	α(K)=12 *7*; α(L)=10 *10*; α(M)=1.9 *18*; α(N+..)=0.3 *3* α(N)=0.3 *3*
64.072[#]	0.004[#]	344.5	1/2$^+$	280.5	3/2$^+$	M1(+E2)	−0.025 *30*	1.7 *10*	α(K)=1.4 *6*; α(L)=0.2 *3*; α(M)=0.05 *6*; α(N+..)=0.008 *9* α(N)=0.008 *9*
216.1[#]	0.02[#]	560.3	3/2$^+$	344.5	1/2$^+$	[M1+E2]		0.068 *23*	α(K)=0.058 *18*; α(L)=0.008 *4*; α(M)=0.0016 *7*; α(N+..)=0.00026 *11* α(N)=0.00026 *11*
280.53	3.5	280.5	3/2$^+$	0.0	5/2$^+$	M1+E2	+0.143 *7*	0.0238	α(K)=0.0207 *3*; α(L)=0.00249 *4*; α(M)=0.000469 *7*; α(N+..)=7.89$\times10^{-5}$ *12* α(N)=7.89$\times10^{-5}$ *12* δ: +0.11 *3* in 1958Ra01, +0.035 *22* in 1962Bh03, +0.013 *3* in 1972Be67 and +0.07 *7* in 1976Ba39.
306.29	18.5	306.3	7/2$^+$	0.0	5/2$^+$	M1+E2	+0.055 *2*	0.0188	α(K)=0.01640 *23*; α(L)=0.00196 *3*; α(M)=0.000368 *6*; α(N+..)=6.20$\times10^{-5}$ *9* α(N)=6.20$\times10^{-5}$ *9*
319.23	90	319.3	5/2$^+$	0.0	5/2$^+$	M1+E2	+0.103 *8*	0.01697	α(K)=0.01481 *21*; α(L)=0.001769 *25*; α(M)=0.000332 *5*; α(N+..)=5.60$\times10^{-5}$ *8* α(N)=5.60$\times10^{-5}$ *8*
344.61[#]	0.016[#]	344.5	1/2$^+$	0.0	5/2$^+$	E2		0.0188	α(K)=0.01611 *23*; α(L)=0.00219 *3*; α(M)=0.000413 *6*; α(N+..)=6.80$\times10^{-5}$ *10* α(N)=6.80$\times10^{-5}$ *10*
370	1.2	929.6	(5/2$^+$)	560.3	3/2$^+$	[M1+E2]		0.0133 *17*	α(K)=0.0115 *14*; α(L)=0.0015 *3*; α(M)=0.00028 *5*; α(N+..)=4.6$\times10^{-5}$ *8* α(N)=4.6$\times10^{-5}$ *8*
442.25	8.5	442.3	(7/2)$^+$	0.0	5/2$^+$	M1+E2	−0.23 *6*	0.00756 *11*	α=0.00756 *11*; α(K)=0.00661 *10*; α(L)=0.000784 *13*; α(M)=0.0001471 *23*; α(N+..)=2.48$\times10^{-5}$ α(N)=2.48$\times10^{-5}$ *4*
475.1	0.5	781.3	9/2$^+$	306.3	7/2$^+$	[M1+E2]		0.0066 *4*	α=0.0066 *4*; α(K)=0.0058 *3*; α(L)=0.00071 *6*; α(M)=0.000133 *12*; α(N+..)=2.23$\times10^{-5}$ *18* α(N)=2.23$\times10^{-5}$ *18*
487.1	2.6	929.6	(5/2$^+$)	442.3	(7/2)$^+$	[M1+E2]		0.0062 *3*	α=0.0062 *3*; α(K)=0.00539 *21*; α(L)=0.00066 *6*; α(M)=0.000124 *10*; α(N+..)=2.08$\times10^{-5}$ *15* α(N)=2.08$\times10^{-5}$ *15*
560.79	4.2	560.3	3/2$^+$	0.0	5/2$^+$	M1+E2		0.00427 *7*	α=0.00427 *7*; α(K)=0.00372 *6*; α(L)=0.000451 *18*; α(M)=8.5$\times10^{-5}$ *4*; α(N+..)=1.42$\times10^{-5}$ *5* α(N)=1.42$\times10^{-5}$ *5*
610.1	1.9	929.6	(5/2$^+$)	319.3	5/2$^+$	[M1+E2]		0.00345 *6*	α=0.00345 *6*; α(K)=0.00300 *6*; α(L)=0.000361 *8*;

$\gamma(^{105}$Pd) (continued)

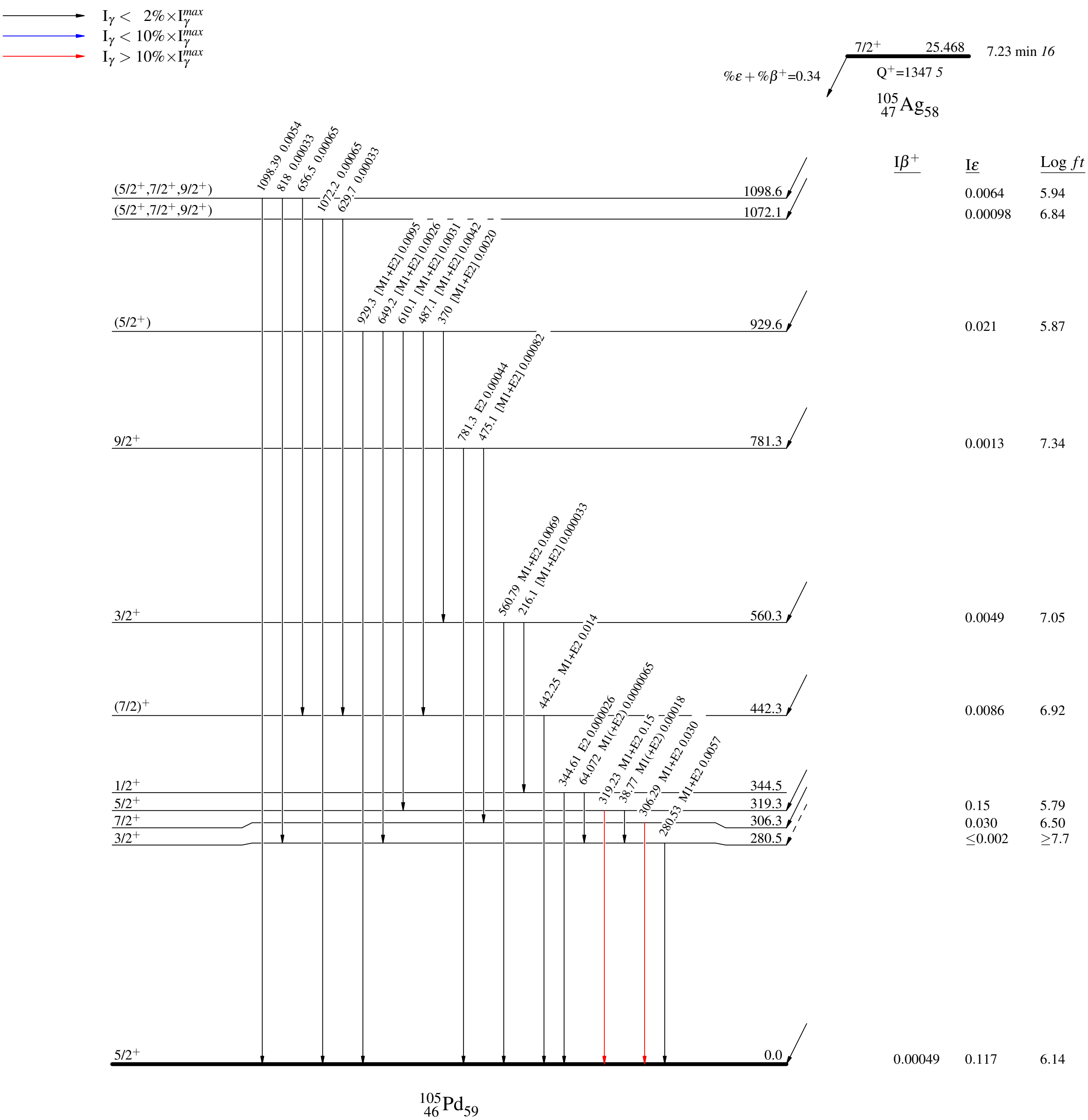
E_γ[‡]	I_γ[‡@]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[#]	α[†]	Comments
								α(M)=6.78×10^{-5} *16*; α(N+..)=1.138×10^{-5} *22* α(N)=1.138×10^{-5} *22*
629.7	0.2	1072.1	(5/2$^+$,7/2$^+$,9/2$^+$)	442.3	(7/2)$^+$			
649.2	1.6	929.6	(5/2$^+$)	280.5	3/2$^+$	[M1+E2]	0.00295 *7*	α=0.00295 *7*; α(K)=0.00257 *7*; α(L)=0.000308 *5*; α(M)=5.78×10^{-5} *9*; α(N+..)=9.70×10^{-6} *14* α(N)=9.70×10^{-6} *14*
656.5	0.4	1098.6	(5/2$^+$,7/2$^+$,9/2$^+$)	442.3	(7/2)$^+$			
781.3	0.27	781.3	9/2$^+$	0.0	5/2$^+$	E2	0.00180 *3*	α=0.00180 *3*; α(K)=0.001571 *22*; α(L)=0.000189 *3*; α(M)=3.55×10^{-5} *5*; α(N+..)=5.95×10^{-6} *9* α(N)=5.95×10^{-6} *9*
818	0.2	1098.6	(5/2$^+$,7/2$^+$,9/2$^+$)	280.5	3/2$^+$			
929.3	5.8	929.6	(5/2$^+$)	0.0	5/2$^+$	[M1+E2]	0.00126 *7*	α=0.00126 *7*; α(K)=0.00110 *7*; α(L)=0.000129 *6*; α(M)=2.41×10^{-5} *11*; α(N+..)=4.07×10^{-6} *20* α(N)=4.07×10^{-6} *20*
1072.2	0.4	1072.1	(5/2$^+$,7/2$^+$,9/2$^+$)	0.0	5/2$^+$			
1098.39	3.3	1098.6	(5/2$^+$,7/2$^+$,9/2$^+$)	0.0	5/2$^+$			

† Additional information 1.
‡ From ^{105}Ag ε decay (7.23 min) (1996Me17), unless otherwise noted.
# From the adopted gammas.
@ For absolute intensity per 100 decays, multiply by 0.0016 *3*.

^{105}Ag ε decay (7.23 min) 1996Me17,1972Kr28

Decay Scheme

Intensities: I_γ per 100 parent decays



^{64}Ni(^{48}Ca,α3nγ) 1988Ma38

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Lalkovski, J. Timar and Z. Elekes	NDS 161, 1 (2019)	1-Apr-2019

1988Ma38: Facility: LBL 88-inch cyclotron; Beam: E(^{48}Ca)=200 MeV; Target: two stacked 0.50 mg/cm^2 thick, self supporting ^{64}Ni foils; Detectors: HERA, comprising 20 Compton-suppressed Ge detectors; Measured: γ-γ-γ coinc., Eγ, Iγ; Deduced: ^{105}Ru level scheme: Also from the same collaboration: 1988BeZG, 1988MaZJ.

^{105}Pd Levels

E(level)†	J$^\pi$‡	E(level)†	J$^\pi$‡	E(level)†	J$^\pi$‡	E(level)†	J$^\pi$‡
0	5/2+	3296&	(23/2)+	8128&	(43/2+)	x+6955#	[63/2+]
306&	7/2+	3800@	(27/2−)	8410@	(43/2−)	x+8675#	[67/2+]
489@	11/2−	3874&	(27/2)+	9441&	(47/2+)	x+10521#	[71/2+]
970@	(15/2−)	4669&	(31/2+)	10876&	(51/2+)	x+12528#	[75/2+]
1012&	(11/2+)	4953@	(31/2−)	x#	[43/2+]	x+14669#	[79/2+]
1742@	(19/2)−	5683&	(35/2+)	x+1209#	[47/2+]	x+16909?#	[83/2+]
1903&	(15/2)+	6073@	(35/2−)	x+2491#	[51/2+]		
2700@	(23/2)−	6861&	(39/2+)	x+3870#	[55/2+]		
2757&	(19/2)+	7193@	(39/2−)	x+5358#	[59/2+]		

† From Eγ.
‡ From 1988Ma38, based on the observed band structure; SD band head J^π is based on the observed feeding to the (39/2+) level.
# Band(A): Probable member of a ΔJ=2 Superdeformed band.
@ Band(B): Member of a ΔJ=2 band on 11/2− level.
& Band(C): Member of a ΔJ=2 band on 7/2+ level.

γ(^{105}Pd)

E$_\gamma$†	I$_\gamma$†	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	E$_\gamma$†	I$_\gamma$†	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$
183		489	11/2−	306	7/2+	1178	24 *10*	6861	(39/2+)	5683	(35/2+)
306	50 *10*	306	7/2+	0	5/2+	1209	51 *10*	x+1209	[47/2+]	x	[43/2+]
481	50 *10*	970	(15/2−)	489	11/2−	1217		8410	(43/2−)	7193	(39/2−)
539	41 *10*	3296	(23/2)+	2757	(19/2)+	1267		8128	(43/2+)	6861	(39/2+)
578	41 *10*	3874	(27/2)+	3296	(23/2)+	1282	47 *10*	x+2491	[51/2+]	x+1209	[47/2+]
706	50 *10*	1012	(11/2+)	306	7/2+	1313		9441	(47/2+)	8128	(43/2+)
772	52 *10*	1742	(19/2)−	970	(15/2−)	1379	96 *10*	x+3870	[55/2+]	x+2491	[51/2+]
795	35 *10*	4669	(31/2+)	3874	(27/2)+	1435		10876	(51/2+)	9441	(47/2+)
854	45 *10*	2757	(19/2)+	1903	(15/2)+	1488	105 *10*	x+5358	[59/2+]	x+3870	[55/2+]
891	51 *10*	1903	(15/2)+	1012	(11/2+)	1597	110 *10*	x+6955	[63/2+]	x+5358	[59/2+]
958	53 *10*	2700	(23/2)−	1742	(19/2)−	1720	100 *10*	x+8675	[67/2+]	x+6955	[63/2+]
1014	35 *10*	5683	(35/2+)	4669	(31/2+)	1846	60 *10*	x+10521	[71/2+]	x+8675	[67/2+]
1100		3800	(27/2−)	2700	(23/2)−	2007	55 *10*	x+12528	[75/2+]	x+10521	[71/2+]
1120		6073	(35/2−)	4953	(31/2−)	2141	30 *10*	x+14669	[79/2+]	x+12528	[75/2+]
1120		7193	(39/2−)	6073	(35/2−)	2240‡	12 *10*	x+16909?	[83/2+]	x+14669	[79/2+]
1153		4953	(31/2−)	3800	(27/2−)						

† From 1988Ma38.
‡ Placement of transition in the level scheme is uncertain.

