⁹²Mo(³²S,2npγ) 1991Ce03

		History	
Туре	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Ohya	NDS 111, 1619 (2010)	20-Jan-2009

1991Ce03: E=145 MeV measured γ , $\gamma\gamma$ -coin using 15 Compton suppressed Ge array oriented at 79°, 101°, 143° to beam. The Ge was provided with an n/ γ multiplicity filter and a Si detector ball to select the (32 S,p2n) reaction.

¹²¹La Levels

E(level)	J^{π}	Comments
x [†]	$(11/2^{-})^{\#}$	
251+x [†]	$(15/2^{-})^{\#}$	
668+x [†]	$(19/2^{-})^{\#}$	
1229+x [†]	$(23/2^{-})^{\#}$	
1912+x [†]	$(27/2^{-})^{\#}$	
2695+x	$(31/2^{-})^{\#}$	
3562+x [†]	$(35/2^{-})^{\#}$	
4504+x [†]	$(39/2^{-})^{\#}$	
5515+x [†]	$(43/2^{-})^{\#}$	
6588+x? [†]	$(47/2^{-})^{\#}$	
7718+x? [†]	$(51/2^{-})^{\#}$	
y‡	(9/2 ⁺) [@]	
204+y‡	$(11/2^+)^{(a)}$	
438+y [‡]	$(13/2^+)^{(a)}$	
701+y‡	$(15/2^+)^{(a)}$	
990+y‡	$(17/2^+)^{(a)}$	
1304+y‡	$(19/2^+)^{(a)}$	
1640+y [‡]	$(21/2^+)^{(a)}$	
1996+y [‡]	$(23/2^+)^{(a)}$	
2371+y [‡]	$(25/2^+)^{(a)}$	J^{π} : authors assignment of 21/2 ⁺ is probably a misprint.
2757+y [‡]	$(27/2^+)^{(a)}$	

[†] Band(A): decoupled rotational band 1/2⁻[550].

^{\ddagger} Band(B): decoupled rotational band 9/2⁺[404].

[#] Monotonically increasing J sequence is suggested by cascade of coincident E2 forming decoupled band based on $1/2^{-}[550]$ Nilsson state starting from $J^{\pi}=11/2^{-}$.

[@] Monotonically increasing J sequence is suggested by cascade of coincident γ 's forming rotational band based on 9/2⁺[404].

	$\frac{E_i(\text{level})}{204+y}$ 438+y 251+x 701+y 990+y 1304+y 1640+y	$\frac{J_i^{\pi}}{(11/2^+)}$ $(13/2^+)$ $(15/2^-)$ $(15/2^+)$ $(17/2^+)$ $(19/2^+)$ $(21/2^+)$	$\begin{array}{c c} E_f & J_f^{\pi} \\ \hline y & (9/2^+) \\ 204+y & (11/2^+) \\ x & (11/2^-) \\ 438+y & (13/2^+) \\ 701+y & (15/2^+) \\ 990+y & (17/2^+) \\ 1304+y & (19/2^+) \end{array}$	$ E_{\gamma}^{\dagger} 375 386 417 438 497 552 561 $	$E_i(\text{level}) = \frac{2371 + y}{2757 + y}$ $668 + x$ $438 + y$ $701 + y$ $990 + y$ $1229 + x$	$\frac{J_i^{\pi}}{(25/2^+)} \\ (27/2^+) \\ (19/2^-) \\ (13/2^+) \\ (15/2^+) \\ (17/2^+) \\ (23/2^-)$	$\begin{array}{c c} E_f & J_f^{\pi} \\ \hline 1996+y & (23/2^+) \\ 2371+y & (25/2^+) \\ 251+x & (15/2^-) \\ y & (9/2^+) \\ 204+y & (11/2^+) \\ 438+y & (13/2^+) \\ 668+x & (19/2^-) \end{array}$	
314 336 356	1304+y 1640+y 1996+y	$(19/2^+)$ $(21/2^+)$ $(23/2^+)$	990+y $(17/2^+)$ 1304+y $(19/2^+)$ 1640+y $(21/2^+)$	552 561 603	990+y 1229+x 1304+y	$(1^{7}/2^{+})$ $(23/2^{-})$ $(19/2^{+})$	$\begin{array}{r} 438+y & (13/2^+) \\ 668+x & (19/2^-) \\ 701+y & (15/2^+) \end{array}$)

