

$^{176}\text{Yb}(^{28}\text{Si},\text{F}\gamma), ^{173}\text{Yb}(^{24}\text{Mg},\text{F}\gamma)$ 2000St05,2000Fo13

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	E. A. McCutchan and A. A. Sonzogni		NDS 115, 135 (2014)	1-Nov-2013

2000St05: E(^{28}Si)=145 MeV. Measured E γ , I γ , and $\gamma\gamma$, using EUROAM2 array, consisting of 54 Compton suppressed Ge detectors, 30 of which were large volume coaxial detectors and 24 of which were four element Clover detectors.

2000Fo13: E(^{24}Mg)=134.5 MeV. Measured E γ , I γ , and $\gamma\gamma$ using Gammasphere array consisting of 92 Compton-suppressed HPGe detectors.

 ^{88}Sr Levels

E(level) [†]	J π [‡]	E(level) [†]	J π [‡]	E(level) [†]	J π [‡]	E(level) [†]	J π [‡]
0.0	0 ⁺	5105.1 4	6,7,8	6843.4 4	7,8,9	8098.4 7	11,12,13
1836.12 10	2 ⁺	5372.5 5	6,7,8	7122.1 5	9,10,11	8280.1 9	12,13,14
2734.63 14	3 ⁻	5429.7 6	7,8,9	7131.8 6	8,9,10,11	8378.1 [#] 8	
3585.83 17	5 ⁻	5657.75 24	8,9	7333.9 4	8,9,10	8442.2 10	11,12,13
4021.03 20	6 ⁻	5979.5 [#] 5		7437.1 6	9,10,11	8521.9 11	13,14,15
4369.93 22	7 ⁻	6016.2 [#] 4		7645.8 5	9,10,11	8619.9 [#] 9	
4523.1 4	5,6,7	6237.3 4	6,7,8	7778.3 6	10,11,12		
4690.2 5	7,8	6834.0 [#] 6		7912.8 8	10,11,12		

[†] From least-squares fit to E γ by evaluators.

[‡] As given by 2000St05, based on previously known J π assignments and the assumption that spin values in general increase with increasing excitation energy in heavy-ion induced reactions.

[#] Observed only by 2000Fo13.

 $\gamma(^{88}\text{Sr})$

E γ [†]	I γ	E $_i$ (level)	J $_i^\pi$	E $_f$	J $_f^\pi$	I γ
181.7 6	2.5 1	8280.1	12,13,14	8098.4	11,12,13	
241.8 6	1.8 3	8521.9	13,14,15	8280.1	12,13,14	
241.8 5		8619.9		8378.1		2.2 5
267.0 [‡] 6	8.1 1	7912.8	10,11,12	7645.8	9,10,11	7.7 8
267.5 ^{‡a} 6	3.2 1	5372.5	6,7,8	5105.1	6,7,8	2.2 5
311.9 3	10.1 1	7645.8	9,10,11	7333.9	8,9,10	7.2 8
320.1 [‡] 6	4.5 2	8098.4	11,12,13	7778.3	10,11,12	
320.3 ^{‡&} 6	1.4 1	4690.2	7,8	4369.93	7 ⁻	0.9 3
324.7 ^b 6	1.6 1	5429.7	7,8,9	5105.1	6,7,8	3.0 5
341.2 6	3.1 1	7778.3	10,11,12	7437.1	9,10,11	3.2 5
348.9 1	44.3 3	4369.93	7 ⁻	4021.03	6 ⁻	36 4
435.2 1	79.1 [#] 4	4021.03	6 ⁻	3585.83	5 ⁻	60 5
490.5 3	10.4 2	7333.9	8,9,10	6843.4	7,8,9	10.4 10
523.7 6	1.0 2	7645.8	9,10,11	7122.1	9,10,11	1.3 4
529.4 6	2.1 1	8442.2	11,12,13	7912.8	10,11,12	1.3 4
581.9 [@] 5		5105.1	6,7,8	4523.1	5,6,7	1.7 4
599.8 [@] 5		8378.1		7778.3	10,11,12	8.0 8
606.2 6	7.4 2	6843.4	7,8,9	6237.3	6,7,8	12.6 10
656.2 6	4.2 1	7778.3	10,11,12	7122.1	9,10,11	2.5 5
661.3 6	2.3 [#] 2	8098.4	11,12,13	7437.1	9,10,11	
784.1 6	3.5 5	4369.93	7 ⁻	3585.83	5 ⁻	6.6 10
827.0 [@] 5		6843.4	7,8,9	6016.2		1.5 4
851.2 1	93.2 7	3585.83	5 ⁻	2734.63	3 ⁻	100 5