$^{64}Ni(^{48}Ca,\alpha 3n\gamma)$ 1988Ma38

Legend

Level Scheme

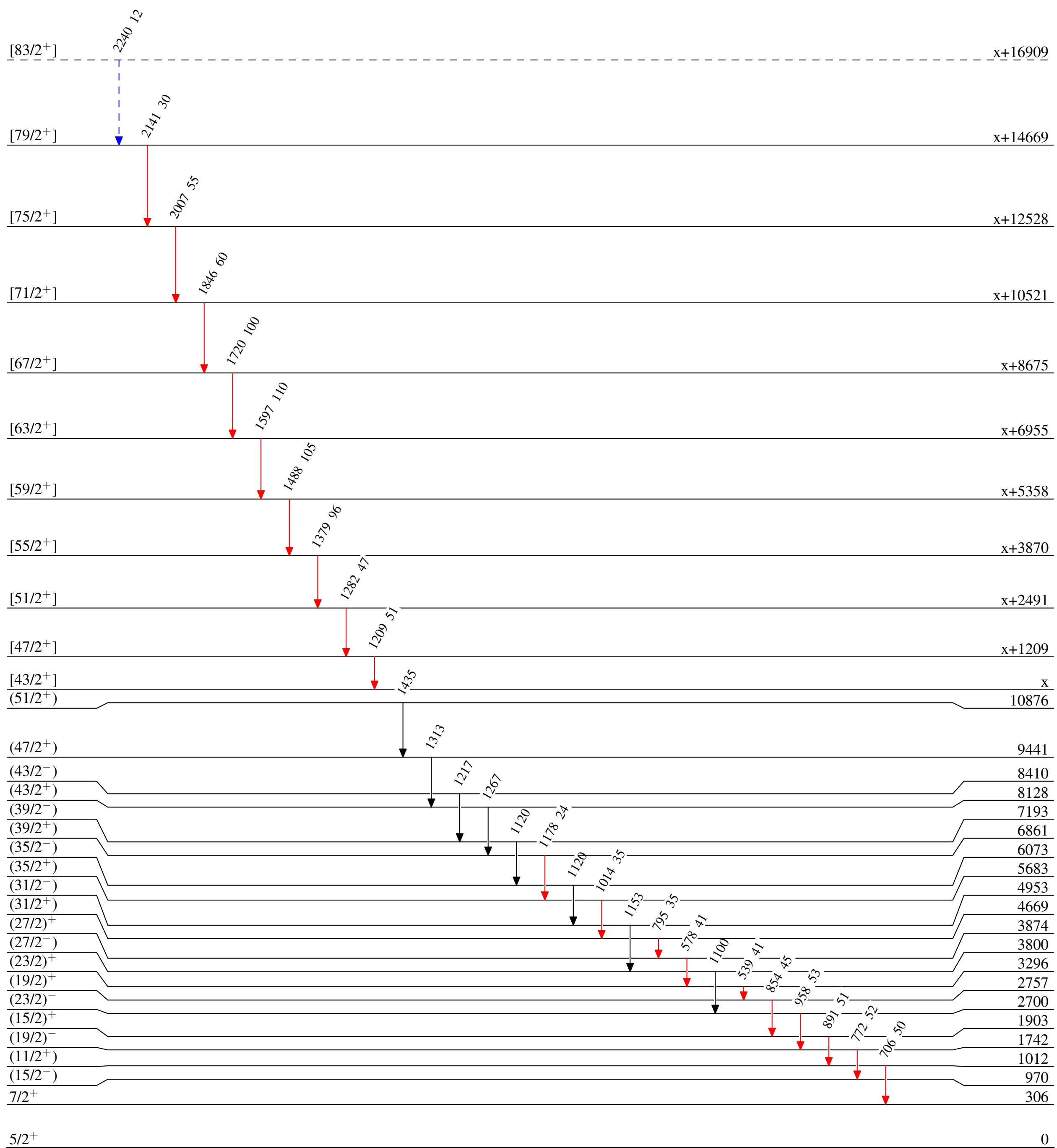
Intensities: Type not specified

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

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

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

γ Decay (Uncertain)

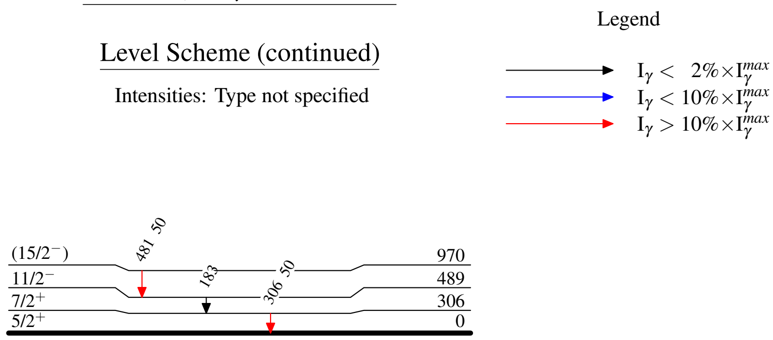


$^{105}_{46}Pd_{59}$

^{64}Ni(^{48}Ca,α3nγ) 1988Ma38

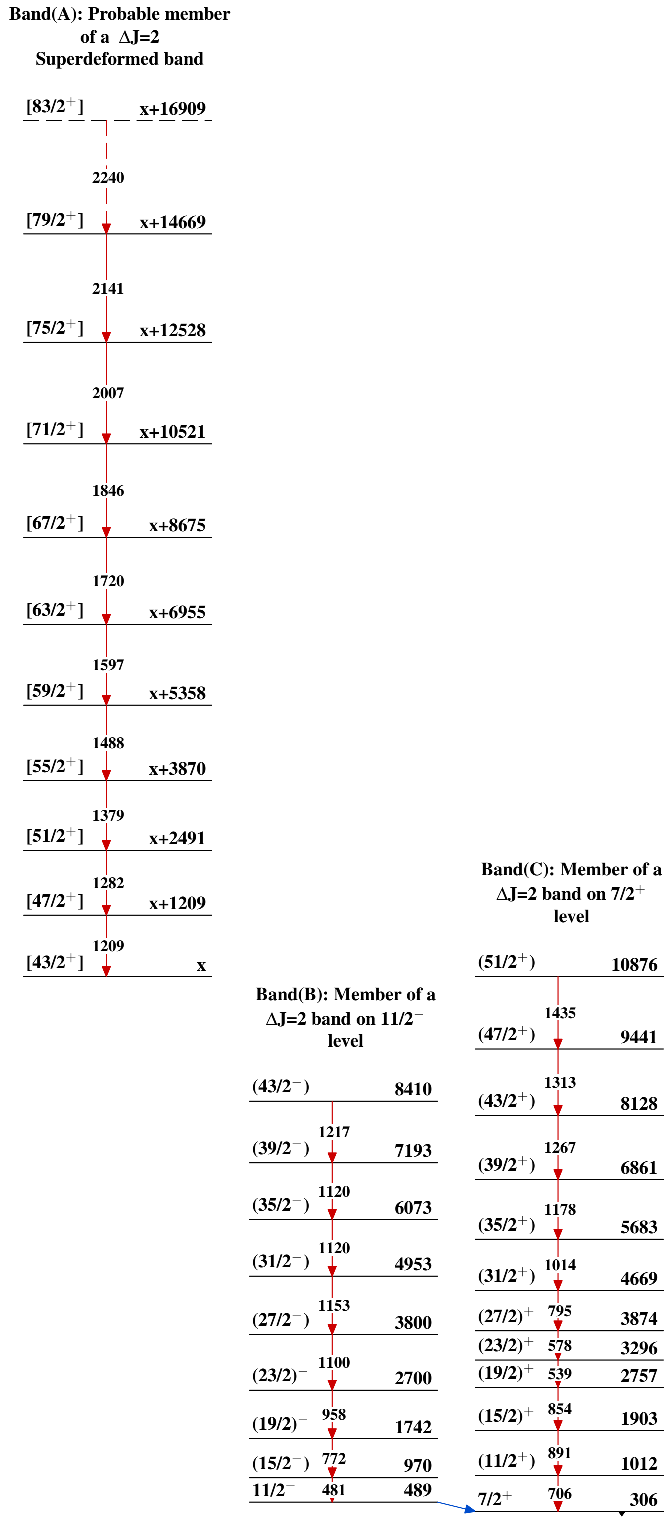
Level Scheme (continued)

Intensities: Type not specified



$^{105}_{46}Pd_{59}$

^{64}Ni(^{48}Ca,α3nγ) 1988Ma38



$^{105}_{46}Pd_{59}$

^{96}Zr(^{13}C,4nγ),^{96}Zr(^{12}C,3nγ) 2019Ti02,1977Ri05

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Lalkovski, J. Timar and Z. Elekes	NDS 161, 1 (2019)	1-Apr-2019

2019Ti02: Facility: IReS Vivitron accelerator lab; Beam: ^{13}C; Target: two self-supporting≈0.6 mg/cm^2 thick targets enriched to 86% in ^{96}Zr; Detectors: EUROBALL IV, comprising 24 Clover and 15 Cluster HPGe and DIAMANT charged-particle detector, comprising 88 CsI crystals; Measured: γ-γ-γ coinc., γ-$\gamma(\theta)$, γ -ray linear polarization, Eγ; Deduced: γ-ray Mult., δ, J^π, ^{105}Pd level scheme.

1977Ri05: Facility: Purdue Univ. Van de Graaf accelerator; Beam: E(^{12}C)=45 MeV; Target: 2 mg/cm^2 thick enriched to 85% in ^{96}Zr; Detectors: three Ge(Li) detectors; Measured: exc. function, γ, γ-γ coinc., γ-$\gamma(\theta)$, Eγ, Iγ; Deduced: γ-ray Mult., J^π, ^{105}Pd level scheme, band structure.

Others: 2014RaZR, 1977GrZU, 1974RiYS, 1974SmZV, 1973Ri10.

^{105}Pd Levels

E(level)[†]	J$^\pi$[‡]	E(level)[†]	J$^\pi$[‡]	E(level)[†]	J$^\pi$[‡]
0.0	5/2$^+$[@]	2197.22 *19*	(15/2)$^+$[@]	3527.87 *17*	(25/2)$^+$[b]
306.28 *5*	7/2$^+$[&]	2280.81 *22*	(17/2)$^-$	3694.62 *19*	(25/2$^-$)[d]
319.28 *10*	5/2$^+$	2344.78 *15*	(19/2)$^-$	3800.71 *15*	(27/2$^-$)[a]
442.40 *4*	7/2$^+$[@]	2491.1 *3*	(19/2$^-$)	3859.6 *5*	(25/2$^-$)[#c]
489.20 *7*	11/2$^-$[a]	2552.24 *14*	(17/2)$^+$[@]	3873.31 *19*	(27/2)$^+$[&]
781.95 *4*	9/2$^+$[@]	2565.11 *12*	(17/2)$^+$	4254.7 *3*	(29/2)$^+$[b]
902.02 *12*	(5/2,7/2,9/2)$^+$	2700.46 *10*	(23/2)$^-$[a]	4668.5 *4*	(31/2$^+$)[&]
970.20 *8*	(15/2)$^-$[a]	2704.14 *18*	(19/2$^-$)	4783.6 *7*	(29/2$^-$)[d]
1011.78 *7*	(11/2)$^+$[&]	2756.19 *14*	(19/2)$^+$[&]	4953.35 *25*	(31/2$^-$)[a]
1271.43 *8*	(11/2)$^+$[@]	2775.81 *13*	(21/2$^-$)[d]	4956.1 *8*	(29/2$^-$)[#c]
1357.3 *6*	(13/2$^-$)[#d]	2806.80 *13*	(19/2)$^+$[@]	5255.6 *4*	(33/2$^+$)[b]
1671.21 *10*	(13/2)$^+$[@]	2900.97 *13*	(21/2$^-$)[c]	5847.7 *12*	(33/2$^-$)[d]
1742.03 *9*	(19/2)$^-$[a]	3073.06 *15*	(21/2)$^+$[b]	6072.4 *11*	(35/2$^-$)[#a]
1749.68 *19*	(13/2)$^+$	3119.46 *16*	(21/2)$^+$[@]	6995.7 *16*	(37/2$^-$)[#d]
1763.35 *14*	(15/2)$^-$	3153.51 *18*	(23/2)$^-$	7191.4 *15*	(39/2$^-$)[#a]
1902.17 *14*	(15/2)$^+$[&]	3295.03 *19*	(23/2)$^+$[&]	8297.7 *19*	(41/2$^-$)[#d]
1961.58 *10*	(17/2)$^-$[d]	3468.84 *22*	(23/2)$^+$[@]	8406.4 *18*	(43/2$^-$)[#a]

† From a least-squares fit to Eγ.

‡ From ^{96}Zr(^{12}C,3nγ) (1977Ri05), based on γ-ray multipolarity, except where noted.

\# From ^{96}Zr(^{13}C,4nγ) (2019Ti02), based on γ-ray Mult.

@ Member of ΔJ=2 band built on J^π=5/2$^+$; configuration=$\nu 2d_{5/2}$.

& Member of ΔJ=2 band built on J^π=7/2$^+$; configuration=$\nu 1g_{7/2}$.

a Member of ΔJ=2 band built on J^π=11/2$^-$; configuration=$\nu 1h_{11/2}$; upband configuration=$\nu 1h^3_{11/2}$.

b Member of ΔJ=2 band built on J^π=(21/2)$^+$; configuration=$\nu 1h^{-2}_{11/2} d_{5/2}$.

c Member of ΔJ=2 wobbling band, based on (13/2$^-$).

d Memebr of ΔJ=2 wobbling band signature partner, based on (21/2$^-$).