 $\gamma(^{121}La)$

Continued on next page (footnotes at end of table)

					⁹² Mo(³²	S,2np γ)	1991Ce03	(continued	l)
						$\gamma(^{121}La)$	(continued)	_
E_{γ}^{\dagger}	E _i (level)	\mathbf{J}_i^π	E_f	J_f^π	E_{γ}^{\dagger}	E _i (level)	\mathbf{J}_i^{π}	E_f	J_f^π
650	1640+y	$(21/2^+)$	990+y	$(17/2^+)$	867	3562+x	$(35/2^{-})$	2695+x	$(31/2^{-})$
683	1912+x	$(27/2^{-})$	1229+x	$(23/2^{-})$	942	4504+x	$(39/2^{-})$	3562+x	$(35/2^{-})$
692	1996+y	$(23/2^+)$	1304+y	$(19/2^+)$	1011	5515+x	$(43/2^{-})$	4504+x	$(39/2^{-})$
731	2371+y	$(25/2^+)$	1640+y	$(21/2^+)$	1073 [‡]	6588+x?	$(47/2^{-})$	5515+x	$(43/2^{-})$
761	2757+y	$(27/2^+)$	1996+y	$(23/2^+)$	1130 [‡]	7718+x?	$(51/2^{-})$	6588+x?	$(47/2^{-})$
783	2695+x	$(31/2^{-})$	1912+x	$(27/2^{-})$					

[†] From p-gated coin spectrum taken at $E(^{32}S)=145$ MeV; no I γ data given in 1991Ce03. [‡] Placement of transition in the level scheme is uncertain.

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Legend

Level Scheme

---- $\triangleright \gamma$ Decay (Uncertain)

$\begin{array}{cccccccccccccccccccccccccccccccccccc$	(27/2 ⁺) ¹ ¹ ¹ ¹ ¹ ¹ ¹		2757+y
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	(25/2+)	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	2371+y
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	(23/2 ⁺)	↓ & **	1996+y
$(192^+) \qquad \downarrow \qquad $	(21/2 ⁺)		1640+y
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	(19/2+)		1304+y
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	(17/2 ⁺)		990+y
$(132^{+}) - (132$	(15/2+)	¥¥&%	701+y
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\frac{(13/2^+)}{(11/2^+)}$		438+y 204+y
$(312^{-}) $	(9/2+)	• • • • \$	y
$(472^{-}) - (472$	(51/2 ⁻)		77 <u>1</u> 8±x_
$(43)2^{-}) & \begin{array}{c} & & & & & \\ \hline & & & & \\ \hline & & & & \\ \hline & & & &$	(47/2 ⁻)	 *	6588±x_
$(392^{-}) \qquad \qquad 4504+x \\ (35/2^{-}) \qquad \qquad 4504+x \\ (31/2^{-}) \qquad \qquad 4504+x \\ (31/2$	(43/2 ⁻)		5515+x_
$(35/2^{-}) & & & & & & & & & & & & & & & & & & &$	(39/2 ⁻)		4504+x_
$(31/2^{-}) \\ (27/2^{-}) \\ (23/2^{-}) \\ (19/2^{-}) \\ (15/2^{-}) \\ (11$	(35/2 ⁻)		<u>\$</u> <u>3562+x</u>
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	(31/2 ⁻)		₹ <u>2695+x</u>
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	(27/2 ⁻)		v € 1912+x
$(19/2^{-}) \qquad \qquad$	(23/2 ⁻)		↓ ¢ ⁵ 1229+x
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	(19/2 ⁻)		€668+x
(11/2 ⁻)	(15/2 ⁻)		\$ 251+x
	(11/2 ⁻)		

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