^{142}Nd(α,2nγ),^{144}Nd(α,4nγ) 1979PeZS

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	A. A. Sonzogni	NDS 93, 599 (2001)	1-Dec-2000

1979PeZS: ^{144}Nd(α,4nγ) E=57 MeV; measured γ, ce, $\gamma(\theta)$, γ(t), $\gamma\gamma$.
1972Ko42: (α,2nγ) E=20-43 MeV; measured γ, $\gamma(\theta)$ at 4 angles, $\gamma\gamma$, γ(t), excitation functions.
1986Ko25: ^{142}Nd(α,2nγ) E=27 MeV; measured γ, γ(t).
Additional (α,2nγ) information are given in the ^{142}Nd(α,2nγ) dataset.

^{144}Sm Levels

E(level)‡	J$^\pi$†	$T_{1/2}$	Comments
0.0	0^+		
1659.8 *8*	2^+		
1809.9 *8*	3^-		
2190.6 *10*	4^+		
2323.0 *15*	6^+	880 ns *25*	$T_{1/2}$: from 1972Ko42. Other: 890 ns *60* (1973BaXQ).
2824.3 *13*	5^-		
3123.4 *18*	7^-		
3375.9 *19*	8^-	1.6 ns *2*	$T_{1/2}$: from 1986Ko25.
3460.3 *19*	9^-	0.5 ns *2*	$T_{1/2}$: from 1986Ko25.
3518.9 *20*	8^-		
4699.8 *20*	10^-		
4757.9 *21*	10^-		
4907.1 *21*	11^-		
4960.1 *21*	11^-		
5076.9 *22*	12^-		
5150.1 *20*	12^-	≤0.3 ns	$T_{1/2}$: from 1986Ko25.
5359.9 *21*	13^-		
5520.1 *21*	13^-		
5720.0 *21*	14^-		
6125.7 *24*	14^+		
6300.2 *23*	$14^{(+)}$		
6410.1 *22*	$15^{(+)}$		
6650.6 *23*	$15^{(+)}$		
6822.5 *23*	$16^{(+)}$		

† From 1979PeZS, from angular distributions and ce measurements.
‡ From least square fit performed by evaluator.

$\gamma(^{144}Sm)$

E_γ†	I_γ‡	E_i(level)	J_i^π	E_f	J_f^π	Mult.#	α@	Comments
84.4	13.2	3460.3	9^-	3375.9	8^-	(M1)		
110.0		6410.1	$15^{(+)}$	6300.2	$14^{(+)}$			
132.4	49.4	2323.0	6^+	2190.6	4^+	E2	0.87	α(K)=0.534 *16*; α(L)=0.259 *8*; α(M)=0.0591 *18*; α(N+..)=0.0162 *5*
150.1	53.9	1809.9	3^-	1659.8	2^+	E1	0.092	α(K)=0.0779 *24*; α(L)=0.0110 *4*; α(M)=0.00233 *7*; α(N+..)=0.00065 *2*
160.1		5520.1	13^-	5359.9	13^-			
169.8		5076.9	12^-	4907.1	11^-			
171.8		6822.5	$16^{(+)}$	6650.6	$15^{(+)}$			
189.9		5150.1	12^-	4960.1	11^-	M1	0.283	α(K)=0.240 *8*; α(L)=0.0337 *11*; α(M)=0.00716 *22*; α(N+..)=0.00204 *7*

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^{142}Nd(α,2nγ),^{144}Nd(α,4nγ) 1979PeZS (continued)