^{96}Zr(^{13}C,4nγ),^{96}Zr(^{12}C,3nγ) 2019Ti02,1977Ri05 (continued)

γ(^{105}Pd)

E_γ†	I_γ†	E_i(level)	J_i^π	E_f	J_f^π	Mult.‡	δ‡	Comments
182.91 *5*	52.1 *11*	489.20	11/2⁻	306.28	7/2⁺	[M2]		Mult.: A_{22}=0.03 *4*, A_{44}=0.00 *4* (1977Ri05).
229.82 *20*	0.6 *1*	1011.78	(11/2)⁺	781.95	9/2⁺	M1+E2	−0.05 *9*	Mult.: A_{22}=−0.33 *15*, A_{44}=0.21 *19* (1977Ri05).
232.8 *3*	0.4 *1*	3527.87	(25/2)⁺	3295.03	(23/2)⁺	M1+E2	−0.27 *7*	Mult.: A_{22}=−0.69 *10*, A_{44}=0.14 *13* (1977Ri05).
241.6 *2*	0.3 *1*	2806.80	(19/2)⁺	2565.11	(17/2)⁺			
254.53 *10*	4.6 *1*	2806.80	(19/2)⁺	2552.24	(17/2)⁺	M1+E2	+0.09 *1*	Mult.: A_{22}=−0.11 *3*, A_{44}=0.04 *4* (1977Ri05); R_{DCO}=1.64 *18* (1977Ri05). δ: Also: 0.13 *4* from DCO measurements in 1977Ri05.
306.29 *5*	100	306.28	7/2⁺	0.0	5/2⁺	M1(+E2)	+0.02 *4*	Mult.: A_{22}=−0.048 *10*, A_{44}=0.015 *10* (1977Ri05); R_{DCO}=2.19 *6* (1977Ri05). δ: Also: 0.01 *1* from DCO measurements in 1977Ri05.
312.67 *10*	3.4 *2*	3119.46	(21/2)⁺	2806.80	(19/2)⁺	M1+E2	+0.12 *3*	Mult.: A_{22}=−0.05 *3*, A_{44}=−0.01 *4* (1977Ri05); R_{DCO}=1.60 *17* (1977Ri05). δ: Also: 0.11 *4* from DCO measurements in 1977Ri05.
319.28 *10*	2.9 *2*	319.28	5/2⁺	0.0	5/2⁺	M1+E2	−0.07 *10*	Mult.: A_{22}=0.21 *4*, A_{44}=0.01 *5* (1977Ri05); R_{DCO}=1.08 *19* (1977Ri05). δ: other: 1.9 *7* (1977Ri05); Also: −0.05 *17* from DCO measurements in 1977Ri05.
339.55 *5*	5.4 *2*	781.95	9/2⁺	442.40	7/2⁺	M1(+E2)	−0.04 *4*	Mult.: A_{22}=−0.29 *5*, A_4=0.03 *8* (1977Ri05); R_{DCO}=2.5 *5* (1977Ri05). δ: Also: −0.08 *8* from DCO measurements in 1977Ri05.
349.38 *15*	2.3 *2*	3468.84	(23/2)⁺	3119.46	(21/2)⁺	M1+E2	+0.14 *2*	Mult.: A_{22}=−0.02 *3*, A_{44}=0.01 *5* (1977Ri05); R_{DCO}=1.6 *3* (1977Ri05). δ: Also: 0.11 *6* from DCO measurements in 1977Ri05.
367.9 *2*	0.5 *1*	2565.11	(17/2)⁺	2197.22	(15/2)⁺			
372.6 *2*	0.4 *1*	3073.06	(21/2)⁺	2700.46	(23/2)⁻	E1+M2	−0.20 *13*	Mult.: A_{22}=0.13 *20*, A_{44}=−0.0 *3* (1977Ri05).
387#		1357.3	(13/2⁻)	970.20	(15/2)⁻			
399.76 *10*	3.3 *2*	1671.21	(13/2)⁺	1271.43	(11/2)⁺	M1+E2	−0.08 *4*	Mult.: A_{22}=−0.38 *4*, A_{44}=−0.05 *5* (1977Ri05); R_{DCO}=3.9 *11* (1977Ri05). δ: Also: −0.19 *11* from DCO measurements in 1977Ri05.
442.39 *5*	10.2 *3*	442.40	7/2⁺	0.0	5/2⁺	M1+E2	−0.33 *13*	Mult.: A_{22}=−0.610 *21*, A_{44}=0.031 *24* (1977Ri05); R_{DCO}=4.1 *7* (1977Ri05). δ: Also, −0.20 *7* from DCO in 1977Ri05 and −0.37 *8* from DCO in 2019Ti02.
452.98 *20*	1.9 *2*	3153.51	(23/2)⁻	2700.46	(23/2)⁻	M1(+E2)	0.0 *6*	Mult.: A_{22}=0.42 *5*, A_{44}=−0.13 *8* (1977Ri05); R_{DCO}=0.8 *3* (1977Ri05). δ: Also: 0.0 *7* from DCO measurements in 1977Ri05.
454.82 *10*	7.6 *3*	3527.87	(25/2)⁺	3073.06	(21/2)⁺	E2		Mult.: A_{22}=0.36 *3*, A_{44}=−0.07 *4* (1977Ri05); R_{DCO}=1.19 *12* (1977Ri05).

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$^{96}Zr(^{13}C,4n\gamma),^{96}Zr(^{12}C,3n\gamma)$ 2019Ti02,1977Ri05 (continued)

$\gamma(^{105}Pd)$ (continued)

E_γ †	I_γ †	E_i(level)	J_i^π	E_f	J_f^π	Mult.‡	δ‡	Comments
459.6 *3*	1.2 *2*	902.02	(5/2,7/2,9/2)$^+$	442.40	7/2$^+$	M1+E2	+0.24 *9*	Mult.: A_{22}=0.10 *11*, A_{44}=−0.07 *4* (1977Ri05).
481.00 *5*	66.4 *14*	970.20	(15/2)$^-$	489.20	11/2$^-$	E2		Mult.: A_{22}=0.334 *9*, A_{44}=−0.084 *9* (1977Ri05); R_{DCO}=0.99 *2* (1977Ri05).
489.49 *10*	2.8 *2*	1271.43	(11/2)$^+$	781.95	9/2$^+$	M1+E2	−0.13 *6*	Mult.: A_{22}=−0.46 *5*, A_{44}=0.04 *6* (1977Ri05); R_{DCO}=3.1 *10* (1977Ri05). δ: Also: −0.05 *8* from DCO measurements in 1977Ri05.
508.0 *3*	5.0 *4*	3073.06	(21/2)$^+$	2565.11	(17/2)$^+$	E2		Mult.: A_{22}=0.263 *23*, A_{44}=−0.10 *3* (1977Ri05); R_{DCO}=0.91 *9* (1977Ri05).
538.83 *15*	7.7 *3*	3295.03	(23/2)$^+$	2756.19	(19/2)$^+$	E2		Mult.: A_{22}=0.358 *19*, A_{44} −0.08 *3* (1977Ri05); R_{DCO}=1.02 *5* (1977Ri05).
578.27 *5*	5.6 *2*	3873.31	(27/2)$^+$	3295.03	(23/2)$^+$	E2		Mult.: A_{22}=0.44 *3*, A_{44}=−0.11 *4* (1977Ri05); R_{DCO}=1.04 *6* (1977Ri05).
581.45 *25*	1.5 *3*	2344.78	(19/2)$^-$	1763.35	(15/2)$^-$	E2		Mult.: A_{22}=0.46 *5*, A_{44}=−0.11 *7* (1977Ri05); R_{DCO}=0.9 *5* (1977Ri05).
582.74 *25*	1.9 *2*	902.02	(5/2,7/2,9/2)$^+$	319.28	5/2$^+$	E2		Mult.: A_{22}=0.46 *5*, A_{44}=−0.11 *7* (1977Ri05); R_{DCO}=0.92 *16* (1977Ri05).
595.73 *15*	2.9 *2*	902.02	(5/2,7/2,9/2)$^+$	306.28	7/2$^+$	M1+E2	+0.16 *3*	Mult.: A_{22}=−0.01 *3*, A_{44}=0.02 *4* (1977Ri05); R_{DCO}=2.4 *5* (1977Ri05). δ: Also: −0.04 *8* from DCO measurements in 1977Ri05.
602.78 *15*	3.8 *3*	2344.78	(19/2)$^-$	1742.03	(19/2)$^-$	M1+E2	−0.01 *60*	Mult.: A_{22}=0.42 *3*, A_{44}=−0.04 *5* (1977Ri05); R_{DCO}=0.86 *13* (1977Ri05). δ: Also: 0.0 *5* from DCO measurements in 1977Ri05.
604#		1961.58	(17/2)$^-$	1357.3	(13/2$^-$)			
649.9 *3*	1.1 *3*	2552.24	(17/2)$^+$	1902.17	(15/2)$^+$			
705.50 *5*	14.8 *4*	1011.78	(11/2)$^+$	306.28	7/2$^+$	E2		Mult.: A_{22}=0.346 *17*, A_{44}=−0.102 *24* (1977Ri05); R_{DCO}=0.99 *4* (1977Ri05).
726.8 *2*	4.2 *3*	4254.7	(29/2)$^+$	3527.87	(25/2)$^+$	E2		Mult.: A_{22}=0.26 *3*, A_{44}=−0.02 *4* (1977Ri05); R_{DCO}=0.91 *16* (1977Ri05).
749.1 *4*	1.9 *3*	2491.1	(19/2$^-$)	1742.03	(19/2)$^-$			
771.83 *5*	47.9 *11*	1742.03	(19/2)$^-$	970.20	(15/2)$^-$	E2		Mult.: A_{22}=0.353 *10*, A_{44}=−0.104 *11* (1977Ri05); R_{DCO}=0.96 *2* (1977Ri05).
781.94 *5*	6.9 *2*	781.95	9/2$^+$	0.0	5/2$^+$	E2		Mult.: A_{22}=0.33 *3*, A_{44}=−0.05 *4* (1977Ri05); R_{DCO}=1.01 *18* (1977Ri05).
793.17 *25*	3.7 *4*	1763.35	(15/2)$^-$	970.20	(15/2)$^-$	M1+E2	+1.0 *5*	Mult.: A_{22}=0.28 *4*, A_{44}, −0.08 *6* (1977Ri05); R_{DCO}=1.2 *3* (1977Ri05). δ: Also: 1.0 *5* from DCO measurements in 1977Ri05.
794#		3694.62	(25/2$^-$)	2900.97	(21/2$^-$)			

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$^{96}Zr(^{13}C,4n\gamma),^{96}Zr(^{12}C,3n\gamma)$ 2019Ti02,1977Ri05 (continued)

$\gamma(^{105}Pd)$ (continued)

E_γ [†]	I_γ [†]	E_i(level)	J^π_i	E_f	J^π_f	Mult. [‡]	δ [‡]	Comments
795.23 *25*	2.3 *2*	4668.5	(31/2+)	3873.31	(27/2)+	(E2)		Mult.: A_{22}=0.28 *4*, A_{44}=−0.08 *6* (1977Ri05); R_{DCO}=1.21 *18* (1977Ri05).
808.8 *2*	3.3 *4*	3153.51	(23/2)−	2344.78	(19/2)−	E2		Mult.: A_{22}=0.28 *5*, A_{44}=−0.07 *8* (1977Ri05); R_{DCO}=1.0 *3* (1977Ri05).
814.22 *20*	1.5 *3*	2775.81	(21/2−)	1961.58	(17/2)−	(E2)		Mult.: A_{22}=0.27 *8*, A_{44}=−0.01 *11* (1977Ri05); R_{DCO}=0.7 *3* (1977Ri05).
815.4 *2*	1.6 *2*	2565.11	(17/2)+	1749.68	(13/2)+	E2		Mult.: A_{22}=0.27 *8*, A_{44}=−0.01 *11* (1977Ri05); R_{DCO}=1.07 *23* (1977Ri05).
829.02 *10*	4.0 *2*	1271.43	(11/2)+	442.40	7/2+	E2		Mult.: A_{22}=0.20 *5*, A_{44}=−0.09 *7* (1977Ri05); R_{DCO}=1.2 *4* (1977Ri05).
847.6 *3*	2.9 *3*	1749.68	(13/2)+	902.02	(5/2,7/2,9/2)+	E2		Mult.: R_{DCO}=1.12 *21* (1977Ri05).
854.02 *5*	10.2 *3*	2756.19	(19/2)+	1902.17	(15/2)+	E2		Mult.: A_{22}=0.326 *25*, A_{44}=−0.08 *4* (1977Ri05); R_{DCO}=1.02 *5* (1977Ri05).
868 [#]		1357.3	(13/2−)	489.20	11/2−			
881.00 *20*	4.3 *5*	2552.24	(17/2)+	1671.21	(13/2)+	E2		Mult.: A_{22}=0.376 *24*, A_{44}=−0.18 *3* (1977Ri05); R_{DCO}=1.0 *3* (1977Ri05).
889.24 *25*	9.4 *7*	1671.21	(13/2)+	781.95	9/2+	E2		Mult.: A_{22}=0.329 *16*, A_{44}=−0.06 *21* (1977Ri05); R_{DCO}=1.15 *20* (1977Ri05).
890.55 *25*	13.7 *7*	1902.17	(15/2)+	1011.78	(11/2)+	E2		Mult.: A_{22}=0.329 *16*, A_{44}=−0.096 *21* (1977Ri05); R_{DCO}=0.96 *4* (1977Ri05).
893.88 *10*	4.0 *2*	2565.11	(17/2)+	1671.21	(13/2)+	(E2)		Mult.: A_{22}=0.37 *5*, A_{44}=−0.11 *7* (1977Ri05); R_{DCO}=0.81 *14*.
904.7 *1*	1.2 *2*	2806.80	(19/2)+	1902.17	(15/2)+	E2		Mult.: A_{22}=0.37 *19*, A_{44}=−0.3 *3* (1977Ri05); R_{DCO}=1.0 *4* (1977Ri05).
918.8 *3*	1.8 *3*	3694.62	(25/2−)	2775.81	(21/2−)	E2		Mult.: R_{DCO}=1.0 *4* (1977Ri05).
924 [#]		4783.6	(29/2−)	3859.6	(25/2−)			
925.8 *3*	1.8 *5*	2197.22	(15/2)+	1271.43	(11/2)+	E2		Mult.: R_{DCO}=0.7 *3* (1977Ri05).
939.4 *3*	1.1 *3*	2900.97	(21/2−)	1961.58	(17/2)−			
958.42 *5*	20.2 *5*	2700.46	(23/2)−	1742.03	(19/2)−	E2		Mult.: A_{22}=0.283 *19*, A_{44}=−0.075 *24* (1977Ri05); R_{DCO}=1.12 *4* (1977Ri05).
959 [#]		3859.6	(25/2−)	2900.97	(21/2−)			
962.10 *15*	3.0 *3*	2704.14	(19/2−)	1742.03	(19/2)−	M1+E2	+0.2 *4*	Mult.: A_{22}=0.42 *4*, A_{44}=−0.08 *5* (1977Ri05); R_{DCO}=0.93 *24* (1977Ri05). δ: Also: 0.2 *6* from DCO measurements in 1977Ri05.
983 [#]		4783.6	(29/2−)	3800.71	(27/2−)			
991.38 *5*	7.7 *4*	1961.58	(17/2)−	970.20	(15/2)−	M1+E2	1.8 *5*	Mult.: A_{22}=0.436 *25*, A_{44}=0.01 *3* (1977Ri05); R_{DCO}=0.58 *8* (1977Ri05). δ: from DCO and linear pol. in 2019Ti02; Also: +0.46 *10* or 1.3 *7* from DCO measurements in 1977Ri05.
994.12 *20*	1.6 *3*	3694.62	(25/2−)	2700.46	(23/2)−	M1+E2	2.7 *6*	Mult.: A_{22}=0.8 *3*, A_{44}=−0.2 *4* (1977Ri05). δ: from DCO and linear pol. in 2019Ti02; Also: +1.5 *10* in 1977Ri05.

