^{100}Mo(^{13}C,p3nγ) 2008Da12

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Kumar(a), J. Chen(b) and F. G. Kondev	NDS 137, 1 (2016)	31-May-2016

2008Da12: E=65 MeV beam was provided by 15-UD Pelletron accelerator at Inter-University Accelerator Centre. Target is 1 mg/cm^2 enriched ^{100}Mo on a 9 mg/cm^2 natural Pb backing. γ rays were detected by the Indian National Gamma Array (INGA) of 8 Compton suppressed clover detectors in two rings at 79° and 130° and were identified by proton-γ-coincidence method with a 4π charge particle detector array (CPDA) of 10 phoswich plastic scintillators. Measured Eγ, Iγ, proton-$\gamma\gamma$-coin, Doppler shift. Deduced levels, J^π, $T_{1/2}$, band structures. Comparisons with projected shell-model calculations.

Other: 1996Po07.

^{109}Ag Levels

E(level)†	Jπ‡	E(level)†	Jπ‡	$T_{1/2}$@	E(level)†	Jπ‡	$T_{1/2}$@
0.0	1/2$^-$#	1894.7& *9*	17/2$^+$	0.57 ps *5*	3969.3& *11*	29/2$^+$	0.37 ps *4*
88.0 *5*	7/2$^+$#	2568.1[a] *9*	19/2$^+$	0.39 ps *4*	4376.4[a] *11*	31/2$^+$	0.291 ps *35*
132.8& *7*	9/2$^+$	2841.4& *10*	21/2$^+$	0.82 ps *8*	4887.0& *11*	33/2$^+$	0.180 ps *21*
773.3[a] *8*	11/2$^+$	3090.8[a] *10*	23/2$^+$	1.53 ps *16*	5415.1[a] *12*	35/2$^+$	0.222 ps *28*
930.9& *8*	13/2$^+$	3277.0& *10*	25/2$^+$	1.87 ps *21*	5998.9& *13*	37/2$^+$	
1703.4[a] *9*	15/2$^+$	3575.8[a] *10*	27/2$^+$	0.71 ps *8*			

† From a least-squares fit to Eγ by assuming an uncertainty of 0.5 keV.
‡ From 2008Da12 based on band structure, unless otherwise noted.
# From Adopted Levels.
@ From DSAM in 2008Da12.
& Band(A): $\pi g_{9/2}$, α=+1/2. above 21/2$^+$, this band changes to $\pi g_{9/2}\otimes\nu(h_{11/2})^2$.
[a] Band(a): $\pi g_{9/2}$, α=−1/2. above 21/2$^+$, this band changes to $\pi g_{9/2}\otimes\nu(h_{11/2})^2$.

γ(^{109}Ag)

Eγ	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Eγ	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
44.8	132.8	9/2$^+$	88.0	7/2$^+$	583.8	5998.9	37/2$^+$	5415.1	35/2$^+$
88.0	88.0	7/2$^+$	0.0	1/2$^-$	640.6	773.3	11/2$^+$	132.8	9/2$^+$
157.3	930.9	13/2$^+$	773.3	11/2$^+$	673.4	2568.1	19/2$^+$	1894.7	17/2$^+$
186.2	3277.0	25/2$^+$	3090.8	23/2$^+$	692.3	3969.3	29/2$^+$	3277.0	25/2$^+$
191.3	1894.7	17/2$^+$	1703.4	15/2$^+$	772.3	1703.4	15/2$^+$	930.9	13/2$^+$
249.4	3090.8	23/2$^+$	2841.4	21/2$^+$	798.0	930.9	13/2$^+$	132.8	9/2$^+$
273.5	2841.4	21/2$^+$	2568.1	19/2$^+$	800.6	4376.4	31/2$^+$	3575.8	27/2$^+$
298.8	3575.8	27/2$^+$	3277.0	25/2$^+$	864.9	2568.1	19/2$^+$	1703.4	15/2$^+$
393.5	3969.3	29/2$^+$	3575.8	27/2$^+$	917.7	4887.0	33/2$^+$	3969.3	29/2$^+$
407.1	4376.4	31/2$^+$	3969.3	29/2$^+$	930.6	1703.4	15/2$^+$	773.3	11/2$^+$
435.6	3277.0	25/2$^+$	2841.4	21/2$^+$	946.5	2841.4	21/2$^+$	1894.7	17/2$^+$
485.0	3575.8	27/2$^+$	3090.8	23/2$^+$	963.5	1894.7	17/2$^+$	930.9	13/2$^+$
510.6	4887.0	33/2$^+$	4376.4	31/2$^+$	1038.7	5415.1	35/2$^+$	4376.4	31/2$^+$
522.7	3090.8	23/2$^+$	2568.1	19/2$^+$	1111.9†	5998.9	37/2$^+$	4887.0	33/2$^+$
528.1	5415.1	35/2$^+$	4887.0	33/2$^+$					

† Placement of transition in the level scheme is uncertain.