γ(^{144}Sm) (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[@]	Comments
199.9		5720.0	14^-	5520.1	13^-	M1	0.245	α(K)=0.208 *7*; α(L)=0.0292 *9*; α(M)=0.00622 *19*; α(N+..)=0.00176 *6*
209.8		5359.9	13^-	5150.1	12^-	M1	0.215	α(K)=0.182 *6*; α(L)=0.0256 *8*; α(M)=0.00544 *17*; α(N+..)=0.00154 *5*
243.0		5150.1	12^-	4907.1	11^-	M1	0.144	α(K)=0.122 *4*; α(L)=0.0171 *6*; α(M)=0.00364 *11*; α(N+..)=0.00102 *3*
252.6	60.1	3375.9	8^-	3123.4	7^-	M1	0.130	α(K)=0.110 *4*; α(L)=0.0154 *5*; α(M)=0.00328 *10*; α(N+..)=0.00092 *3*
336.8	3.3	3460.3	9^-	3123.4	7^-	E2	0.0396	α(K)=0.0313 *10*; α(L)=0.00649 *20*; α(M)=0.00143 *5*; α(N+..)=0.00039 *1*
360.1		5720.0	14^-	5359.9	13^-	M1	0.0509	α(K)=0.0433 *13*; α(L)=0.00595 *18*; α(M)=0.00127 *4*; α(N+..)=0.00035 *1*
370.0		5520.1	13^-	5150.1	12^-	M1	0.0474	α(K)=0.0403 *13*; α(L)=0.00554 *17*; α(M)=0.00118 *4*; α(N+..)=0.00033 *1*
380.7	68.5	2190.6	4^+	1809.9	3^-	E1	0.00818	α=0.00818; α(K)=0.00699 *21*; α(L)=0.00093 *3*; α(M)=0.00020 *1*
392.2		5150.1	12^-	4757.9	10^-	E2	0.0252	α(K)=0.0203 *6*; α(L)=0.00387 *12*; α(M)=0.00085 *3*; α(N+..)=0.00023 *1*
395.5	5.7	3518.9	8^-	3123.4	7^-	M1	0.0399	α(K)=0.0339 *11*; α(L)=0.00466 *14*; α(M)=0.00099 *3*; α(N+..)=0.00028 *1*
412.4		6822.5	$16^{(+)}$	6410.1	$15^{(+)}$			
443.3		5520.1	13^-	5076.9	12^-	M1	0.0297	α(K)=0.0253 *8*; α(L)=0.00346 *11*; α(M)=0.00074 *2*; α(N+..)=0.00020 *1*
450.2		5150.1	12^-	4699.8	10^-	E2	0.0171	α(K)=0.0139 *5*; α(L)=0.00249 *8*; α(M)=0.00054 *2*; α(N+..)=0.00015 *1*
530.8	40.0	2190.6	4^+	1659.8	2^+	E2	0.0111	α(K)=0.0090 *3*; α(L)=0.00152 *5*
569.9		5720.0	14^-	5150.1	12^-	E2	0.0092	α=0.0092; α(K)=0.00757 *23*; α(L)=0.00124 *4*
690.0		6410.1	$15^{(+)}$	5720.0	14^-			
765.8		6125.7	14^+	5359.9	13^-	E1	0.00174	α=0.00174; α(K)=0.00148 *5*; α(L)=0.00019 *1*
800.4	79.1	3123.4	7^-	2323.0	6^+	E1	0.00159	α=0.00159; α(K)=0.00136 *4*; α(L)=0.00018 *1*
930.6		6650.6	$15^{(+)}$	5720.0	14^-			
940.4		6300.2	$14^{(+)}$	5359.9	13^-			
1014.4		2824.3	5^-	1809.9	3^-			
1239.3		4699.8	10^-	3460.3	9^-			
1323.9		4699.8	10^-	3375.9	8^-			
1381.9		4757.9	10^-	3375.9	8^-			
1447.0		4907.1	11^-	3460.3	9^-			
1499.7		4960.1	11^-	3460.3	9^-			
1659.8	100.0	1659.8	2^+	0.0	0^+			
1809.9	3.5	1809.9	3^-	0.0	0^+			

[†] From 1979PeZS.
[‡] When given, are from 1972Ko42 at E=31 MeV, uncertainty 10%−20%.
[#] From 1979PeZS, from angular distributions and α measurements.
[@] 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.

