^{100}Mo(^{36}S,p3nγ) 2003Ti02

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Yu. Khazov, A. A. Rodionov and S. Sakharov, Balraj Singh	NDS 104, 497 (2005)	10-Feb-2005

2003Ti02: E=160 MeV. Measured Eγ, Iγ, $\gamma\gamma$, $\gamma\gamma(\theta)$, γ(lin pol) using EUROBALL IV array which contained an inner ball of BGO detectors.

^{132}La Levels

E(level)[†]	J$^\pi$	T$_{1/2}$	Comments
188.20[#] *11*	6$^-$	24.3 min *5*	E(level),J$^\pi$,T$_{1/2}$: from Adopted Levels.
357.29[#] *24*	(7)$^-$		
390.67 *24*	(7)$^-$		
507.87 *24*	(6)$^+$		
584.1[#] *4*	(8$^-$)		
669.26[‡] *25*	(7)$^+$		
707.5[‡] *4*	(8)$^+$		
774.3[‡] *5*	(9$^+$)		
872.3[#] *5*	(9$^-$)		
935.2[‡] *5*	(10$^+$)		
1228.5[‡] *5*	(11$^+$)		
1252.5[#] *6*	(10$^-$)		

[†] From least-squares fit to Eγ's.
[‡] Band(A): $\pi h_{11/2}\nu h_{11/2}$.
[#] Band(B): $\pi g_{7/2}\nu h_{11/2}$.

γ(^{132}La)

E$_\gamma$	I$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.	α[‡]	Comments
(33.4)	1	390.67	(7)$^-$	357.29	(7)$^-$	[M1]	3.95	α(L)=3.10; α(M)=0.640 E$_\gamma$: from level-energy difference.
(38.3)	≈30	707.5	(8)$^+$	669.26	(7)$^+$	[M1]	2.68	α(L)=2.10; α(M)=0.434 E$_\gamma$: from level-energy difference. I$_\gamma$: deduced (by evaluators) from intensity balance. Iγ=7 In 2003Ti02 is In error since the authors assumed α≈15. In an E-mail reply from J. Timar on March 26, 2003, it was confirmed that the the photon intensity should Be≈30.
66.8 *2*	27 *2*	774.3	(9$^+$)	707.5	(8)$^+$	D		DCO=1.1 *3*.
117.1 *5*	1.0 *4*	507.87	(6)$^+$	390.67	(7)$^-$			
150.6 *3*	3.0 *3*	507.87	(6)$^+$	357.29	(7)$^-$	D		DCO=1.1 *2*.
160.9 *2*	93 *5*	935.2	(10$^+$)	774.3	(9$^+$)	M1	0.287	α(K)=0.246; α(L)=0.0329; α(M)=0.00681; α(N+..)=0.00188 DCO=1.0 *1*, POL=−0.2 *3*.
161.4 *4*	17 *3*	669.26	(7)$^+$	507.87	(6)$^+$	[M1]	0.28	
169.0 *2*	44 *3*	357.29	(7)$^-$	188.20	6$^-$	M1	0.251	α(K)=0.215; α(L)=0.0287; α(M)=0.00594; α(N+..)=0.00164 DCO=1.0 *1*, POL=−0.5 *3*.
202.4 *2*	47 *3*	390.67	(7)$^-$	188.20	6$^-$	M1	0.153	α(K)=0.131; α(L)=0.0175; α(M)=0.00361; α(N+..)=0.00100 DCO=0.9 *1*, POL=−0.3 *2*.