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^{96}Zr(^{13}C,4nγ),^{96}Zr(^{12}C,3nγ) 2019Ti02,1977Ri05 (continued)

γ(^{105}Pd) (continued)

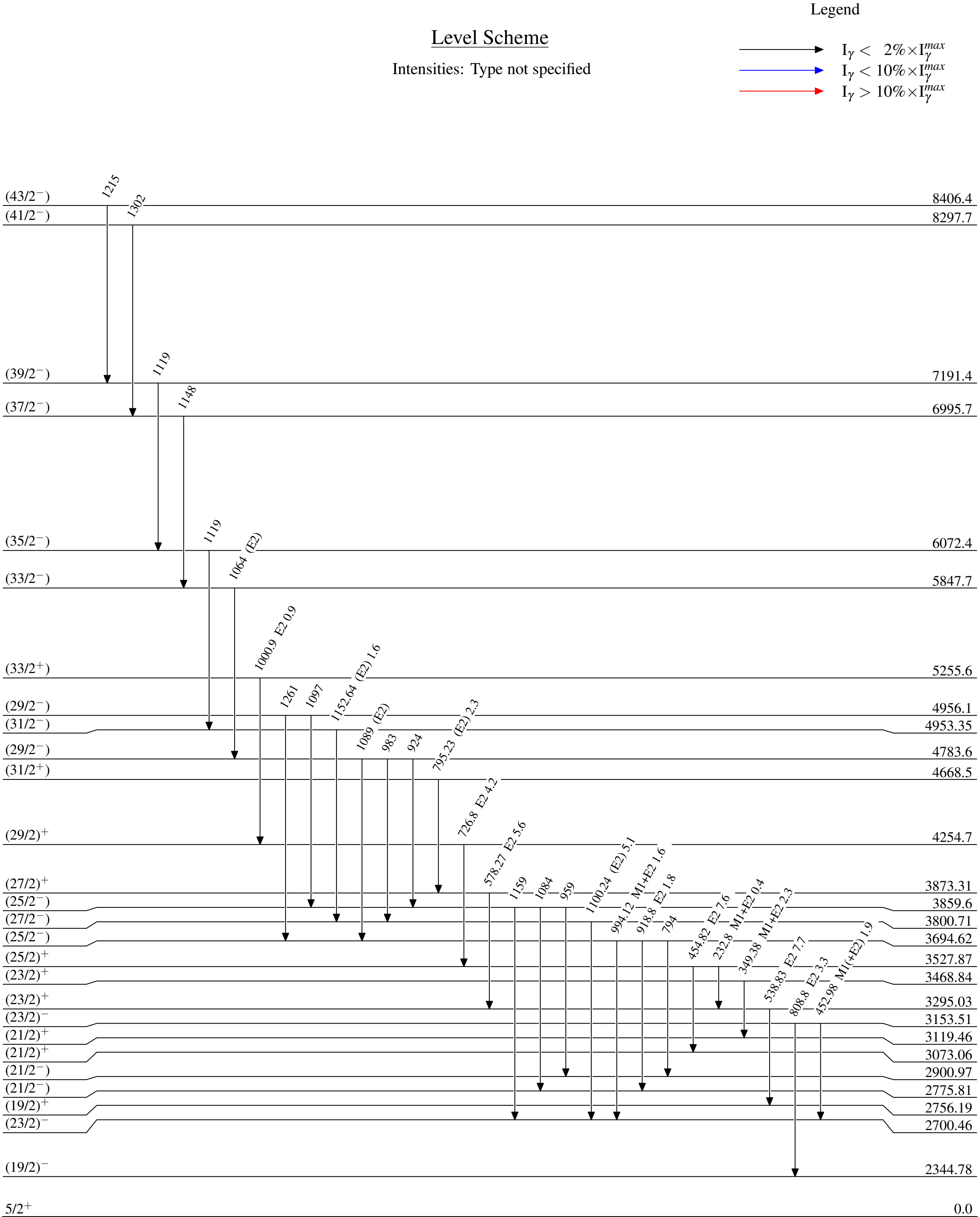
E_γ†	I_γ†	E_i(level)	J^π_i	E_f	J^π_f	Mult.‡	δ‡	Comments
1000.9 *3*	0.9 *2*	5255.6	(33/2$^+$)	4254.7	(29/2)$^+$	E2		Mult.: A_{22}=0.02 *9*, A_{44}=0.04 *14* (1977Ri05); R_{DCO}=0.9 *3* (1977Ri05).
1014.3 *3*	1.9 *3*	2756.19	(19/2)$^+$	1742.03	(19/2)$^-$	E1+M2	−0.25 *25*	Mult.: A_{22}=0.28 *8*, A_{44}=−0.05 *11* (1977Ri05); R_{DCO}1.0 3 (1977Ri05). δ: Also: 0.08 *8* from DCO measurements in 1977Ri05.
1033.77 *10*	3.0 *2*	2775.81	(21/2$^-$)	1742.03	(19/2)$^-$	M1+E2	2.3 *3*	Mult.: A_{22}=0.57 *6*, A_{44}=0.14 *8* (1977Ri05); R_{DCO}=0.62 *14* (1977Ri05). δ: from DCO and linear pol. in 2019Ti02; Also: +0.62 *18* or 0.8 *3* from DCO measurements in 1977Ri05.
1064#		5847.7	(33/2$^-$)	4783.6	(29/2$^-$)	(E2)		Mult.: from DCO and γ polarization measurements in 2019Ti02.
1084#		3859.6	(25/2$^-$)	2775.81	(21/2$^-$)			
1089#		4783.6	(29/2$^-$)	3694.62	(25/2$^-$)	(E2)		Mult.: from DCO and γ polarization measurements in 2019Ti02.
1097#		4956.1	(29/2$^-$)	3859.6	(25/2$^-$)			
1100.24 *10*	5.1 *2*	3800.71	(27/2$^-$)	2700.46	(23/2)$^-$	(E2)		Mult.: A_{22}=0.14 *4*, A_{44}=−0.08 *5* (1977Ri05); R_{DCO}=1.54 *16* (1977Ri05).
1119#		6072.4	(35/2$^-$)	4953.35	(31/2$^-$)			
1119#		7191.4	(39/2$^-$)	6072.4	(35/2$^-$)			
1148#		6995.7	(37/2$^-$)	5847.7	(33/2$^-$)			
1152.64 *20*	1.6 *3*	4953.35	(31/2$^-$)	3800.71	(27/2$^-$)	(E2)		Mult.: A_{22}=0.19 *8*, A_{44}=−0.11 *2* (1977Ri05); R_{DCO}=0.43 *23* (1977Ri05).
1158.94 *10*	2.4 *2*	2900.97	(21/2$^-$)	1742.03	(19/2)$^-$	M1+E2	+1.3 *9*	Mult.: A_{22}=0.65 *8*, A_{44}=−0.03 *12* (1977Ri05); R_{DCO}=0.58 *16* (1977Ri05). δ: Also: 1.6 *11* from DCO measurements in 1977Ri05.
1159#		3859.6	(25/2$^-$)	2700.46	(23/2)$^-$			
1215#		8406.4	(43/2$^-$)	7191.4	(39/2$^-$)			
1261#		4956.1	(29/2$^-$)	3694.62	(25/2$^-$)			
1274.15 *15*	1.5 *2*	1763.35	(15/2)$^-$	489.20	11/2$^-$			Mult.: A_{22}=0.27 *12*, A_{44}=0.02 *18* (1977Ri05).
1302#		8297.7	(41/2$^-$)	6995.7	(37/2$^-$)			
1310.6 *2*	1.0 *3*	2280.81	(17/2)$^-$	970.20	(15/2)$^-$	M1+E2	+1.3 *7*	Mult.: A_{22}=1.4 *7*, A_{44}=−0.4 *8* (1977Ri05); R_{DCO}=0.8 *3*. δ: Also: 4 *4* from DCO measurements in 1977Ri05.
1331.0 *2*	2.4 *3*	3073.06	(21/2)$^+$	1742.03	(19/2)$^-$	E1+M2	+0.8 *8*	δ: R_{DCO}=1.8 *5* (1977Ri05).
1377.3 *3*	1.3 *3*	3119.46	(21/2)$^+$	1742.03	(19/2)$^-$			
1520.9 *3*	2.6 *5*	2491.1	(19/2$^-$)	970.20	(15/2)$^-$	(E2)		Mult.: R_{DCO}=0.75 *21* (1977Ri05).
1582.0 *3*	1.0 *3*	2552.24	(17/2)$^+$	970.20	(15/2)$^-$			

† From 1977Ri05, unless otherwise noted.
‡ Unless otherwise noted, from 1977Ri05 based on γ(θ) and DCO measurements.
\# From 2019Ti02.

$^{96}Zr(^{13}C,4n\gamma),^{96}Zr(^{12}C,3n\gamma)$ 2019Ti02,1977Ri05

Level Scheme

Intensities: Type not specified



$^{105}_{46}Pd_{59}$

$^{96}Zr(^{13}C,4n\gamma),^{96}Zr(^{12}C,3n\gamma)$ **2019Ti02,1977Ri05**

Level Scheme (continued)

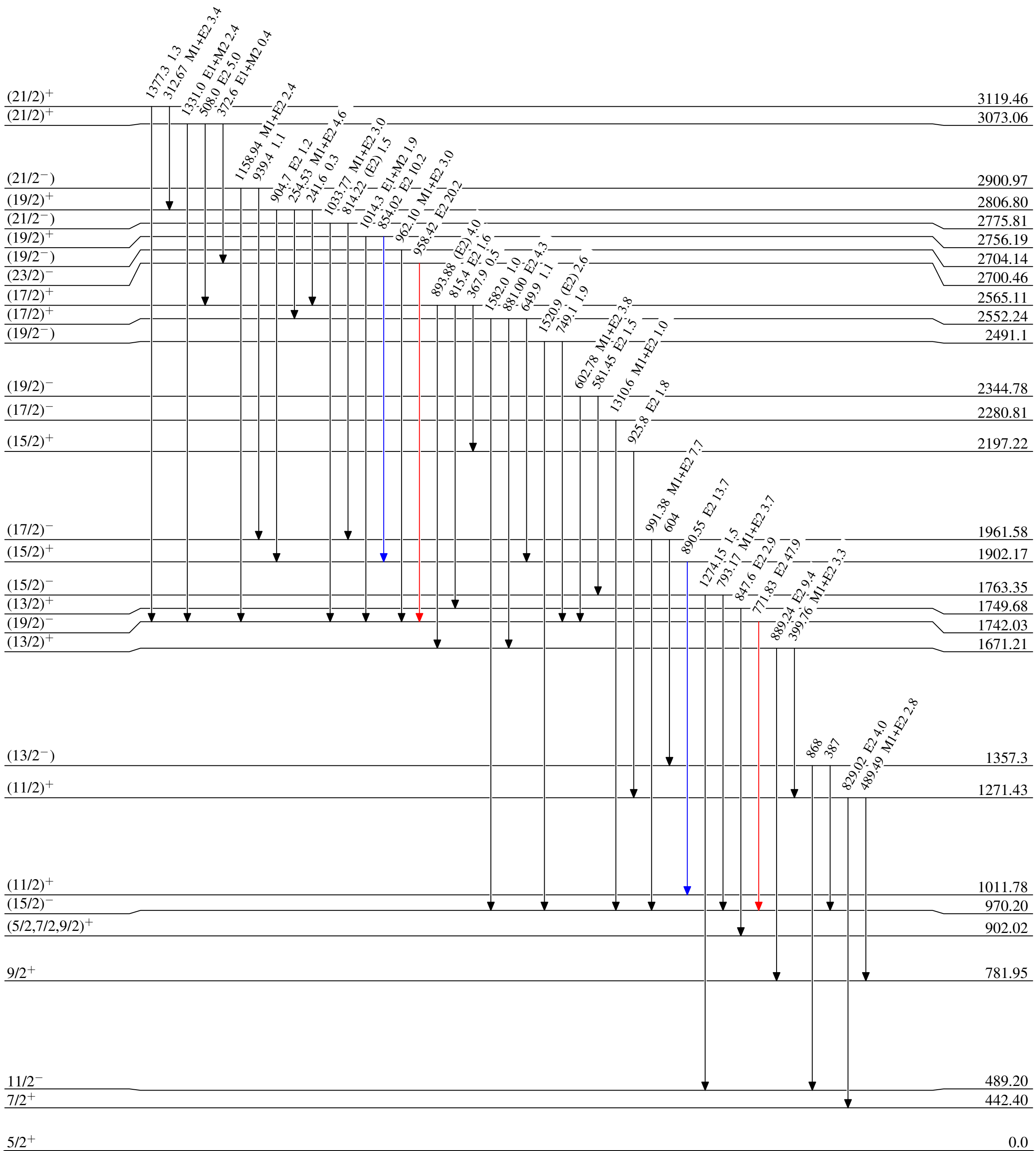
Intensities: Type not specified

Legend

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

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

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

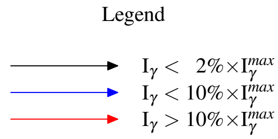


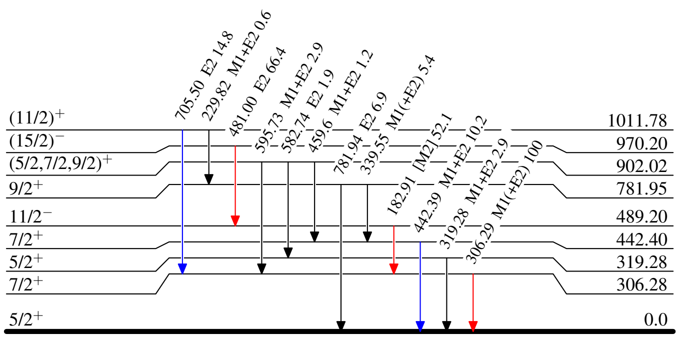
$^{105}_{46}Pd_{59}$

^{96}Zr(^{13}C,4nγ),^{96}Zr(^{12}C,3nγ) 2019Ti02,1977Ri05

Level Scheme (continued)

Intensities: Type not specified





$^{105}_{46}Pd_{59}$

^{104}Ru(α,3nγ) 1977Gr22,1969Iv02

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Lalkovski, J. Timar and Z. Elekes	NDS 161, 1 (2019)	1-Apr-2019

1977Gr22: Facility: Stockholm cyclotron; Beam: E(α)=32 MeV; Target: enriched to ^{104}Ru; Detectors: two Ge(Li); Measured: γ, γ-γ coinc., $\gamma(\theta)$, Eγ, Iγ, excitation function; Deduced: ^{105}Ru level scheme, J^π; Also, from the same collaboration: 1972Gr33, 1971GrZV.

1969Iv02: Facility: Institute-of-Physics′ (Bucharest) 120-cm cyclotron; Beam: E(α)=24 MeV; Target: natural Ru; Detectors: one NaI(Tl); Measured: γ, Eγ, γ(t); Deduced: $T_{1/2}$.

Others: 1973Ri10, 1973RiZZ.

^{105}Pd Levels

E(level)†	J$^\pi$‡	$T_{1/2}$	Comments
0.0	5/2$^+$		configuration: $\nu(2d_{5/2})^{+1}$.
280.50& *24*	3/2$^+$		
306.03@ *23*	7/2$^+$		configuration: $\nu(1g_{7/2})^{+1}$.
442.39& *19*	(7/2)$^+$		
488.8# *3*	11/2$^-$	36 μs *7*	$T_{1/2}$: from 182.7γ(t) and 306.2γ(t) in 1969Iv02. configuration: $\nu(1h_{11/2})^{+1}$.
560.50 *24*	5/2$^+$		
696.60 *19*	(7/2$^+$)		
781.99& *20*	9/2$^+$		
969.8# *4*	(15/2)$^-$		
1010.93@ *23*	(11/2)$^+$		
1271.18 *23*	(11/2)$^+$		
1323.7 *3*	(11/2$^+$)		
1410.63 *25*	(13/2$^+$)		
1741.2# *5*	(19/2)$^-$		
1853.7 *3*	(13/2$^+$)		
1873.5 *3*	(15/2$^+$)		
1900.8@ *4*	(15/2)$^+$		
2698.9# *6*	(23/2)$^-$		
2754.5@ *5*	(19/2)$^+$		
3153.4# *7*	(27/2)$^-$		
3293.3@ *6*	(23/2)$^+$		
3797.7# *7*	(27/2$^-$)		
3871.3@ *12*	(27/2)$^+$		

† From a least-squares fit to Eγ.
‡ From 1977Gr22.
# Member of the ΔJ=2 negative-parity band; configuration=$\nu(1h_{11/2})^{+1}$.
@ Member of a ΔJ=2 positive-parity band; configuration=$\nu(1g_{7/2})^{+1}$.
& Member of the $2^+\otimes\nu(2d_{5/2})^{+1}$ multiplet.

