^{114}Sn(^{12}C,3nγ) 1979Yo06

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 174, 1 (2021)	15-Apr-2021

1979Yo06: E=52-63 MeV ^{12}C beams were produced from the Grenoble variable-energy cyclotron. Target was metallic tin 66.5% enriched in ^{114}Sn. γ rays were detected with Ge(Li) detectors. Measured Eγ, Iγ, $\gamma\gamma$-coin, γ(t), $\gamma(\theta)$. Deduced levels, J, π, $T_{1/2}$, γ-ray multipolarities. Systematics of neighboring nuclei.

^{123}Ba Levels

E(level)[†]	J$^\pi$[‡]	$T_{1/2}$	Comments
0.0	$5/2^{(+)}$		
92.70 *10*	$(7/2^-)$	≈40 ns	$T_{1/2}$: from γ(t) in 1979Yo06.
169.6 *10*	$(7/2^+)$		
202.70 *15*	$(9/2^-)$		
335.9 *8*	$(11/2^-)$		
374.9 *11*	$(9/2^+)$		
582.9 *8*	$(13/2^-)$		
613.0 *11*	$(11/2^+)$		
757.0 *10*	$(15/2^-)$		
1136.8 *9*	$(17/2^-)$		
1326.0 *11*	$(19/2^-)$		
1831.5 *14*	$(21/2^-)$		
2020.7 *15*	$(23/2^-)$		
2801.3 *18*	$(27/2^-)$		

[†] From a least-squares fit to γ-ray energies.
[‡] From Adopted Levels. Assignments are supported by $\gamma(\theta)$ in 1979Yo06 where available.

γ(^{123}Ba)

E$_\gamma$[†]	I$_\gamma$[†]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.[‡]	Comments
92.7 *1*	102 *8*	92.70	$(7/2^-)$	0.0	$5/2^{(+)}$	(D+Q)	Mult.: A_2=−0.20 *5*.
110.0 *1*	100 *8*	202.70	$(9/2^-)$	92.70	$(7/2^-)$	(D+Q)	Mult.: A_2=−0.41 *7*.
133.3 *10*	≈81	335.9	$(11/2^-)$	202.70	$(9/2^-)$		Mult.: A_2=−0.45 *10* for composite line.
169.6 *10*	≈30	169.6	$(7/2^+)$	0.0	$5/2^{(+)}$		
174.4 *10*	≈23	757.0	$(15/2^-)$	582.9	$(13/2^-)$		
189.1 *10*	≈33	1326.0	$(19/2^-)$	1136.8	$(17/2^-)$		
205.3 *2*	28 *4*	374.9	$(9/2^+)$	169.6	$(7/2^+)$	(D+Q)	Mult.: A_2=−0.54 *16*.
238.1 *3*	14 *3*	613.0	$(11/2^+)$	374.9	$(9/2^+)$	(D+Q)	Mult.: A_2=−0.31 *9*.
247.0 *3*	30 *4*	582.9	$(13/2^-)$	335.9	$(11/2^-)$	(D+Q)	Mult.: A_2=−0.738.
380.1[#] *10*	37[#] *7*	582.9	$(13/2^-)$	202.70	$(9/2^-)$		Mult.: A_2=+0.04 *10* for composite line.
380.1[#] *10*	37[#] *7*	1136.8	$(17/2^-)$	757.0	$(15/2^-)$		
421.3 *10*	≈118	757.0	$(15/2^-)$	335.9	$(11/2^-)$		Mult.: A_2=+0.29 *6* for composite line.
553.7 *6*	30 *5*	1136.8	$(17/2^-)$	582.9	$(13/2^-)$		Mult.: A_2=+0.21 *7*.
569.0 *6*	72 *11*	1326.0	$(19/2^-)$	757.0	$(15/2^-)$		Mult.: A_2=+0.20 *6*.
694.7[#] *10*	≈55[#]	1831.5	$(21/2^-)$	1136.8	$(17/2^-)$		Mult.: A_2=+0.28 *2* for composite line.
694.7[#] *10*	≈55[#]	2020.7	$(23/2^-)$	1326.0	$(19/2^-)$		
780.6 *10*	≈34	2801.3	$(27/2^-)$	2020.7	$(23/2^-)$		

[†] From 1979Yo06, relative to I(110γ)=100. Uncertainties for Eγ are not explicitly given in 1979Yo06 and are assigned to be 0.1% for resolved lines according to authors′ statement and 1 keV for unresolved composite line estimated by the evaluator.