Continued on next page (footnotes at end of table)

$^{176}\text{Yb}(^{28}\text{Si},\text{F}\gamma), ^{173}\text{Yb}(^{24}\text{Mg},\text{F}\gamma)$ **2000St05,2000Fo13** (continued) $\gamma(^{88}\text{Sr})$ (continued)

E_γ †	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	I_γ	Comments
898.5 1	100	2734.63	3 ⁻	1836.12	2 ⁺	100	
937.3 6	7.9 3	4523.1	5,6,7	3585.83	5 ⁻	7.2 8	
1084.1 6	9.0 5	5105.1	6,7,8	4021.03	6 ⁻	4.9 6	
1132.2 6	2.4 2	6237.3	6,7,8	5105.1	6,7,8	2.7 5	
1176.2 @ 5		6834.0		5657.75	8,9	0.6 2	
1287.8 1	23.2 1	5657.75	8,9	4369.93	7 ⁻	13.4 20	
1464.3 6	5.9 2	7122.1	9,10,11	5657.75	8,9	3.5 5	
1470.9 ^a 6	1.2 1	6843.4	7,8,9	5372.5	6,7,8	2.4 5	
1474.0 6	0.8 2	7131.8	8,9,10,11	5657.75	8,9		
1609.6 @ 5		5979.5		4369.93	7 ⁻	1.3 4	
1646.0 @ 5		6016.2		4369.93	7 ⁻	1.7 5	
1714.2 6	3.2 1	6237.3	6,7,8	4523.1	5,6,7	3.3 6	
1779.3 6	4.5 2	7437.1	9,10,11	5657.75	8,9	3.1 5	
1836.1 1	≥100	1836.12	2 ⁺	0.0	0 ⁺	100	I_γ : ≥100 from intensity balance in 2000St05 .
1867.4 6	2.4 2	6237.3	6,7,8	4369.93	7 ⁻	1.9 5	
1904.2 ^b 6	0.8 1	7333.9	8,9,10	5429.7	7,8,9	1.5 4	
2153.3 & 6	1.3 1	6843.4	7,8,9	4690.2	7,8	1.5 5	
2473.6 6	1.4 1	6843.4	7,8,9	4369.93	7 ⁻	1.2 4	

† $\Delta E_\gamma=0.6$ for $I_\gamma<10$, $\Delta E_\gamma=0.3$ for $10<I_\gamma<20$, and $\Delta E_\gamma=0.1$ for $I_\gamma>20$ used by evaluators based on a general statement in [2000St05](#).

‡ Doublet.

Transition close in energy also belongs to ^{108}Pd or ^{109}Pd , complementary fragments of ^{88}Sr .

@ Observed only by [2000Fo13](#).

& Ordering of 320 γ -2153 γ cascade is reversed in [2000Fo13](#).

^a Ordering of 268 γ -1470 γ cascade is reversed in [2000Fo13](#).

^b Ordering of 325 γ -1903 γ cascade is reversed in [2000Fo13](#). Intensity balance using values from both [2000Fo13](#) and [2000St05](#) favors the placement proposed by [2000St05](#).

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Level Scheme
Intensities: Relative I_γ

Legend

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