^{104}Ru(α,3nγ) 1977Gr22,1969Iv02 (continued)

γ(^{105}Pd)

E_γ †	I_γ †	E_i(level)	J^π_i	E_f	J^π_f	Mult. †
x95.2 *3*	1.0 *3*					
x105.2 *3*	2.1 *6*					
x110.7 *3*	5.5 *6*					
x121.9 *3*	0.4 *1*					
135.8 *3*	0.8 *2*	696.60	(7/2$^+$)	560.50	5/2$^+$	
140.0 *3*	0.8 *2*	1410.63	(13/2$^+$)	1271.18	(11/2)$^+$	
x178.9 *3*	0.7 *2*					
182.7 *3*	51 *5*	488.8	11/2$^-$	306.03	7/2$^+$	
x210.7 *3*	2.3 *7*					
228.7 *3*	0.3 *1*	1010.93	(11/2)$^+$	781.99	9/2$^+$	
254.3 *3*	3.4 *10*	696.60	(7/2$^+$)	442.39	(7/2)$^+$	
260.0 *3*	1.2 *4*	1271.18	(11/2)$^+$	1010.93	(11/2)$^+$	
280.2 *3*	2.4 *7*	280.50	3/2$^+$	0.0	5/2$^+$	
x284.6 *3*	0.4 *1*					
306.2 *3*	100	306.03	7/2$^+$	0.0	5/2$^+$	
312.6 *3*	2.3 *7*	1323.7	(11/2$^+$)	1010.93	(11/2)$^+$	
x319.3 *3*	5.4 *5*					
x333.2 *3*	0.6 *2*					
339.4 *3*	5.0 *5*	781.99	9/2$^+$	442.39	(7/2)$^+$	
x344.6 *3*	0.6 *2*					
x349.3 *3*	1.6 *5*					
399.9 *3*	2.0 *6*	1410.63	(13/2$^+$)	1010.93	(11/2)$^+$	
415.8 *3*	1.4 *4*	696.60	(7/2$^+$)	280.50	3/2$^+$	(E2)
442 *3*		1853.7	(13/2$^+$)	1410.63	(13/2$^+$)	
442.6 *3*	12.0 *12*	442.39	(7/2)$^+$	0.0	5/2$^+$	
x451.8 *3*	1.1 *3*					
454.5 *3*	4.0 *12*	3153.4	(27/2)$^-$	2698.9	(23/2)$^-$	(E2)
463.1 *3*	0.7 *2*	1873.5	(15/2$^+$)	1410.63	(13/2$^+$)	
481.0 *3*	69 *7*	969.8	(15/2)$^-$	488.8	11/2$^-$	(E2)
489.5 *3*	4.0 *12*	1271.18	(11/2)$^+$	781.99	9/2$^+$	
522.2 *3*	0.4	1010.93	(11/2)$^+$	488.8	11/2$^-$	
530.3 *3*	2.1 *6*	1853.7	(13/2$^+$)	1323.7	(11/2$^+$)	
x535.7 *3*	0.8 *2*					
538.8 *3*	5.3 *5*	3293.3	(23/2)$^+$	2754.5	(19/2)$^+$	(E2)
549.1 *3*	0.4 *1*	1873.5	(15/2$^+$)	1323.7	(11/2$^+$)	
560.2 *3*	1.4 *4*	560.50	5/2$^+$	0.0	5/2$^+$	(E2)
x566.8 *3*	1.3 *4*					
578.0‡	3.1‡ *9*	1900.8	(15/2)$^+$	1323.7	(11/2$^+$)	(E2)
578.0‡	3.1‡ *4*	3871.3	(27/2)$^+$	3293.3	(23/2)$^+$	(E2)
582.0 *3*	4.0 *12*	1853.7	(13/2$^+$)	1271.18	(11/2)$^+$	
x595.7 *3*	≤4.3					
x599.0 *3*	1.8 *5*					
602.7 *3*	5.5 *6*	1873.5	(15/2$^+$)	1271.18	(11/2)$^+$	
x609.5 *3*	1.5 *5*					
628.1 *3*	1.0 *3*	1410.63	(13/2$^+$)	781.99	9/2$^+$	(E2)
x644.7 *3*	4.1 *12*					
x646.4 *3*	1.5 *5*					
x669.0 *3*	2.4 *7*					
x681.5 *3*	1.8 *5*					
x692.9 *3*	≤4					
697.1 *3*	3.7 *11*	696.60	(7/2$^+$)	0.0	5/2$^+$	
x700.0 *3*	1.5 *5*					
705.1 *3*	14.7 *15*	1010.93	(11/2)$^+$	306.03	7/2$^+$	(E2)
x748.9 *3*	2.3 *7*					(E2)
771.4 *3*	42 *4*	1741.2	(19/2)$^-$	969.8	(15/2)$^-$	(E2)

Continued on next page (footnotes at end of table)

^{104}Ru(α,3nγ) 1977Gr22,1969Iv02 (continued)

γ(^{105}Pd) (continued)

E_γ †	I_γ †	E_i(level)	J_i^π	E_f	J_f^π	Mult. †
781.7 *3*	8.8 *9*	781.99	9/2$^+$	0.0	5/2$^+$	(E2)
^{x}792.9 *3*	4.6 *14*					(E2)
^{x}804.1 *3*	≈2					
^{x}808.4 *3*	2.7 *8*					
^{x}814.9 *3*	2.5 *8*					(E2)
^{x}825.1 *3*	1.2 *4*					
829.1 *3*	4.3 *13*	1271.18	(11/2)$^+$	442.39	(7/2)$^+$	(E2)
834.9 *3*	≤1.9	1323.7	(11/2$^+$)	488.8	11/2$^-$	
843.0 *3*	2.8 *8*	1853.7	(13/2$^+$)	1010.93	(11/2)$^+$	
853.6 *3*	6.6 *7*	2754.5	(19/2)$^+$	1900.8	(15/2)$^+$	(E2)
862.7 *3*	1.3 *4*	1873.5	(15/2$^+$)	1010.93	(11/2)$^+$	(E2)
881.3‡	4.3‡ *13*	1323.7	(11/2$^+$)	442.39	(7/2)$^+$	(E2)
881.3‡	4.3‡ *13*	2754.5	(19/2)$^+$	1873.5	(15/2$^+$)	(E2)
889.8 *3*	10 *1*	1900.8	(15/2)$^+$	1010.93	(11/2)$^+$	
^{x}893.9 *3*	≤2.9					
^{x}911.8 *3*	1.2 *4*					
^{x}918.5 *3*	1.9 *6*					
^{x}952.3 *3*	2.6 *8*					
957.7 *3*	15 *2*	2698.9	(23/2)$^-$	1741.2	(19/2)$^-$	(E2)
^{x}961.8 *3*	1.3 *4*					
^{x}990.6 *3*	7.7 *8*					(E2)
^{x}1013.7 *3*	≤1.8					
^{x}1058.2 *3*	1.2 *4*					
^{x}1077.5 *3*	1.0 *3*					
^{x}1095.8 *3*	0.8 *2*					(E2)
1098.8 *3*	4.3 *13*	3797.7	(27/2$^-$)	2698.9	(23/2)$^-$	(E2)
^{x}1151.6 *3*	1.7 *5*					(E2)
^{x}1273.6 *3*	2.3 *7*					
^{x}1521.2 *3*	3 *1*					

† From 1977Gr22.
‡ Multiply placed with undivided intensity.
^{x} γ ray not placed in level scheme.

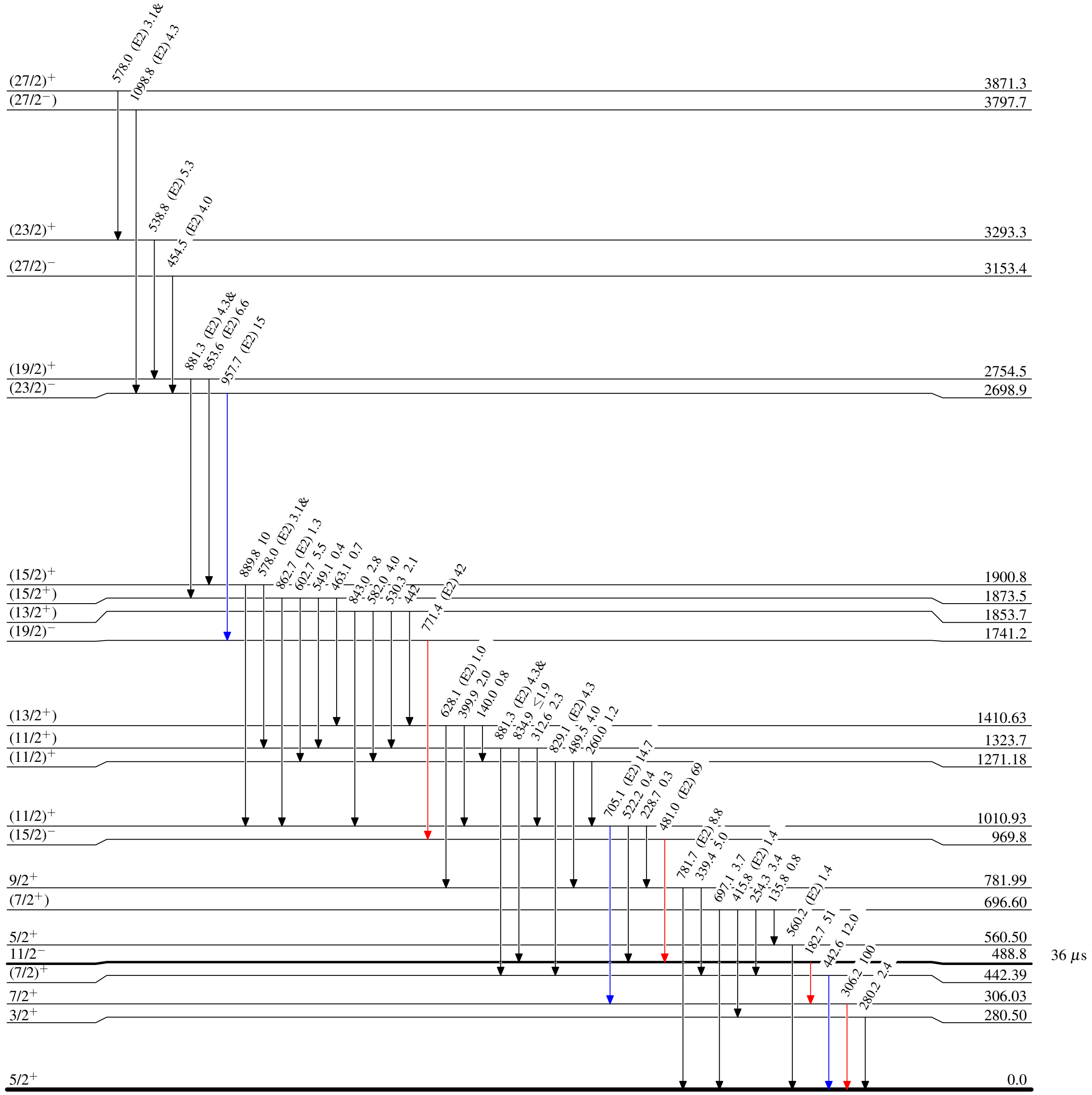
^{104}Ru(α,3nγ) 1977Gr22,1969Iv02

Level Scheme

Intensities: Type not specified
& Multiply placed: undivided intensity given

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$



$^{105}_{46}Pd_{59}$

^{104}Pd(n,γ) E=th 1970Bo29,1975BaZR

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Lalkovski, J. Timar and Z. Elekes	NDS 161, 1 (2019)	1-Apr-2019

2008Kr05: Facility: Budapest Reactor; Target: natural Pd; Detectors: one Compton-suppressed n-type HPGe detector; Measured Eγ, Iγ.
1970Bo29: Facility: Argonne National Lab. Reactor; Target: nat. Pd; Detectors: one Ge(Li), one annular NaI(Tl), split into four optically independent quadrants; Measured: Eγ, Iγ.
1975BaZR: Facility: Ukrainian ssr reactor; Flux: 6.5x10^7 n/(cm^2.s); Target: 7.6% ^{104}Pd; Measured: Eγ, Iγ.
Others: 1982StZQ, 1979Ma34, 1971Sh21, 1965Gr30.

^{105}Pd Levels

E(level)†	J$^\pi$‡	T$_{1/2}$	Comments
0	5/2$^+$		
280.65 *6*	3/2$^+$		
306.3 *2*	7/2$^+$		
319.3 *10*	5/2$^+$	48 ps *7*	T$_{1/2}$: from 1971Sh21.
344.12 *11*	1/2$^+$		
442.13 *21*	(7/2)$^+$		
489.4 *10*	11/2$^-$		
560.61 *20*	3/2$^+$		
644.76 *13*	7/2$^-$		
1175 *3*	(1/2$^+$,3/2$^+$)		
1568?			
1909?			
(7093.6 *4*)		5.1 fs *8*	T$_{1/2}$: from 1970Bo29.

† From a least squares fit to Eγ; ΔE_γ=1 keV assumed by the evaluators for the least-squares fit procedure, where no uncertainties are given by the authors.
‡ From the Adopted Levels.

