

⁹⁴Mo(⁴⁰Ca, α p2n γ) 1998Sm08

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	A. Hashizume	NDS 112, 1647 (2011)	1-Oct-2009

1998Sm08: E=180 MeV. Measured E γ , I γ , $\gamma\gamma\gamma$, $\gamma\gamma(\theta)$, particle- γ coin using GAMMASPHERE array with 92 detectors and MICROBALL array of particle detectors.

¹²⁷Pr Levels

E(level) [†]	J π [‡]	T _{1/2} [‡]	Comments
0.0		4.2 s ³	
0+x [#]	11/2 ⁻		Additional information 1.
0+y ^a	(9/2 ⁺)		Additional information 2.
189.1+y ^{&} 4	(11/2 ⁺)		
236.0+x [#] 5	(15/2 ⁻)		
403.9+y [@] 4	(13/2 ⁺)		
625.0+x [#] 7	(19/2 ⁻)		
643.4+y ^{&} 5	(15/2 ⁺)		
904.2+y [@] 6	(17/2 ⁺)		
1149.0+x [#] 9	(23/2 ⁻)		
1184.3+y ^{&} 6	(19/2 ⁺)		
1482.2+y [@] 6	(21/2 ⁺)		
1787.0+x [#] 10	(27/2 ⁻)		
1797.2+y ^{&} 7	(23/2 ⁺)		
2128.2+y [@] 7	(25/2 ⁺)		
2473.2+y ^{&} 8	(27/2 ⁺)		
2518.0+x [#] 12	(31/2 ⁻)		
2837.2+y [@] 8	(29/2 ⁺)		
3217.2+y ^{&} 8	(31/2 ⁺)		
3327.0+x [#] 13	(35/2 ⁻)		
3611.2+y [@] 9	(33/2 ⁺)		
4029+y ^{?&}	(35/2 ⁺)		
4211.0+x [#] 14	(39/2 ⁻)		
4453+y ^{?@}	(37/2 ⁺)		
4904+y ^{?&}	(39/2 ⁺)		
5172.0+x [#] 15	(43/2 ⁻)		
6203.0+x [#] 15	(47/2 ⁻)		
7291.0+x [#] 16	(51/2 ⁻)		
8429.0+x [#] 17	(55/2 ⁻)		

[†] From least-squares fit to E γ 's, assuming $\Delta(E\gamma)=0.5$ keV when not stated (evaluator).

[‡] From Adopted Levels.

Band(A): $\pi h_{11/2}$.

@ Band(B): $\pi g_{9/2}$, $\alpha=+1/2$.

& Band(C): $\pi g_{9/2}$, $\alpha=-1/2$.

^a 1998Sm08 tentatively propose that this level decays to the (7/2⁺) state by the 252 keV γ .

$^{94}\text{Mo}({}^{40}\text{Ca},\alpha\text{p}2\text{n}\gamma)$ **1998Sm08** (continued) $\gamma(^{127}\text{Pr})$

