^{54}Fe(^{3}He,p), (^{3}He,pγ) 1978Ka33,1975Mo05,1973Ca07

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Huo Junde, Huo Su, Yang Dong	NDS 112, 1513 (2011)	29-Oct-2009

1978Ka33: E=15.15 MeV; measured p$\gamma(\theta)$, DSA with Ge(Li).
1975Mo05: E=10.4 MeV; measured pγ coin, DSA with Ge(Li).
1973Ca07: E=15.08 MeV, 28-keV FWHM; measured σ(E(p),θ), θ=3.75°−86.25°, in steps of 7.5°; IAS analyses.
Others: 1971Sc18, 1968La20, 1968Be10, 1977Ba50, 1967Mi02.

^{56}Co Levels

E(level)[†]	J$^\pi$[&]	T$_{1/2}$[#]	L[b]	Comments
0.0	4$^+$[a]			
158.4 *3*	3$^+$[a]			
576.4 *2*	5$^+$[a]	0.33[@] ps *+22−11*	4	
829.8 *3*	4$^+$[a]	>1.7[@] ps		
970.3 *4*	2$^+$[a]	0.12[@] ps *+12−6*	2	
1009.2 *3*	5$^+$[a]	0.27[@] ps *+18−9*	4	
1114.6 *3*	3$^+$[a]	0.19[@] ps *+9−6*		
1450.7 *3*	0$^+$	>2[@] ps	0	T$_{1/2}$: other: >0.208 ps (1978Ka33).
1585[‡] *10*				
1720.2 *3*	1$^+$	0.47[@] ps *+40−16*	0+2	T$_{1/2}$: other: >0.336 ps (1978Ka33).
1930.2 *3*	3$^+$[a]		2	J$^\pi$: other: 3$^+$,(2$^+$) (1978Ka33).
2060.1 *3*	2$^+$[a]			J$^\pi$: other: 2$^+$,(3$^+$) (1978Ka33).
2226.2 *6*	2$^+$[a]			J$^\pi$: other: 3$^+$,(2$^+$) (1978Ka33).
2290.4 *6*	(7$^+$)[a]			
2306.4 *7*	(2)$^+$[a]		2	J$^\pi$: other: (2$^+$,3$^+$) (1978Ka33).
2360.4 *8*	(1$^+$)			
2469.4 *6*	(4)$^+$[a]		4	J$^\pi$: other: 4$^+$,5$^+$ (1978Ka33).
2635.9 *6*	1$^+$	15 fs *+19−11*		
2730.3 *4*	1$^+$	67 fs *+33−19*	0+2	
2973[‡] *10*			2[c]	
3076.0 *3*	1$^+$	22 fs *+8−6*	0+2	
3178[‡] *10*			2	
3378[‡] *10*	1$^+$		0+2	J$^\pi$: from L=0+2 (1973Ca07).
3526.6 *6*	0$^+$,1$^+$	6 fs *+5−4*		
3598.8 *4*	0$^+$,1$^+$[a]	18 fs *5*	0(+4)	J$^\pi$: other: 0$^+$ (1978Ka33).
3807[‡] *10*			2	
3863				
4032[‡] *10*			2(+4)	
4183[‡] *10*				
4372 *3*	1$^+$	10 fs *+12−8*	0+2	J$^\pi$: from L=0+2 (1973Ca07).
4429 *3*	2$^+$[a]			E(level): may be IAS of 2$^+$ 847 in ^{56}Fe (1968La20). J$^\pi$: other: (2$^+$) (1968La20).
4439[‡] *10*				
4796[‡] *10*	(1$^+$)		(0+2)	J$^\pi$: from L=(0+2) (1973Ca07).
4992[‡] *10*				
5081[‡] *10*				
5239[‡] *10*				
5338 *3*		≤8 fs		
5472 *2*	1$^+$,(2$^+$)	7 fs *+4−3*		
5562[‡] *10*			2	

Continued on next page (footnotes at end of table)

^{54}Fe(^{3}He,p), (^{3}He,pγ) 1978Ka33,1975Mo05,1973Ca07 (continued)

^{56}Co Levels (continued)

E(level)[†]	L[b]
6069[‡] *10*	
6228[‡] *10*	
6319[‡] *10*	(0)
6545[‡] *10*	

† From 1978Ka33, except as noted.
‡ From 1973Ca07.
# DSA method. From 1978Ka33, except as noted.
@ From 1975Mo05, DSA method.
& From 1978Ka33 based on p$\gamma(\theta)$ and angular momentum transfer, and summary of transition strengths extracted from $T_{1/2}$ and Iγ, except as noted.
a From Adopted Levels.
b Based on $\sigma(\theta)$ (1973Ca07).
c From 1968La20 based on $\sigma(\theta)$ DWBA fits.