γ(^{105}Pd)

E$_\gamma$†	I$_\gamma$	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$
64.072‡		344.12	1/2$^+$	280.65	3/2$^+$
155.38‡		644.76	7/2$^-$	489.4	11/2$^-$
182.92‡		489.4	11/2$^-$	306.3	7/2$^+$
202.21‡		644.76	7/2$^-$	442.13	(7/2)$^+$
216.1‡		560.61	3/2$^+$	344.12	1/2$^+$
280.65 *6*		280.65	3/2$^+$	0	5/2$^+$
306.26 *1*	8	306.3	7/2$^+$	0	5/2$^+$
325.43		644.76	7/2$^-$	319.3	5/2$^+$
344.11 *11*		344.12	1/2$^+$	0	5/2$^+$
442.11 *21*		442.13	(7/2)$^+$	0	5/2$^+$
560.67 *20*		560.61	3/2$^+$	0	5/2$^+$
644.76 *13*		644.76	7/2$^-$	0	5/2$^+$
5184.7@& *15*	89@ *11*	(7093.6)		1909?	
5918@ *3*	45@ *9*	(7093.6)		1175	(1/2$^+$,3/2$^+$)
6534.0# *10*		(7093.6)		560.61	3/2$^+$
6615@& *5*	100@ *25*	(7093.6)		489.4	11/2$^-$
6652@ *8*	77@ *20*	(7093.6)		442.13	(7/2)$^+$

Continued on next page (footnotes at end of table)

^{104}Pd(n,γ) E=th 1970Bo29,1975BaZR (continued)

γ(^{105}Pd) (continued)

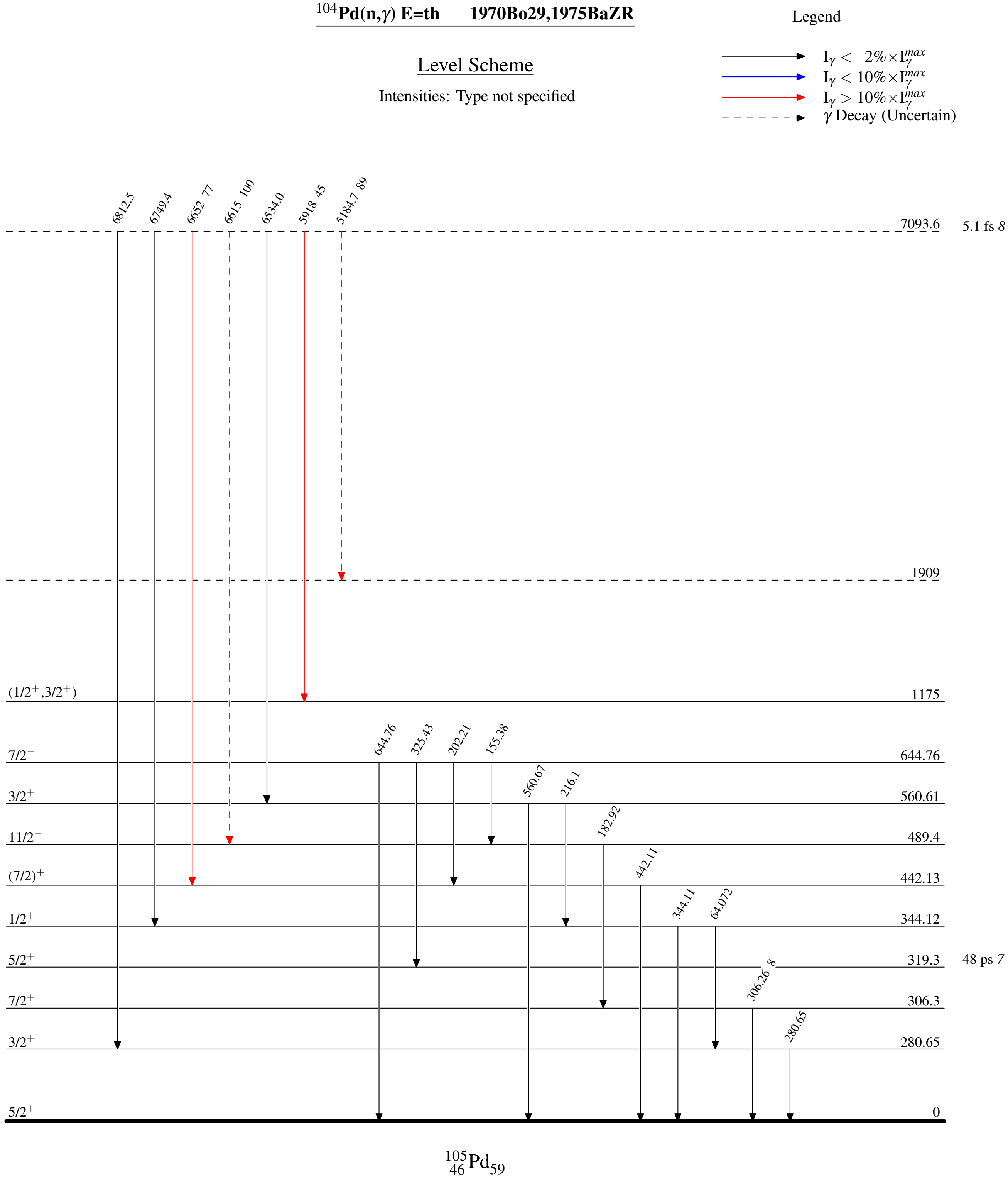
E_γ [†]	E_i(level)	J_i^π	E_f	J_f^π	Comments
6749.4[#] *10*	(7093.6)		344.12	$1/2^+$	
6812.5 *4*	(7093.6)		280.65	$3/2^+$	E_γ: Others: 6812.9 *14* (1970Bo29).

† From 2008Kr05, unless otherwise noted.
‡ From the adopted gammas.
# From 1970Bo29.
@ From 1975BaZR; Iγ normalised with respect to Iγ(6615)=100. Note that the 6615γ final level is not within 2σ.
& Placement of transition in the level scheme is uncertain.

^{104}Pd(n,γ) E=th 1970Bo29,1975BaZR

Level Scheme

Intensities: Type not specified



^{104}Pd(d,p) 1963Cu02,1968Ne07

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Lalkovski, J. Timar and Z. Elekes	NDS 161, 1 (2019)	1-Apr-2019

1963Cu02: Facility: Pittsburgh cyclotron; Beam: E(d)=15 MeV; Target: ≈3 mg/cm^2 thick, enriched to≈90% in ^{104}Pd; Detectors: magnetic spectrograph, photographic plates; Measured: dσ/d$\Omega(\theta)$ and compared to DWBA. ΔE(p)=30 keV; The statistical uncertainty is 8 keV.

1968Ne07: Beam: E(d)=6.5 MeV from cyclotron; Target: 3.0 mg/cm^2, enriched to 79.4% in ^{104}Pd; Detectors: magnetic spectrograph, FWHM≈150 keV; Measured: E, dσ/d$\Omega(\theta)$; Deduced: DWBA.

Others: 1973RiZL, 1968Ne07.

^{105}Pd Levels

E(level)†	L#	Comments
0	(2)	
280 *8*	(2)	
340 *8*	(0)	
486 *8*	(5)	
565 *8*	(2)	
651 *8*	(2)	
724 *8*	(2)	
787 *8*	(0)	
970 *8*	(2)	
1075 *8*	(0)	
1103 *8*	(2)	
1141 *8*	(0)	
1201 *8*	(2)	
1263 *8*	(0)	
1402 *8*	(2+0+5)	L: Unresolved multiplet.
1522 *8*	(2)	
1602 *8*	(2)	
1652 *8*		
1702 *8*		
1772 *8*		
1867 *8*	(2)	
1923 *8*	(0)	
1990 *8*	(2)	
2062 *8*	(2)	
2102 *8*		
2420‡		
2613 *8*		
3320‡		
3570‡		
3690‡		
4000‡		
4110‡		
4510‡		
4690‡		
4840‡		

† From 1963Cu02, unless noted otherwise.
‡ From 1968Ne07. ΔE ≈150 keV.
# From dσ/d$\Omega(\theta)$ in 1963Cu02 and DWBA. L assignments are considered by the evaluators to be tentative, given that the proton spectra are taken at 10°, 20°, 33° only,

^{105}Pd(n,n′γ) 1975GoYY,1976Av07

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Lalkovski, J. Timar and Z. Elekes	NDS 161, 1 (2019)	1-Apr-2019

1975GoYY: Beam: fast neutrons; Detectors: one Ge(Li); Measured: Eγ, Iγ; Also from the same group: 1976Av07.

^{105}Pd Levels

E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡
0.0	5/2+	928.91 *22*	(5/2+)	1477.6? *8*	
280.38 *9*	3/2+	961.4 *4*	(1/2,3/2)+	1520.5 *5*	(3/2+ to 7/2+)
306.25 *9*	7/2+	969.84 *23*	15/2−	1601.3 *5*	(1/2+ to 5/2+)
319.29 *9*	5/2+	1011.50 *21*	(11/2+)	1650.4 *4*	(7/2−)
344.52 *10*	1/2+	1074.4? *4*	(3/2+)	1700.6 *8*	(1/2+ to 9/2+)
442.15 *9*	(7/2)+	1088.3 *4*	3/2−	1774.6? *5*	(1/2+ to 9/2+)
489.04 *12*	11/2−	1098.1? *3*	(5/2+,7/2+,9/2+)	1865.5 *4*	(1/2+ to 7/2+)
560.56 *9*	3/2+	1102.1 *4*	(1/2+ to 5/2+)	1922.9? *4*	(1/2+,3/2+)
644.69 *10*	7/2−	1142.35 *14*	(1/2+,3/2+)	1988.4 *4*	(1/2,3/2,5/2)+
650.76 *12*	(3/2)+	1177.7 *3*	(1/2+,3/2+)	2064.5 *7*	(1/2+,3/2+)
672.78 *17*	1/2+	1201.6 *4*	(1/2+,3/2+)	2101.4? *7*	(7/2−,9/2,11/2+)
726.97 *14*	5/2+	1259.11 *20*	(3/2+)		
781.53 *11*	9/2+	1405.05 *25*	(3/2+,5/2+)		

† From a least-squares fit to Eγ.
‡ From the Adopted Levels.

γ(^{105}Pd)

Eγ†	Iγ†	Ei(level)	Jπi	Ef	Jπf
155.6 *2*	1.4 *2*	644.69	7/2−	489.04	11/2−
182.8 *1*	27 *3*	489.04	11/2−	306.25	7/2+
216.3 *4*	0.87 *15*	560.56	3/2+	344.52	1/2+
228.9‡	0.9	1011.50	(11/2+)	781.53	9/2+
263.3 *5*	0.58 *12*	1405.05	(3/2+,5/2+)	1142.35	(1/2+,3/2+)
280.4 *1*	68 *2*	280.38	3/2+	0.0	5/2+
285.0‡	2.2	928.91	(5/2+)	644.69	7/2−
306.2 *1*	100	306.25	7/2+	0.0	5/2+
319.2 *1*	6 *2*	319.29	5/2+	0.0	5/2+
326.5#	1.30# *10*	644.69	7/2−	319.29	5/2+
326.5‡#	1.30# *10*	672.78	1/2+	344.52	1/2+
331.5 *1*	6.3 *3*	650.76	(3/2)+	319.29	5/2+
339.4 *1*	9.7 *3*	781.53	9/2+	442.15	(7/2)+
344.5 *1*	10.0 *3*	344.52	1/2+	0.0	5/2+
353.1 *6*	0.80 *10*	672.78	1/2+	319.29	5/2+
370.3 *3*	2.00 *12*	650.76	(3/2)+	280.38	3/2+
392.5 *2*	3.40 *16*	672.78	1/2+	280.38	3/2+
400.4 *4*	1.50 *10*	961.4	(1/2,3/2)+	560.56	3/2+
406.9 *3*	2.10 *12*	726.97	5/2+	319.29	5/2+
420.8 *2*	4.1 *2*	726.97	5/2+	306.25	7/2+
442.2 *1*	57 *2*	442.15	(7/2)+	0.0	5/2+
446.74‡		726.97	5/2+	280.38	3/2+
459.0 *5*	1.10 *10*	1601.3	(1/2+ to 5/2+)	1142.35	(1/2+,3/2+)
475.0 *4*	1.30 *10*	781.53	9/2+	306.25	7/2+

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^{105}Pd(n,n′γ) 1975GoYY,1976Av07 (continued)

γ(^{105}Pd) (continued)

E_γ[†]	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π
480.8 2	3.50 16	969.84	$15/2^-$	489.04	$11/2^-$
487.7 5	1.40 10	928.91	$(5/2^+)$	442.15	$(7/2)^+$
491.2 5	1.40 10	1142.35	$(1/2^+,3/2^+)$	650.76	$(3/2)^+$
523.6 7	0.45 8	1011.50	$(11/2^+)$	489.04	$11/2^-$
^{x}539.1 7	0.48 8				
560.6 1	13.1 4	560.56	$3/2^+$	0.0	$5/2^+$
^{x}576.7 3	0.74 10				
582.1 2	2.40 12	1142.35	$(1/2^+,3/2^+)$	560.56	$3/2^+$
608.9 4	0.60 10	928.91	$(5/2^+)$	319.29	$5/2^+$
^{x}627.0 4	0.55 10				
640.8 5	1.70 11	1201.6	$(1/2^+,3/2^+)$	560.56	$3/2^+$
644.7 1	18.5 6	644.69	$7/2^-$	0.0	$5/2^+$
650.4 3	4.8 2	650.76	$(3/2)^+$	0.0	$5/2^+$
^{x}658.0 3	0.94 10				
^{x}666.3 2	1.60 10				
672.8 3	0.70 10	672.78	$1/2^+$	0.0	$5/2^+$
680.0[@] 6	0.25 6	961.4	$(1/2,3/2)^+$	280.38	$3/2^+$
705.2 2	1.40 10	1011.50	$(11/2^+)$	306.25	$7/2^+$
727.2 2	2.40 12	726.97	$5/2^+$	0.0	$5/2^+$
768.4 5	0.12 6	1074.4?	$(3/2^+)$	306.25	$7/2^+$
781.5 2	7.5 2	781.53	$9/2^+$	0.0	$5/2^+$
793.8 5	0.30 6	1074.4?	$(3/2^+)$	280.38	$3/2^+$
808.2 5	0.78 10	1088.3	$3/2^-$	280.38	$3/2^+$
821.7 4	1.20 10	1102.1	$(1/2^+$ to $5/2^+)$	280.38	$3/2^+$
825.1 3	0.57 10	1922.9?	$(1/2^+,3/2^+)$	1098.1?	$(5/2^+,7/2^+,9/2^+)$
^{x}829.3 3	1.30 10				
^{x}853.8 4	0.53 8				
890.7 4	0.91 10	1988.4	$(1/2,3/2,5/2)^+$	1098.1?	$(5/2^+,7/2^+,9/2^+)$
^{x}912.5 4	0.76 10				
921.3 4	0.78 10	1201.6	$(1/2^+,3/2^+)$	280.38	$3/2^+$
^{x}925.3 3	1.10 10				
928.9 3	1.70 11	928.91	$(5/2^+)$	0.0	$5/2^+$
^{x}945.9 4	0.67 10				
952.6 3	1.30 10	1259.11	$(3/2^+)$	306.25	$7/2^+$
961.6 8	0.30 6	961.4	$(1/2,3/2)^+$	0.0	$5/2^+$
973.3 8	0.24 6	1700.6	$(1/2^+$ to $9/2^+)$	726.97	$5/2^+$
979.0 4	0.64 10	1259.11	$(3/2^+)$	280.38	$3/2^+$
988.6[@] 7	0.67 10	1477.6?		489.04	$11/2^-$
1026.7 4	0.57 10	1988.4	$(1/2,3/2,5/2)^+$	961.4	$(1/2,3/2)^+$
^{x}1054.1 4	0.83 10				
1078.0 5	0.47 10	1520.5	$(3/2^+$ to $7/2^+)$	442.15	$(7/2)^+$
^{x}1084.0 8	0.30 7				
1088.1 4	0.61 10	1088.3	$3/2^-$	0.0	$5/2^+$
1098.5[#] 3	2.30[#] 12	1098.1?	$(5/2^+,7/2^+,9/2^+)$	0.0	$5/2^+$
1098.5[#] 3	2.30[#] 12	1405.05	$(3/2^+,5/2^+)$	306.25	$7/2^+$
1142.2 2	1.50 11	1142.35	$(1/2^+,3/2^+)$	0.0	$5/2^+$
1162.1 8	0.25 6	1650.4	$(7/2^-)$	489.04	$11/2^-$
1177.7 3	1.10 10	1177.7	$(1/2^+,3/2^+)$	0.0	$5/2^+$
1208.7 8	0.27 7	1650.4	$(7/2^-)$	442.15	$(7/2)^+$
^{x}1230.4 7	0.46 10				
1240.8 7	0.29 7	1520.5	$(3/2^+$ to $7/2^+)$	280.38	$3/2^+$
1259.2 3	1.10 10	1259.11	$(3/2^+)$	0.0	$5/2^+$
^{x}1273.0 4	0.78 11				
1305.5[#] 4	0.80[#] 11	1650.4	$(7/2^-)$	344.52	$1/2^+$