Legend

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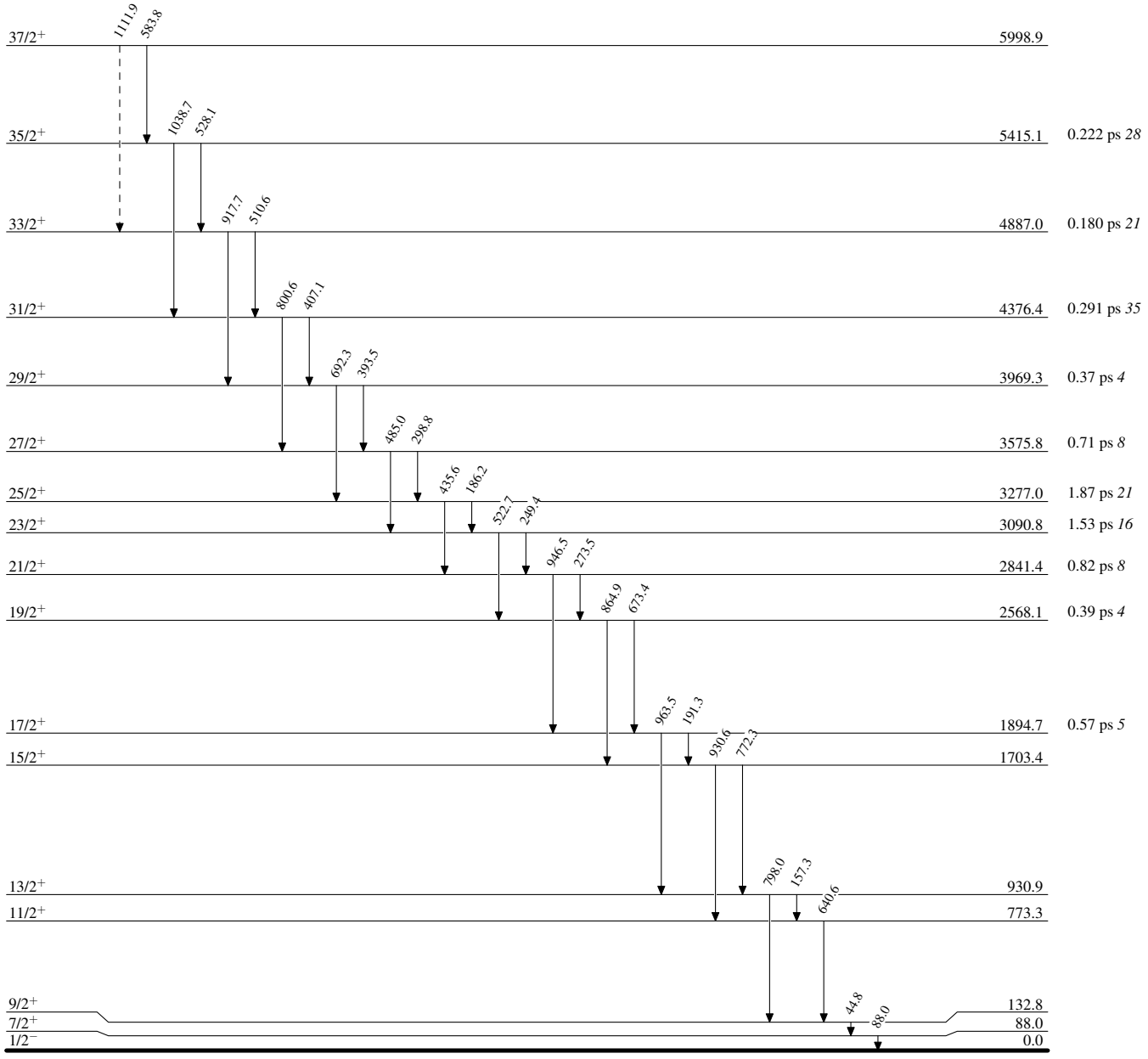
Level Scheme

γ Decay (Uncertain)



$^{109}_{47}Ag_{62}$

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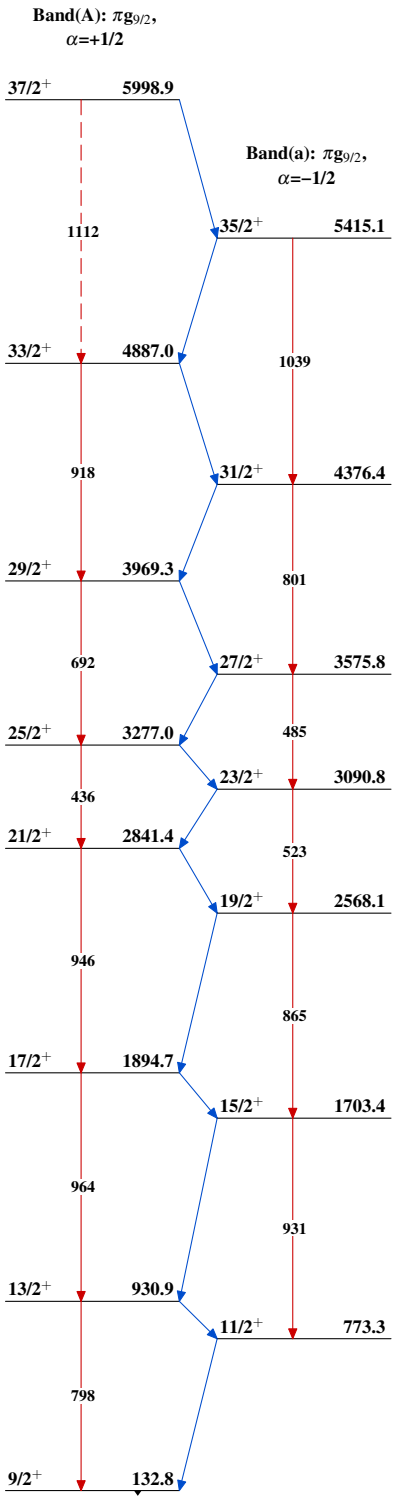

$^{109}_{47}Ag_{62}$