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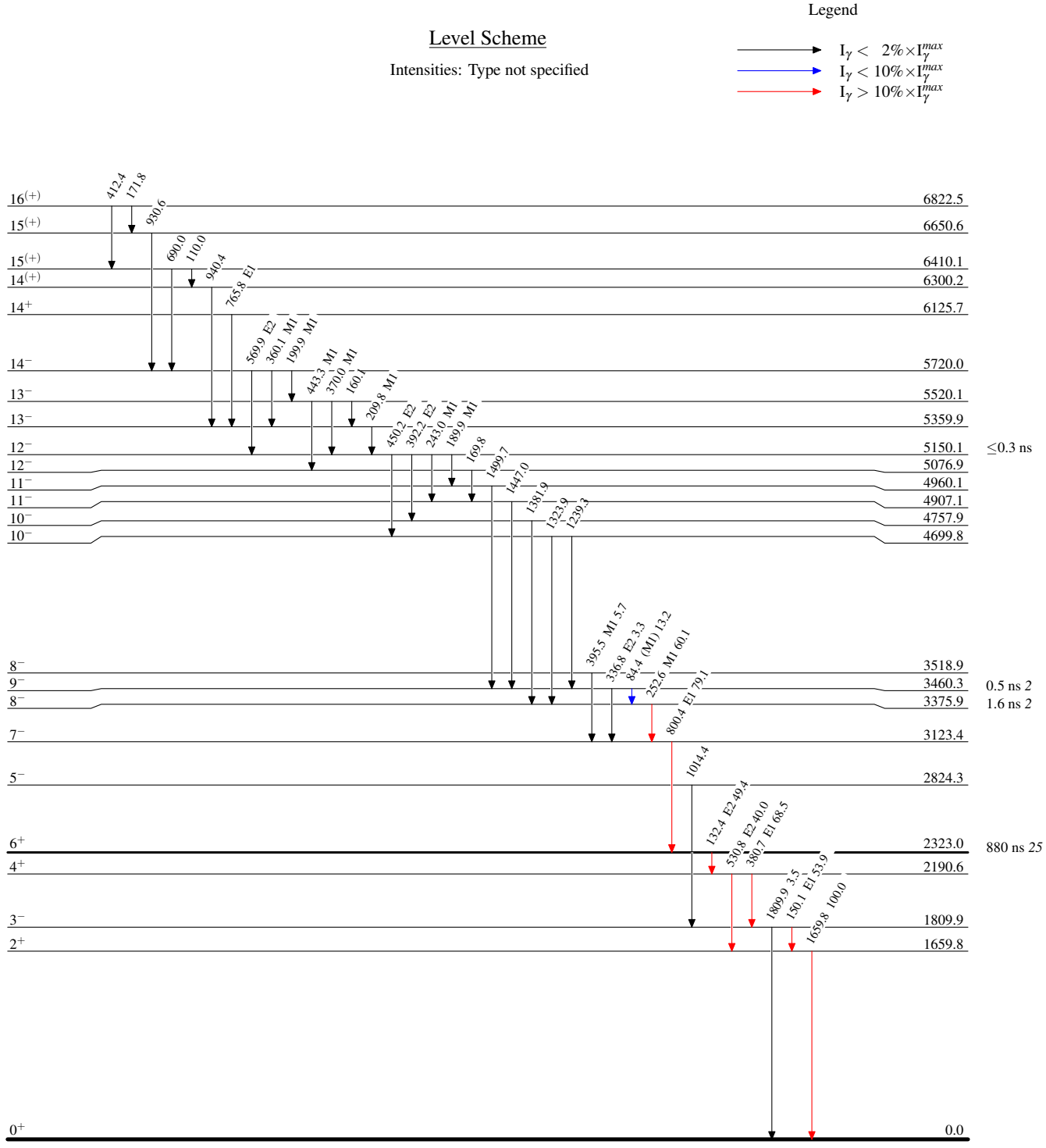
Level Scheme

Intensities: Type not specified



$^{144}_{62}Sm_{82}$