Continued on next page (footnotes at end of table)

^{105}Pd(n,n′γ) 1975GoYY,1976Av07 (continued)

γ(^{105}Pd) (continued)

Eγ†	Iγ†	Ei(level)	J^π_i	Ef	J^π_f
1305.5# 4	0.80# 11	1865.5	(1/2+ to 7/2+)	560.56	3/2+
1360.7 8	0.24 6	1922.9?	(1/2+,3/2+)	560.56	3/2+
1382.4 16	0.13 7	1700.6	(1/2+ to 9/2+)	319.29	5/2+
1405.5 7	0.31 8	1405.05	(3/2+,5/2+)	0.0	5/2+
x1436.4 16	0.17 7				
x1449.4 7	0.33 8				
1455.3 5	0.57 11	1774.6?	(1/2+ to 9/2+)	319.29	5/2+
x1461.9 5	0.63 11				
x1499.2 4	1.00 11				
x1514.7 8	0.46 11				
1583.9 6	0.39 10	1865.5	(1/2+ to 7/2+)	280.38	3/2+
1600.4 16	0.14 7	1601.3	(1/2+ to 5/2+)	0.0	5/2+
1611.8 8	0.50 11	2101.4?	(7/2−,9/2,11/2+)	489.04	11/2−
x1633.0 14	0.19 7				
x1641.2 20	0.12 16				
1660.0 10	0.20 7	2101.4?	(7/2−,9/2,11/2+)	442.15	(7/2)+
x1697.5 15	0.16 7				
1745.2 7	0.56 11	2064.5	(1/2+,3/2+)	319.29	5/2+
1784.3 16	0.15 7	2064.5	(1/2+,3/2+)	280.38	3/2+
x1935.0 16	0.16 7				

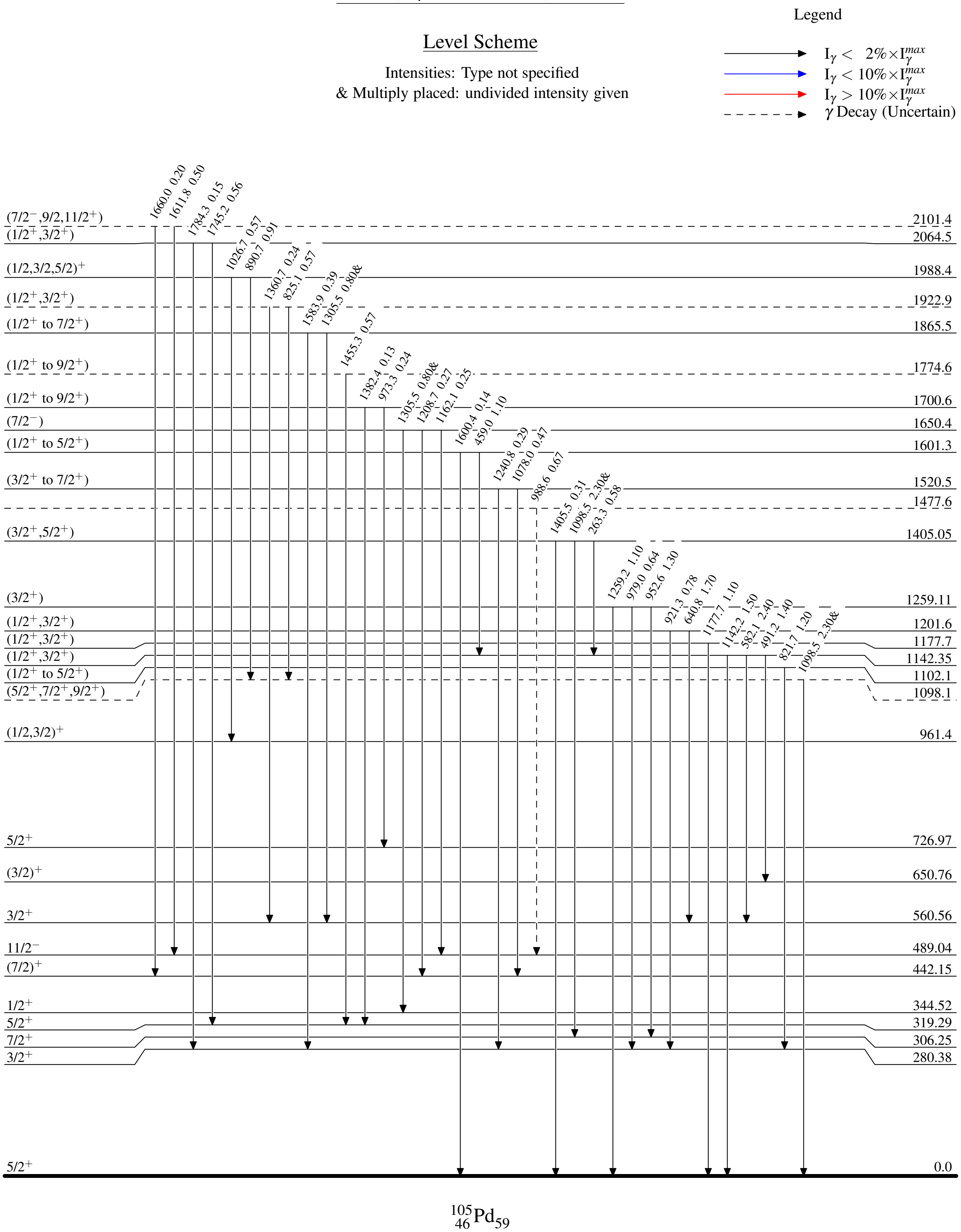
† From 1975GoYY, unless otherwise noted.
‡ From 1976Av07.
# Multiply placed with undivided intensity.
@ Placement of transition in the level scheme is uncertain.
x γ ray not placed in level scheme.

$^{105}Pd(n,n'\gamma)$ 1975GoYY,1976Av07

Level Scheme

Intensities: Type not specified

& Multiply placed: undivided intensity given

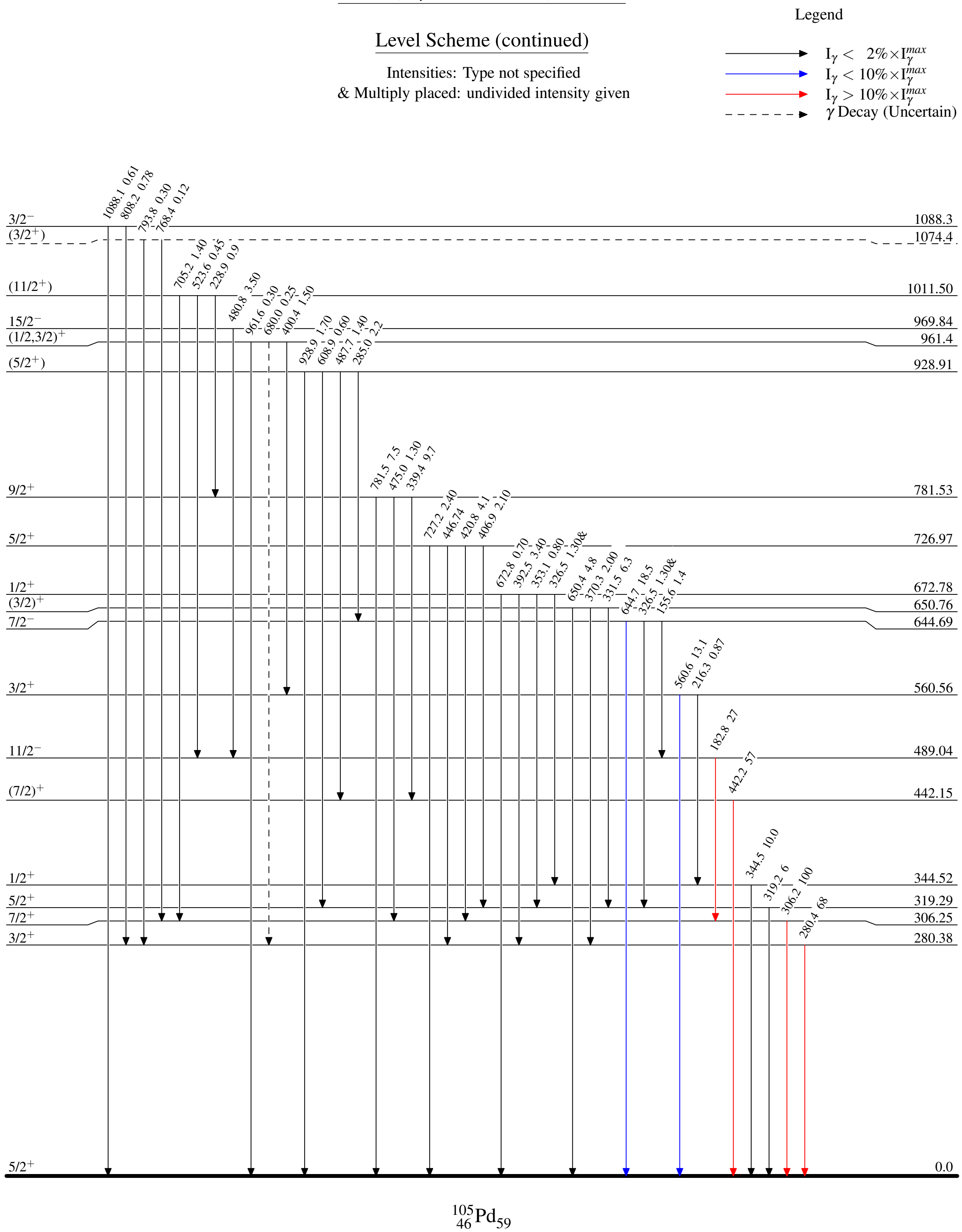


^{105}Pd(n,n′γ) 1975GoYY,1976Av07

Level Scheme (continued)

Intensities: Type not specified

& Multiply placed: undivided intensity given



Coulomb excitation 1985Ta19,1981Ch42,1971Bo08

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Lalkovski, J. Timar and Z. Elekes	NDS 161, 1 (2019)	1-Apr-2019

1985Ta19: Facility: Panjab University cyclotron; Beam: E(p)=2-4 MeV; Target: enriched to 91.4% in ^{105}Pd; Detectors: one Ge(Li); Measured: γ, Eγ, Iγ; Deduced: B(E2) and $T_{1/2}$.

1981Ch42 Facility: Saha Institute of Nuclear Physics (Calcutta) cyclotron; Beam: E(p)=3.2 MeV; Target: ^{nat}Pd (22.2%); Detectors: Ge(Li); Measured: Measured: γ, Eγ, Iγ; Deduced: B(E2) and $T_{1/2}$.

1974Er05: Facility FTI, USSR; Beam (^{12}C)=35 MeV; Target: enriched in ^{105}Pd; Detectors: one Ge(Li); Measured: γ, γ(t), Eγ; Deduced: $T_{1/2}$ from DSAM.

1974Er05: Facility FTI, USSR; Beam (^{12}C)=35 MeV; Target: enriched in ^{105}Pd; Detectors: one Ge(Li); Measured: γ, γ(t), Eγ; Deduced: $T_{1/2}$ from DSAM.

1971Bo08: Facility: Argonne National Lab tandem Van de Graaf accelerator; Beam: E(α)=4.4-8.0 MeV; Target: two 65 mg/cm^2 self-supported, enrhiched to 77.2% in ^{105}Pd and $^{nat.}$Pd; Detectors: Ge(Li); Measured: excit. function, Eγ, Iγ; Deduced: level scheme, matrix elements.

1971SiYQ: Beam: E(^{35}Cl)=100 MeV; Target: enriched in ^{105}Pd 350 μg/cm thick and 0.45 mg/cm^2 Ni backing foil; Detectors: one co-axial Ge(Li); Measured: γ, γ(t) Eγ, Iγ; Deduced: $T_{1/2}$ from RDDS; Also from the colaboration: 1971SiYG.

1970GeZQ: Facility: Yale university; Beam: E(α)=10 MeV; Target: enriched to 77.2% in ^{105}Pd; Detectors: two Ge(Li); Measured: γ, γ-γ coinc. Eγ, Iγ; Deduced: B(E2), level scheme; Also, from the same collaboration 1970GeZY.

1968Ga22: Facility: FTI cyclotron; Beam: E(^{14}N)=46.1 MeV; Target: ^{105}Pd enriched to 86.8%; Detector: one Ge(Li); Measured: γ, Eγ, Iγ; Deduced: B(E2) and $T_{1/2}$.

Others: 1972SiZP, 1970GeZY, 1966Gu10, 1964Al27, 1964Al28, 1962Va20, 1956Te26, 1955Ma37, 1955Mc02.

^{105}Pd Levels

E(level)†	J$^\pi$‡	Comments
0.0	5/2$^+$	
280.38 *6*	3/2$^+$	B(E2)↑: 0.0095 *5*. B(E2)↑: weighted average of 0.0085 *7* (1985Ta19), 0.0073 *16* (1981Ch42), 0.0110 *10* (1971Bo08); 0.0097 *16* (1970GeZQ); Other: 0.002 *1* (1968Ga22), ≤0.013 (1962Va20).
306.25 *8*	7/2$^+$	B(E2)↑: 0.00117 *11*. B(E2)↑: weighted average of 0.0012 *1* (1985Ta19), 0.0012 *2* (1971Bo08), 0.0011 *1* (1970GeZQ), 0.004 *1* (1968Ga22); Other: 0.0011 *2* (1970GeZQ).
319.08 *5*	5/2$^+$	B(E2)↑: 0.0082 *4*. B(E2)↑: weighted average of 0.0073 *8* (1985Ta19), 0.0095 *20* (1981Ch42), 0.0081 *10* (1971Bo08), 0.0088 *7* (1970GeZQ), 0.008 *2* (1968Ga22).
344.55 *10*	1/2$^+$	B(E2)↑: 0.0022 *5*. B(E2)↑: weighted average 0.0023 *3* (1985Ta19), 0.0015 *3* (1971Bo08), 0.0027 *3* (1970GeZQ), 0.020 *4* (1968Ga22) Other: 0.0028 *3* (1970GeZQ),≤0.026 (1962Va20).
442.27 *8*	(7/2)$^+$	$T_{1/2}$: 3.8 ps *10* from DSAM in 1971SiYG, 3.81 ps *14* from RDDS in 1971SiYQ. B(E2)↑: 0.185 *7*. B(E2)↑: weighted average of 0.190 *16* (1985Ta19), 0.162 *27* (1981Ch42), 0.165 *13* (1971Bo08), 0.197 *10* (1970GeZQ); Others: 0.18 *4* (1968Ga22), 0.19 *1* (1970GeZY) , 0.21 (1962Va20).
560.75 *19*	3/2$^+$	$T_{1/2}$: 1.9 ps *5* (1974Er05). B(E2)↑: 0.0095 *9*. B(E2)↑: weighted average of 0.0092 *14* (1985Ta19), 0.0111 *38* (1981Ch42), 0.0075 *10* (1971Bo08), 0.0110 *7* (1970GeZQ), 0.006 *2* (1968Ga22).
650.58 *10*	(3/2)$^+$	B(E2)↑: 0.0078 *6*. B(E2)↑: weighted average of 0.0086 *17* (1985Ta19), 0.0066 *13* (1971Bo08), 0.0079 *7* (1970GeZQ), 0.017 *5* (1968Ga22).
672.96 *11*	1/2$^+$	$T_{1/2}$: >2 ps (1974Er05). B(E2)↑: 0.0082 *9*. B(E2)↑: weighted average of 0.0089 *16* (1985Ta19), 0.0057 *11* (1971Bo08), 0.0092 *7* (1970GeZQ), 0.005 *3* (1968Ga22).
696.4 *6*	(7/2$^+$)	B(E2)↑: 0.0020 *10* (1985Ta19).