Continued on next page (footnotes at end of table)

^{100}Mo(^{36}S,p3nγ) 2003Ti02 (continued)

γ(^{132}La) (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.	α[‡]	Comments
226.8 *3*	10 *1*	584.1	(8^-)	357.29	$(7)^-$			
278.6 *2*	51 *3*	669.26	$(7)^+$	390.67	$(7)^-$	E1[†]		DCO=1.7 *2*, POL=−0.3 *2*.
288.2 *3*	6 *1*	872.3	(9^-)	584.1	(8^-)			
293.3 *3*	100 *6*	1228.5	(11^+)	935.2	(10^+)	M1	0.0568	DCO=0.9 *1*, POL=−0.2 *1*.
311.9 *3*	16 *2*	669.26	$(7)^+$	357.29	$(7)^-$	E1[†]		DCO=1.6 *3*, POL=−0.5 *4*.
319.6 *2*	10 *1*	507.87	$(6)^+$	188.20	6^-	E1[†]		DCO=1.5 *2*, POL=−1.0 *4*.
350.2 *3*	11 *1*	707.5	$(8)^+$	357.29	$(7)^-$	E1[†]		DCO=0.9 *2*, POL=+0.8 *6*.
454.2 *4*	6 *2*	1228.5	(11^+)	774.3	(9^+)			
481.0 *3*	22 *2*	669.26	$(7)^+$	188.20	6^-	E1		DCO=1.0 *1*, POL=+0.3 *2*.
668.4 *4*	4 *1*	1252.5	(10^-)	584.1	(8^-)			

[†] ΔJ=0 transition.
[‡] 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.