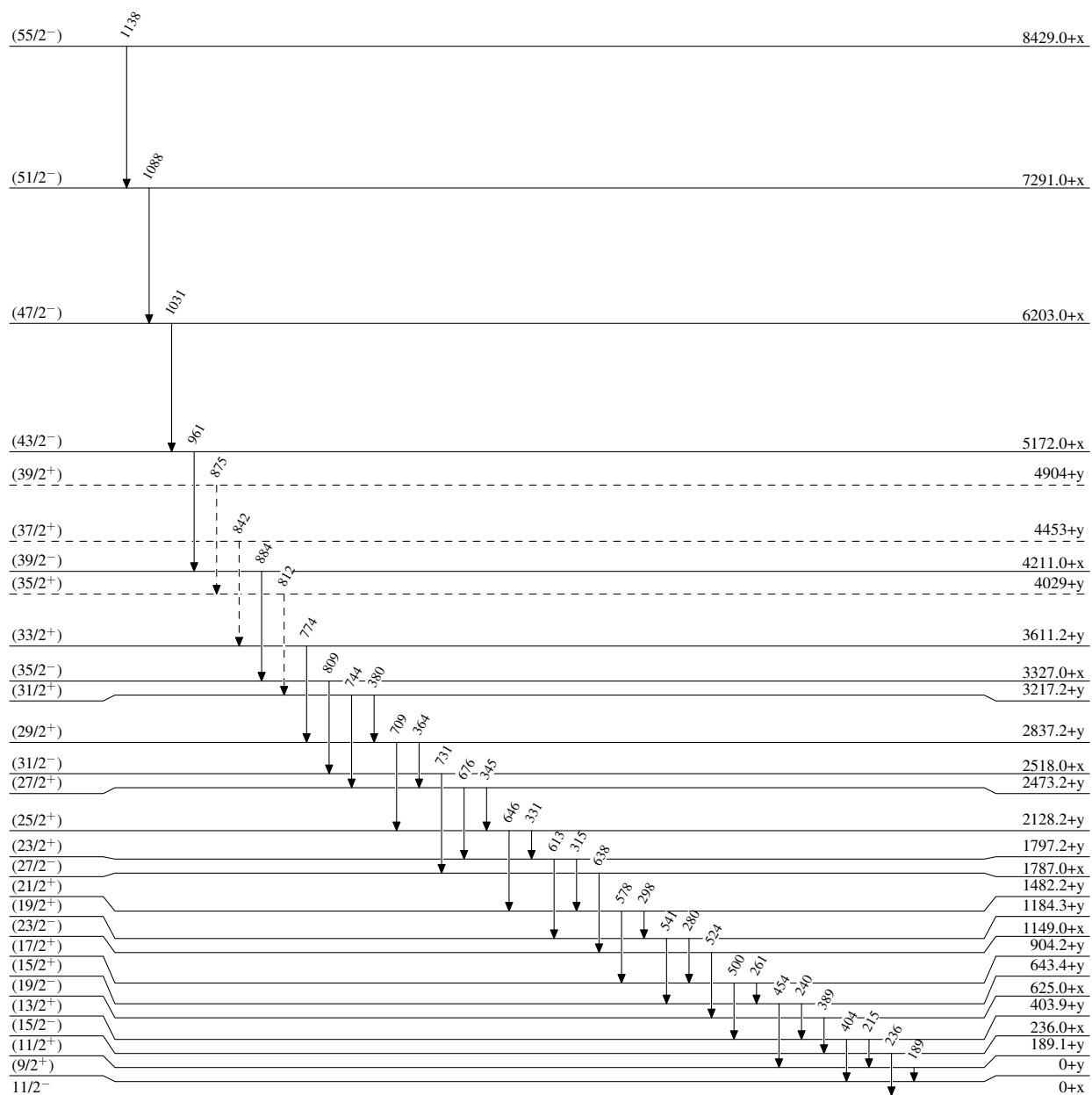
E_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	E_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π
189	189.1+y	(11/2 ⁺)	0+y	(9/2 ⁺)	578	1482.2+y	(21/2 ⁺)	904.2+y	(17/2 ⁺)
215	403.9+y	(13/2 ⁺)	189.1+y	(11/2 ⁺)	613	1797.2+y	(23/2 ⁺)	1184.3+y	(19/2 ⁺)
236	236.0+x	(15/2 ⁻)	0+x	11/2 ⁻	638	1787.0+x	(27/2 ⁻)	1149.0+x	(23/2 ⁻)
240	643.4+y	(15/2 ⁺)	403.9+y	(13/2 ⁺)	646	2128.2+y	(25/2 ⁺)	1482.2+y	(21/2 ⁺)
261	904.2+y	(17/2 ⁺)	643.4+y	(15/2 ⁺)	676	2473.2+y	(27/2 ⁺)	1797.2+y	(23/2 ⁺)
280	1184.3+y	(19/2 ⁺)	904.2+y	(17/2 ⁺)	709	2837.2+y	(29/2 ⁺)	2128.2+y	(25/2 ⁺)
298	1482.2+y	(21/2 ⁺)	1184.3+y	(19/2 ⁺)	731	2518.0+x	(31/2 ⁻)	1787.0+x	(27/2 ⁻)
315	1797.2+y	(23/2 ⁺)	1482.2+y	(21/2 ⁺)	744	3217.2+y	(31/2 ⁺)	2473.2+y	(27/2 ⁺)
331	2128.2+y	(25/2 ⁺)	1797.2+y	(23/2 ⁺)	774	3611.2+y	(33/2 ⁺)	2837.2+y	(29/2 ⁺)
345	2473.2+y	(27/2 ⁺)	2128.2+y	(25/2 ⁺)	809	3327.0+x	(35/2 ⁻)	2518.0+x	(31/2 ⁻)
364	2837.2+y	(29/2 ⁺)	2473.2+y	(27/2 ⁺)	812 [†]	4029+y?	(35/2 ⁺)	3217.2+y	(31/2 ⁺)
380	3217.2+y	(31/2 ⁺)	2837.2+y	(29/2 ⁺)	842 [†]	4453+y?	(37/2 ⁺)	3611.2+y	(33/2 ⁺)
389	625.0+x	(19/2 ⁻)	236.0+x	(15/2 ⁻)	875 [†]	4904+y?	(39/2 ⁺)	4029+y?	(35/2 ⁺)
404	403.9+y	(13/2 ⁺)	0+y	(9/2 ⁺)	884	4211.0+x	(39/2 ⁻)	3327.0+x	(35/2 ⁻)
454	643.4+y	(15/2 ⁺)	189.1+y	(11/2 ⁺)	961	5172.0+x	(43/2 ⁻)	4211.0+x	(39/2 ⁻)
500	904.2+y	(17/2 ⁺)	403.9+y	(13/2 ⁺)	1031	6203.0+x	(47/2 ⁻)	5172.0+x	(43/2 ⁻)
524	1149.0+x	(23/2 ⁻)	625.0+x	(19/2 ⁻)	1088	7291.0+x	(51/2 ⁻)	6203.0+x	(47/2 ⁻)
541	1184.3+y	(19/2 ⁺)	643.4+y	(15/2 ⁺)	1138	8429.0+x	(55/2 ⁻)	7291.0+x	(51/2 ⁻)