Continued on next page (footnotes at end of table)

Coulomb excitation 1985Ta19,1981Ch42,1971Bo08 (continued)

^{105}Pd Levels (continued)

E(level)[†]	J^{π}[‡]	Comments
727.53 *19*	5/2$^+$	B(E2)↑: 0.0057 *25*. B(E2)↑: weighted average of 0.0043 *9* (1985Ta19), 0.0024 *6* (1971Bo08), 0.0123 *8* (1970GeZQ), 0.010 *3* (1968Ga22).
781.77 *9*	9/2$^+$	$T_{1/2}$: 1.7 ps *4* from DSAM in 1971SiYG, 1.80 ps *28* from RDDS in 1971SiYQ, 1.11 ps *28* (1974Er05). B(E2)↑: 0.101 *7*. B(E2)↑: weighted average of 0.0966 *80* (1985Ta19), 0.119 *30* (1981Ch42), 0.0827 *83* (1971Bo08); 0.113 *6* (1970GeZQ); Other: 0.059 (1962Va20).
785.0 *10*	(1/2$^+$ to 9/2$^+$)	B(E2)↑: 0.05 *1* (1968Ga22).
945.0 *10*		B(E2)↑: 0.020 *5* (1968Ga22).
961.5 *5*	(1/2,3/2)$^+$	B(E2)↑: 0.008 *5*. B(E2)↑: weighted average of 0.016 *3*(1985Ta19), 0.005 *2* (1968Ga22).

† From a least-squares fit to Eγ.
‡ From Adopted Levels.

γ(^{105}Pd)

E_γ[†]	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	δ[@]	α[&]	$I_{(\gamma+ce)}$
64.2[#]		344.55	1/2$^+$	280.38	3/2$^+$	M1(+E2)	−0.025 *30*		
90[#a]		650.58	(3/2)$^+$	560.75	3/2$^+$				
112.6[#a]		672.96	1/2$^+$	560.75	3/2$^+$				
123[#a]		442.27	(7/2)$^+$	319.08	5/2$^+$				
136[#a]		442.27	(7/2)$^+$	306.25	7/2$^+$				
136[#]		696.4	(7/2$^+$)	560.75	3/2$^+$				
216[#]		560.75	3/2$^+$	344.55	1/2$^+$				
254[#]		696.4	(7/2$^+$)	442.27	(7/2)$^+$				
280[#a]		560.75	3/2$^+$	280.38	3/2$^+$				
280.37 *6*	128	280.38	3/2$^+$	0.0	5/2$^+$	M1+E2	+0.143 *7*		
285[#a]		727.53	5/2$^+$	442.27	(7/2)$^+$	M1			
288[#]		961.5	(1/2,3/2)$^+$	672.96	1/2$^+$	M1			
306[#a]		650.58	(3/2)$^+$	344.55	1/2$^+$				
306.25 *8*	12.0	306.25	7/2$^+$	0.0	5/2$^+$	M1+E2	+0.055 *2*	0.01894	100
311[#]		961.5	(1/2,3/2)$^+$	650.58	(3/2)$^+$	M1			
319.08 *5*	78.3	319.08	5/2$^+$	0.0	5/2$^+$	M1+E2	+0.103 *8*	0.01710	99.2
328.6[#]		672.96	1/2$^+$	344.55	1/2$^+$	(M1)			
331.48 *10*	6.68	650.58	(3/2)$^+$	319.08	5/2$^+$	M1+E2	−0.084 *7*	0.01550	58
339.49 *6*	31.8	781.77	9/2$^+$	442.27	(7/2)$^+$	M1(+E2)	−0.04 *4*		
344.55 *10*	8.71	344.55	1/2$^+$	0.0	5/2$^+$	E2		0.01889	63
353.8[#a]		672.96	1/2$^+$	319.08	5/2$^+$				
370.0 *5*	1.2	650.58	(3/2)$^+$	280.38	3/2$^+$	M1+E2	0.11 *3*		
392.56 *10*	6.80	672.96	1/2$^+$	280.38	3/2$^+$	M1+E2	+0.06 *3*		
400[#]		961.5	(1/2,3/2)$^+$	560.75	3/2$^+$	M1			
408.1[#]		727.53	5/2$^+$	319.08	5/2$^+$	M1(+E2)			
415.8[#a]		696.4	(7/2$^+$)	280.38	3/2$^+$				
421[#a]		727.53	5/2$^+$	306.25	7/2$^+$	M1(+E2)			
442.24 *8*	892	442.27	(7/2)$^+$	0.0	5/2$^+$	M1+E2	−0.23 *6*		100
447[#a]		727.53	5/2$^+$	280.38	3/2$^+$	M1+E2	0.9 *+9−5*		
475.6[#]		781.77	9/2$^+$	306.25	7/2$^+$				

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Coulomb excitation 1985Ta19,1981Ch42,1971Bo08 (continued)

$\gamma(^{105}Pd)$ (continued)

E_γ[†]	I_γ[†]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[@]	$I_{(\gamma+ce)}$
560.74 *20*	23.1	560.75	3/2$^+$	0.0	5/2$^+$	M1+E2	95.9
617[#]		961.5	(1/2,3/2)$^+$	344.55	1/2$^+$	M1(+E2)	
650.65 *20*	3.74	650.58	(3/2)$^+$	0.0	5/2$^+$	M1+E2	32
673.1 *3*	3.73	672.96	1/2$^+$	0.0	5/2$^+$	E2	33
682[#]		961.5	(1/2,3/2)$^+$	280.38	3/2$^+$	M1(+E2)	
696.2[#]		696.4	(7/2$^+$)	0.0	5/2$^+$		
727.54 *19*	3.10	727.53	5/2$^+$	0.0	5/2$^+$	M1(+E2)	25
781.90 *19*	48.0	781.77	9/2$^+$	0.0	5/2$^+$	E2	54
785[‡]		785.0	(1/2$^+$ to 9/2$^+$)	0.0	5/2$^+$		
945[‡]		945.0		0.0	5/2$^+$		
962[#]		961.5	(1/2,3/2)$^+$	0.0	5/2$^+$	M1	

† From 1971Bo08, unless noted otherwise. Iγ per 1×10[10] incident α particles at Eα=7.2 MeV.

‡ From 1968Ga22.

From 1985Ta19.

@ From the adopted gammas.

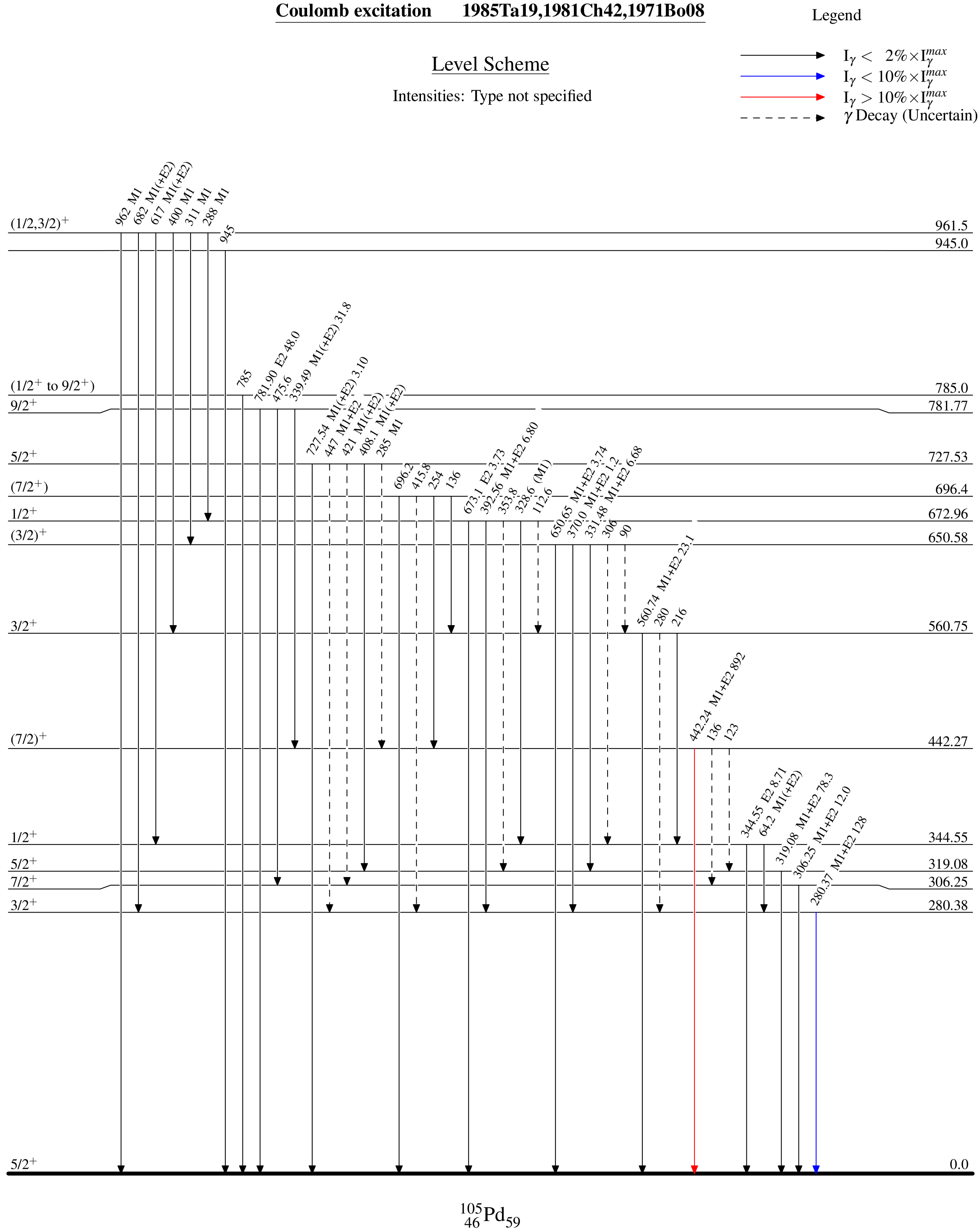
& Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

a Placement of transition in the level scheme is uncertain.

Coulomb excitation 1985Ta19,1981Ch42,1971Bo08

Level Scheme

Intensities: Type not specified



^{106}Pd(p,d) 1975An06,1983Ao01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Lalkovski, J. Timar and Z. Elekes	NDS 161, 1 (2019)	1-Apr-2019

1983Ao01: Facility: University of Tsukuba 12 UD Pelletron; Beam: E(pol p)=22.0 MeV; Target: 2.4 mg/cm^2 enriched in ^{106}Pd to 96.66% Detectors: magnetic spectrograph with a Si position sensitive detector or single-wire proportional chamber, placed in its focal plane; Measured: dσ/dΩ(θ, E), A(θ); Deduced: L from DWBA.

1975An06: Facility: Univ. Colorado 132-cm AVF cyclotron; Beam: E(p)=22.9 MeV; Target:≈200 μg/cm^2 enriched to 82.3% in ^{106}Pd; Contaminants: ^{105}Pd (11.25%) and ^{108}Pd (4.56); Detectors: QQD beam swinger and QQQQ magnetic spectrograph, proportional chamber and one plastic scintillator in coinc., Faraday cup; Measured: E, dσ/dΩ(θ, E).

Other: 1973Is09, 1973PEZK, 1972ISZW.

^{105}Pd Levels

E(level)†	L‡	S#@	Comments
0	2	1.78	S: other: 2.0 (1983Ao01). configuration: $\nu 2d_{5/2}$.
280	2	0.44	
306	4	2.52	configuration: $\nu 1g_{7/2}$.
319	2	0.36	
344	0	0.31	
447	2	0.04	S: given for J^π=5/2$^+$.
489	5	0.85	configuration: $\nu 1h_{11/2}$.
535			
561			
650	2	0.61	
674	0	0.05	
727	2	0.47	
784	4	0.54	
808			
929	2	0.14	
964	0	0.09	
972			
1098			

† From 1975An06.
‡ From dσ/dΩ(θ, E) and DWBA analysis in 1975An06; Poor description of the L=2 states at θ=2.5 and 5.0°.
# Label=C^{2}S.
@ From C^{2}S=(2J+1)σ_{exp}/σ_{dw} 1/N, where N=22.9.

^{106}Pd(d,t) 1963Cu02,1980Sc23

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Lalkovski, J. Timar and Z. Elekes	NDS 161, 1 (2019)	1-Apr-2019

1963Cu02: Facility: Pittsburgh cyclotron; Beam: E(d)=15 MeV; Target: ≈3 mg/cm^2 thick, enriched to≈90% in ^{106}Pd; Detectors: magnetic spectrograph, photographic plates; Measured: dσ/d$\Omega(\theta)$ and compared to DWBA. ΔE(t)=50 keV; The statistical uncertainty is 8 keV.

1980Sc23: Facility: KVI cyclotron; Beam: E(d)= 50 MeV; Target: 500 μg/cm^2 self-supporting Pd metallic foil; Detectors: ΔE-E solid-state detector telescope; Measured: dσ/d$\Omega(\theta$, E); Deduced: level energies, L from DWBA analysis.

Others: 1973RiZL.

^{105}Pd Levels

E(level)†	L‡	S#@	Comments
0 *8*	2	2.05	
321 *8*	2+4	0.56	S: for L=2; Otherwise 4.54 for L=4.
441 *8*			
486 *8*			
652 *8*			
692 *8*			
721 *8*			
785 *8*			
939 *8*			
979 *8*			
1068 *8*			
1105 *8*			
1155 *8*			
1242 *8*			
1288 *8*			
1417 *8*	5	0.90	

† From 1963Cu02.
‡ From 1980Sc23, based on DWBA analysis with DWUCK.
# Label=C^{2}S.
@ From ((2j+1)/N)(dσ/d$\Omega)_{exp}$/(dσ/d$\Omega)_{DWUCK}$ and N=3.33 in 1980Sc23.