γ(^{56}Co)

E$_\gamma$[†]	I$_\gamma$[‡]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	E$_\gamma$[†]	I$_\gamma$[‡]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
158.4 *3*		158.4	3$^+$	0.0	4$^+$	1114.5 *3*		1114.6	3$^+$	0.0	4$^+$
269.5 *3*		1720.2	1$^+$	1450.7	0$^+$	1185.2 *3*		2635.9	1$^+$	1450.7	0$^+$
285.4 *3*		1114.6	3$^+$	829.8	4$^+$	1279.7 *4*	14 *4*	2730.3	1$^+$	1450.7	0$^+$
423.9 *2*	14 *3*	2730.3	1$^+$	2306.4	(2)$^+$	1319.8 *5*	24 *5*	2290.4	(7$^+$)	970.3	2$^+$
432.7 *3*		1009.2	5$^+$	576.4	5$^+$	1336.4 *5*	31 *6*	2306.4	(2)$^+$	970.3	2$^+$
480.4 *2*		1450.7	0$^+$	970.3	2$^+$	1390.1 *6*		2360.4	(1$^+$)	970.3	2$^+$
503.8 *3*	14 *3*	2730.3	1$^+$	2226.2	2$^+$	1561.8 *3*		1720.2	1$^+$	158.4	3$^+$
576.4 *2*		576.4	5$^+$	0.0	4$^+$	1625.2 *3*	75 *3*	3076.0	1$^+$	1450.7	0$^+$
670.2 *3*	25 *6*	2730.3	1$^+$	2060.1	2$^+$	1760.1 *3*	33 *5*	2730.3	1$^+$	970.3	2$^+$
671.4 *2*		829.8	4$^+$	158.4	3$^+$	1772.2 *3*	37 *4*	1930.2	3$^+$	158.4	3$^+$
749.9 *2*		1720.2	1$^+$	970.3	2$^+$	1806.4 *5*		3526.6	0$^+$,1$^+$	1720.2	1$^+$
811.9 *3*		970.3	2$^+$	158.4	3$^+$	1878.2 *6*	51 *3*	3598.8	0$^+$,1$^+$	1720.2	1$^+$
829.7 *3*		829.8	4$^+$	0.0	4$^+$	1893.1 *6*		2469.4	(4)$^+$	576.4	5$^+$
868.9 *3*	32 *4*	3598.8	0$^+$,1$^+$	2730.3	1$^+$	1901.9 *5*	32 *5*	2060.1	2$^+$	158.4	3$^+$
945.6 *2*	53 *8*	2060.1	2$^+$	1114.6	3$^+$	2106.4 *8*	7 *3*	3076.0	1$^+$	970.3	2$^+$
956.4 *3*		1114.6	3$^+$	158.4	3$^+$	2131.7 *6*	31 *8*	2290.4	(7$^+$)	158.4	3$^+$
960.3 *2*	52 *6*	1930.2	3$^+$	970.3	2$^+$	2148.2 *6*	51 *10*	2306.4	(2)$^+$	158.4	3$^+$
962.9 *3*	17 *3*	3598.8	0$^+$,1$^+$	2635.9	1$^+$	2290.4 *8*	45 *9*	2290.4	(7$^+$)	0.0	4$^+$
1009.2 *2*		1009.2	5$^+$	0.0	4$^+$	2306.1 *8*	18 *6*	2306.4	(2)$^+$	0.0	4$^+$
1015.8 *3*	18 *3*	3076.0	1$^+$	2060.1	2$^+$	2652 *3*		4372	1$^+$	1720.2	1$^+$
1089.3 *5*	15 *3*	2060.1	2$^+$	970.3	2$^+$	2978 *3*		4429	2$^+$	1450.7	0$^+$
1099.6 *4*	11 *3*	1930.2	3$^+$	829.8	4$^+$	3048 *3*		5338		2290.4	(7$^+$)
1111.4 *5*		2226.2	2$^+$	1114.6	3$^+$	3752 *2*		5472	1$^+$,(2$^+$)	1720.2	1$^+$

† From 1978Ka33.
‡ % photon branching from each level (1978Ka33).