^{100}Mo(^{36}S,p3nγ) 2003Ti02

Level Scheme

Intensities: Relative I_γ

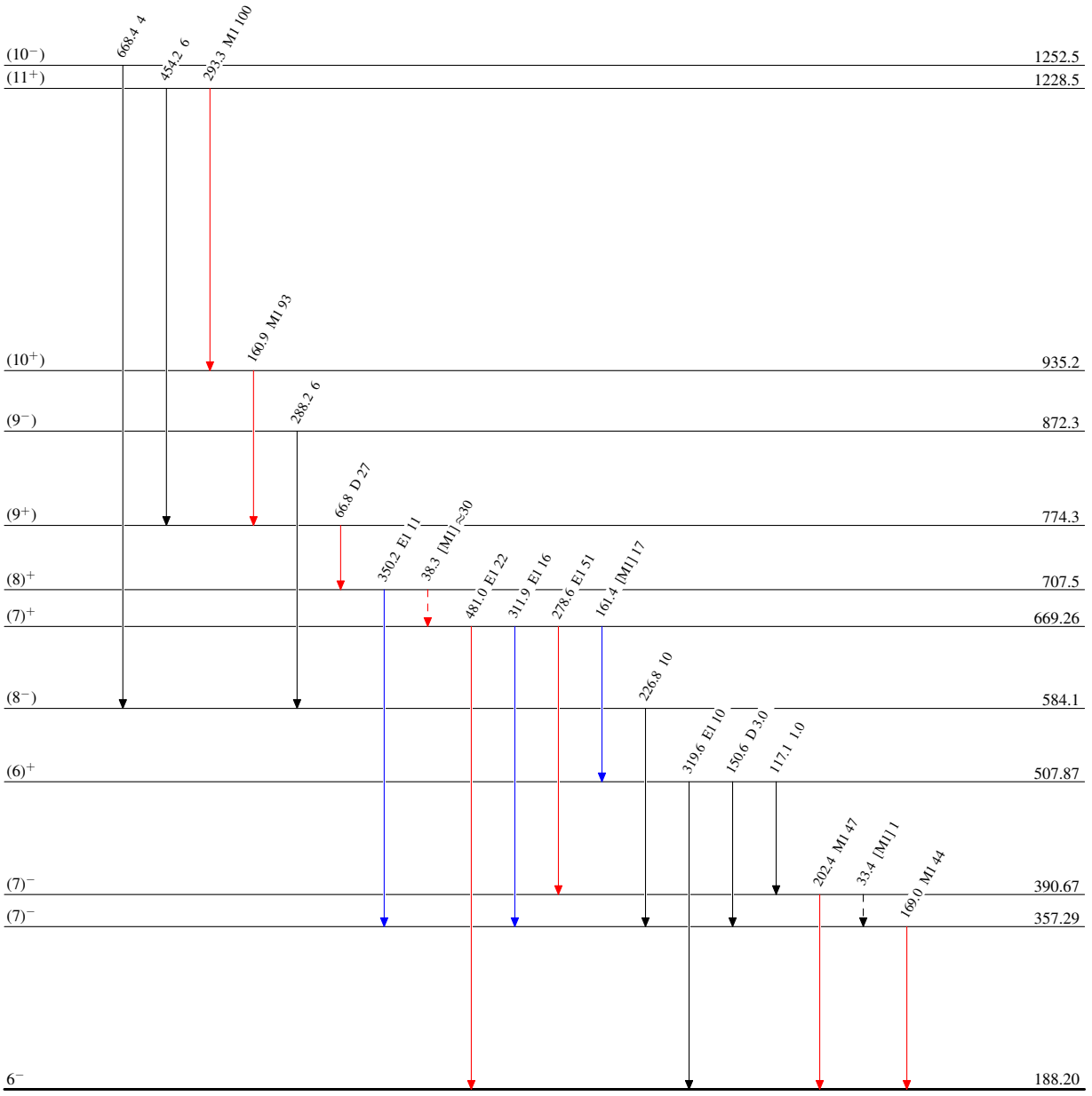
Legend

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

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

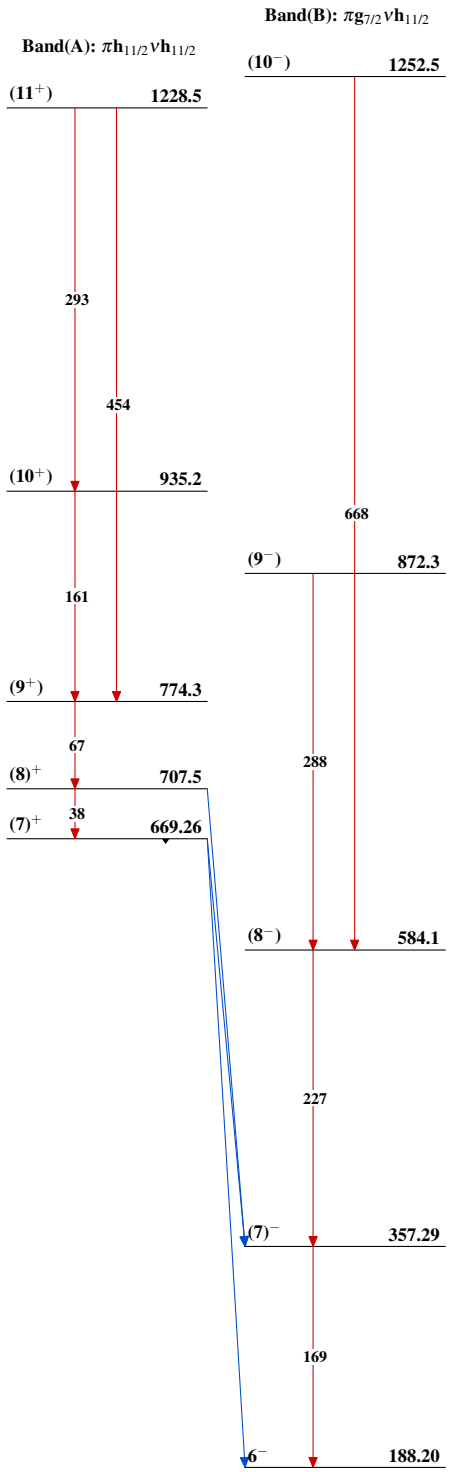
$I_\gamma > 10\% \times I_\gamma^{max}$

γ Decay (Uncertain)



$^{132}_{57}La_{75}$

^{100}Mo(^{36}S,p3nγ) 2003Ti02



$^{132}_{57}La_{75}$