Continued on next page (footnotes at end of table)

^{114}Sn(^{12}C,3nγ) 1979Yo06 (continued)

γ(^{123}Ba) (continued)

‡ From $\gamma(\theta)$ in 1979Yo06. The evaluator assumed (D+Q) for transitions with negative A_2 values given under comment; large positive A_2 values are consistent with $\Delta J=2$ while $\Delta J=0$ also possible.
# Multiply placed with undivided intensity.

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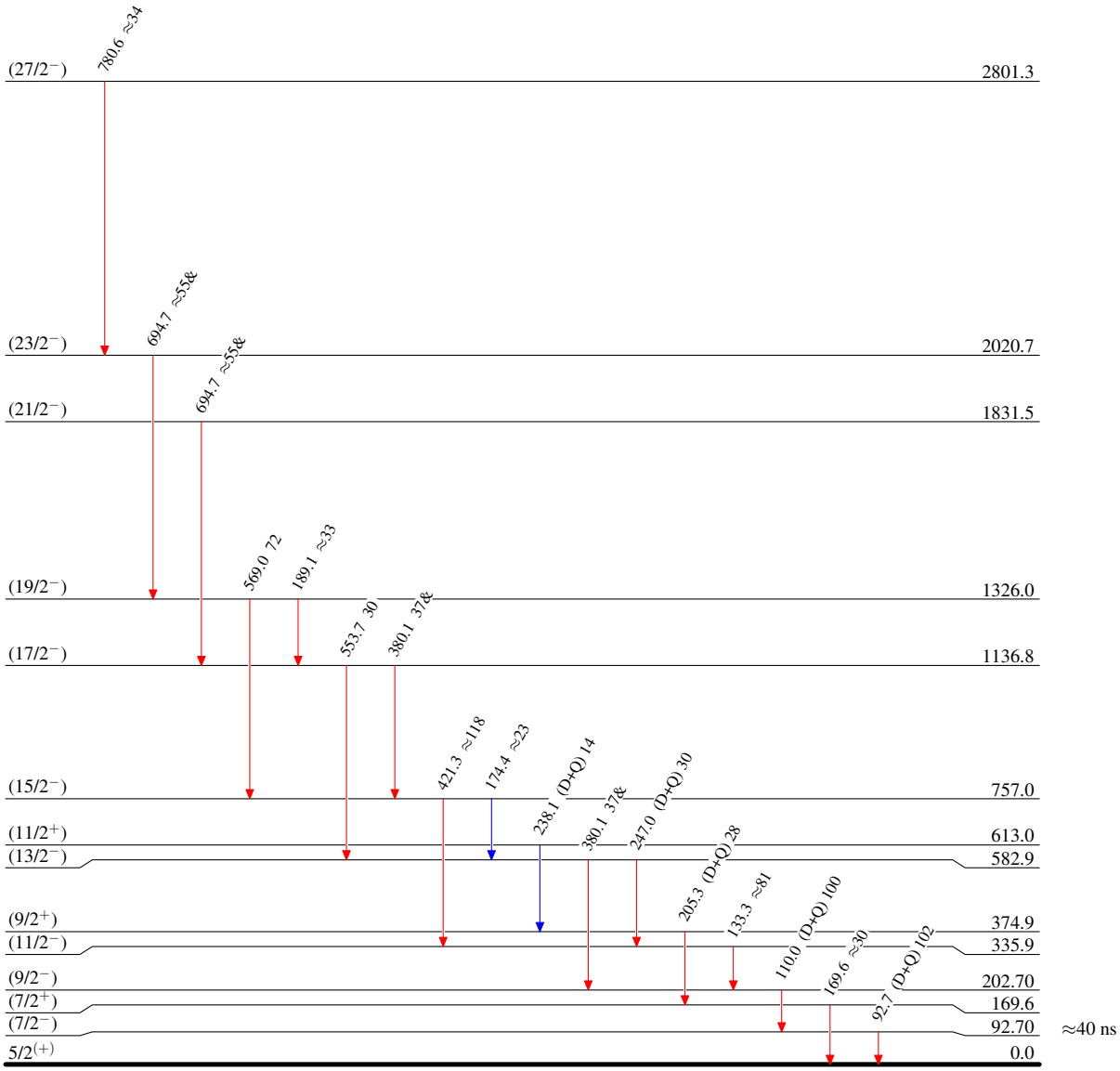
Level Scheme

Intensities: Relative I_γ
& Multiply placed: undivided intensity given

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



$^{123}_{56}Ba_{67}$