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Level Scheme

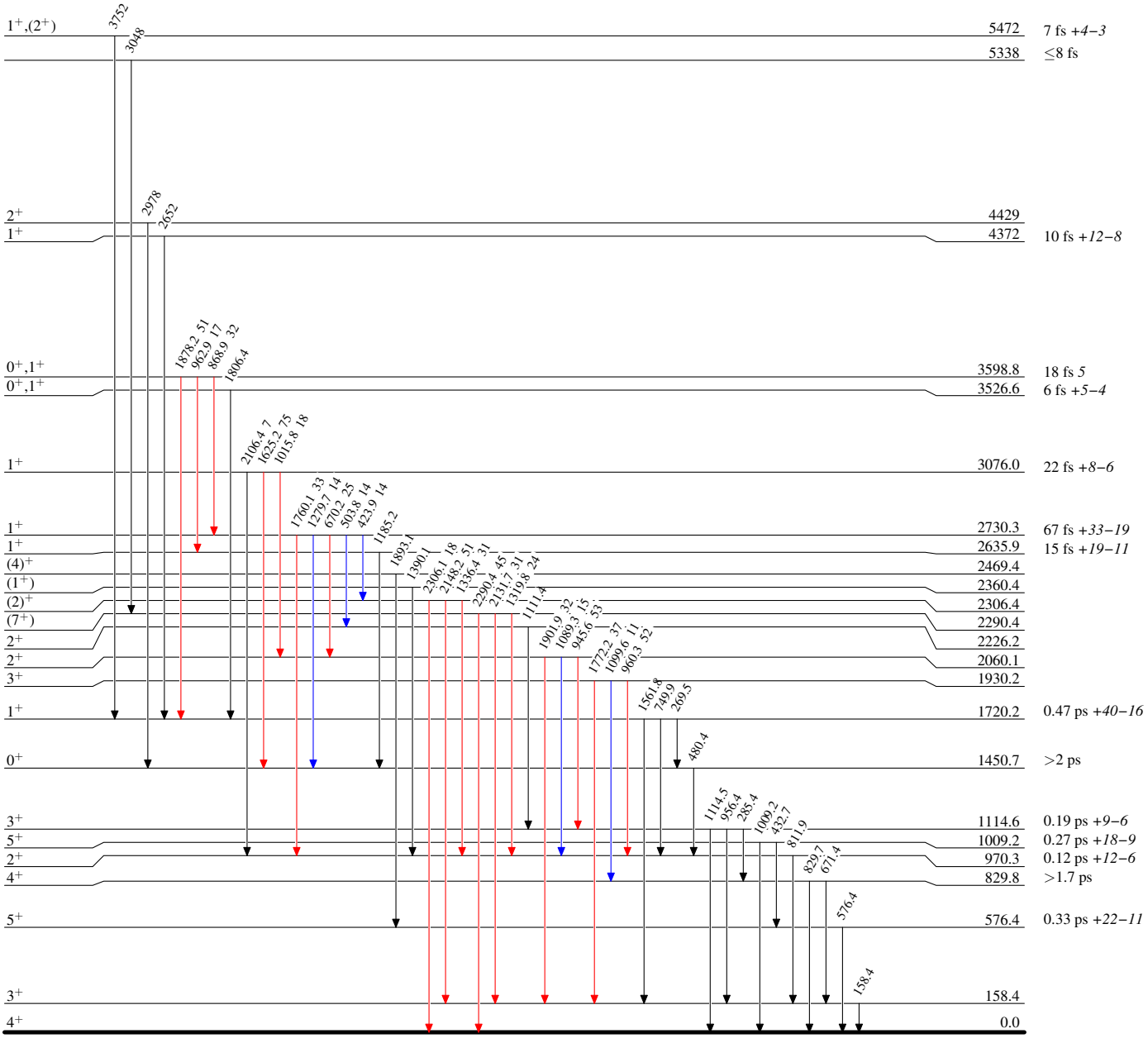
Intensities: Type not specified

Legend

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

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

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



$^{56}_{27}Co_{29}$