[†] Placement of transition in the level scheme is uncertain.

$^{94}\text{Mo} (^{40}\text{Ca}, \alpha p 2n \gamma)$ 1998Sm08

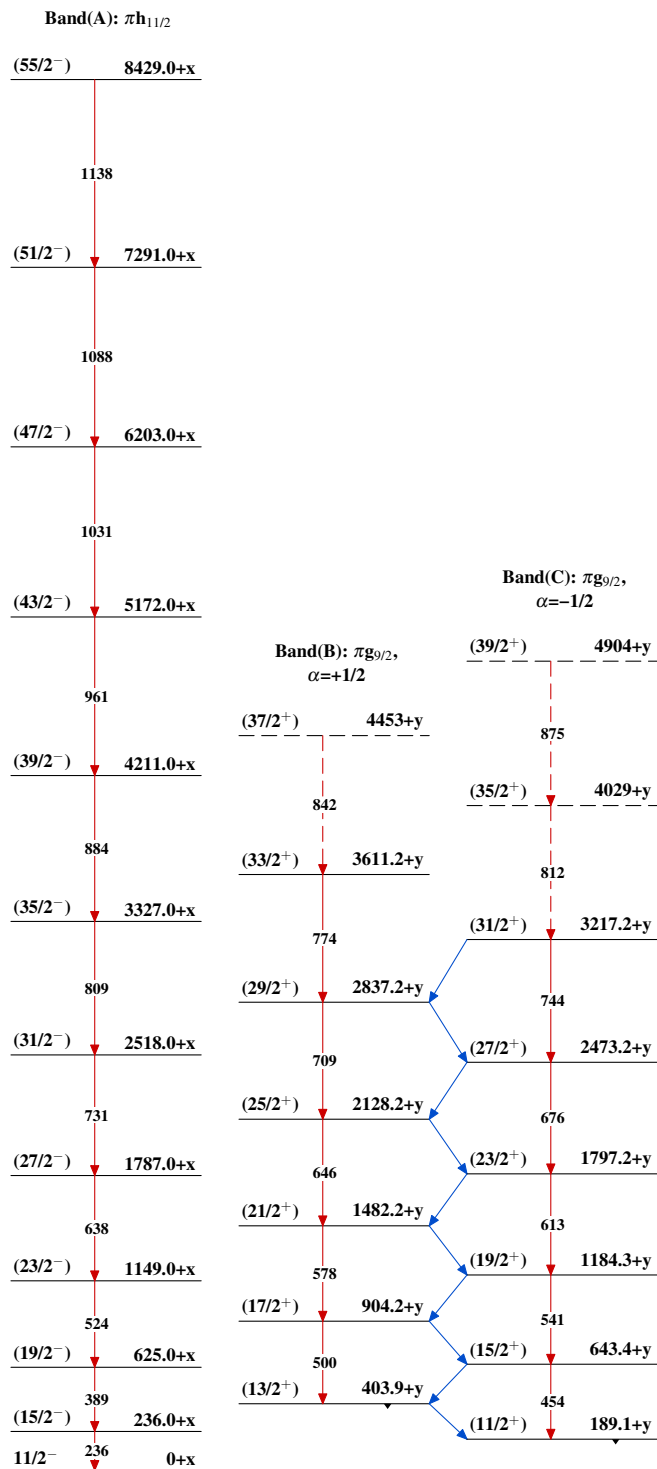
Legend

Level Scheme

-----► γ Decay (Uncertain)

0.0 4.2 s 3

 $^{127}_{59}\text{Pr}_{68}$

$^{94}\text{Mo}(\alpha^{40}\text{Ca}, \alpha p 2n \gamma)$ 1998Sm08 $^{127}_{59}\text{Pr}_{68}$