^{74}Se(p,nγ) E=7.6-8.5 MeV 1974LuZM,1975Lu02

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh, Ameenah R. Farhan	NDS 107, 1923 (2006)	30-Apr-2006

Both references are from the same group.

Singles γ-ray spectra recorded at proton energies in steps of 10 to 25 keV up to 700 keV above threshold. γγ measurements with germanium detectors.

^{74}Br Levels

E(level)†	Jπ‡	$T_{1/2}$	Comments
0.0	(0⁻)		
9.86 *10*	(1⁻)		Not reported in this experiment. Included here by evaluators on the basis of ^{74}Kr ε decay and (HI,xnγ).
13.6 *2*	4(+)	46 min *2*	
72.8 *2*	(2⁻)		Level suggested on the basis of ^{74}Kr ε decay and (HI,xnγ).
85.9 *4*	(3⁻)		1974LuZM suggest level at 72.3 but in the in-beam γ-ray study the level is proposed above the 46-min isomer.
89.2 *2*	(1⁻)		
178.9 *2*	(1)		
201.5	(4⁻)		E(level): 1974LuZM suggest level at 187.9 but in the in-beam study the level is based on the 46-min isomer at 13.8.
212.8 *2*	1⁺		E(level): 1974LuZM propose level at 203.0. But from ^{74}Kr ε decay and in-beam γ study the level is at 212.8.
239.9 *4*	(1)		
296.7 *4*	(1,2⁻)		
306.8 *2*	1⁺		
389.5 *5*	(1)		
406.4 *3*	(1,2⁻)		
435.1 *3*	(1,2⁻)		
469.1 *4*	(1,2⁻)		
587.8 *4*	(1⁻,2)		
609.1 *4*	(1⁺)		

† From least squares fit to Eγ′s.
‡ From 'Adopted Levels'.

γ(^{74}Br)

E_γ	I_γ†	E_i(level)	J_i^π	E_f	J_f^π	Comments
9.8 *1*		9.86	(1⁻)	0.0	(0⁻)	Value taken from ^{74}Kr ε decay.
26.3# *5*	<2	239.9	(1)	212.8	1⁺	Placement from ^{74}Kr ε decay. 1974LuZM suggest placement from 89.2 level.
62.9 *2*	115 *23*	72.8	(2⁻)	9.86	(1⁻)	1974LuZM place this γ with a 62.9 level. See 'Adopted Levels'.
72.3 *4*	92 *18*	85.9	(3⁻)	13.6	4(+)	
89.2 *2*	100 *20*	89.2	(1⁻)	0.0	(0⁻)	
89.7 *4*	31 *6*	178.9	(1)	89.2	(1⁻)	
98.8 *3*	7 *2*	406.4	(1,2⁻)	306.8	1⁺	
115.6 *2*	31 *6*	201.5	(4⁻)	85.9	(3⁻)	
123.0# *4*	19 *6*	212.8	1⁺	89.2	(1⁻)	Placement suggested (evaluators) on the basis of in-beam γ-ray results.
127.8 *5*	3 *1*	306.8	1⁺	178.9	(1)	
128.3 *3*	78 *16*	435.1	(1,2⁻)	306.8	1⁺	
139.8 *4*	25 *5*	212.8	1⁺	72.8	(2⁻)	
150.6 *5*	10 *2*	239.9	(1)	89.2	(1⁻)	

Continued on next page (footnotes at end of table)

^{74}Se(p,nγ) E=7.6-8.5 MeV 1974LuZM,1975Lu02 (continued)

γ(^{74}Br) (continued)

E_γ	I_γ [†]	E_i(level)	J_i^π	E_f	J_f^π	Comments
[x]177.0 5	51 10					E_γ: this γ placed from 239 level is doubtful. Not observed in ^{74}Kr ε decay and in-beam γ-ray study. Probably an impurity line.
178.9 2	44 9	178.9	(1)	0.0	(0$^-$)	
181.1 5	19 4	587.8	(1$^-$,2)	406.4	(1,2$^-$)	
187.9 3	45 9	201.5	(4$^-$)	13.6	4$^{(+)}$	
203.0 2	42 9	212.8	1$^+$	9.86	(1$^-$)	
217.5 5	32 6	306.8	1$^+$	89.2	(1$^-$)	
223.9 3	42 9	296.7	(1,2$^-$)	72.8	(2$^-$)	
[x]230.9 5	32 7					
239.9 5	5 2	239.9	(1)	0.0	(0$^-$)	
296.2[‡][#] 3	<8[‡]	296.7	(1,2$^-$)	0.0	(0$^-$)	I_γ: Evaluators deduce Iγ's for two components by using relative intensities from ^{74}Kr ε decay.
296.2[‡] 3	20[‡] 5	306.8	1$^+$	9.86	(1$^-$)	This placement suggested by evaluators on the basis of ^{74}Kr ε decay. Iγ deduced from ^{74}Kr ε decay.
300.3 4	44 9	389.5	(1)	89.2	(1$^-$)	
306.7 3	18 4	306.8	1$^+$	0.0	(0$^-$)	
389.5[#] 4	12 4	389.5	(1)	0.0	(0$^-$)	No 389.5γ reported in ^{74}Kr ε decay. Probably an impurity line.
396.6 5	10 3	469.1	(1,2$^-$)	72.8	(2$^-$)	E_γ: Probably a doublet. See 608.8 level.
396.6 5	4 1	609.1	(1$^+$)	212.8	1$^+$	I_γ: from ^{74}Kr ε decay (evaluators).
407.2 3	27 5	406.4	(1,2$^-$)	0.0	(0$^-$)	
435.0 5	10 2	435.1	(1,2$^-$)	0.0	(0$^-$)	
468.9 5	4 1	469.1	(1,2$^-$)	0.0	(0$^-$)	
588.1 5	3 1	587.8	(1$^-$,2)	0.0	(0$^-$)	
608.8 5	6 2	609.1	(1$^+$)	0.0	(0$^-$)	

[†] For E(p)=8.5 MeV.
[‡] Multiply placed with intensity suitably divided.
[#] Placement of transition in the level scheme is uncertain.
[x] γ ray not placed in level scheme.

^{74}Se(p,nγ) E=7.6-8.5 MeV 1974LuZM,1975Lu02

Level Scheme

Intensities: Relative I_γ

@ Multiply placed: intensity suitably divided

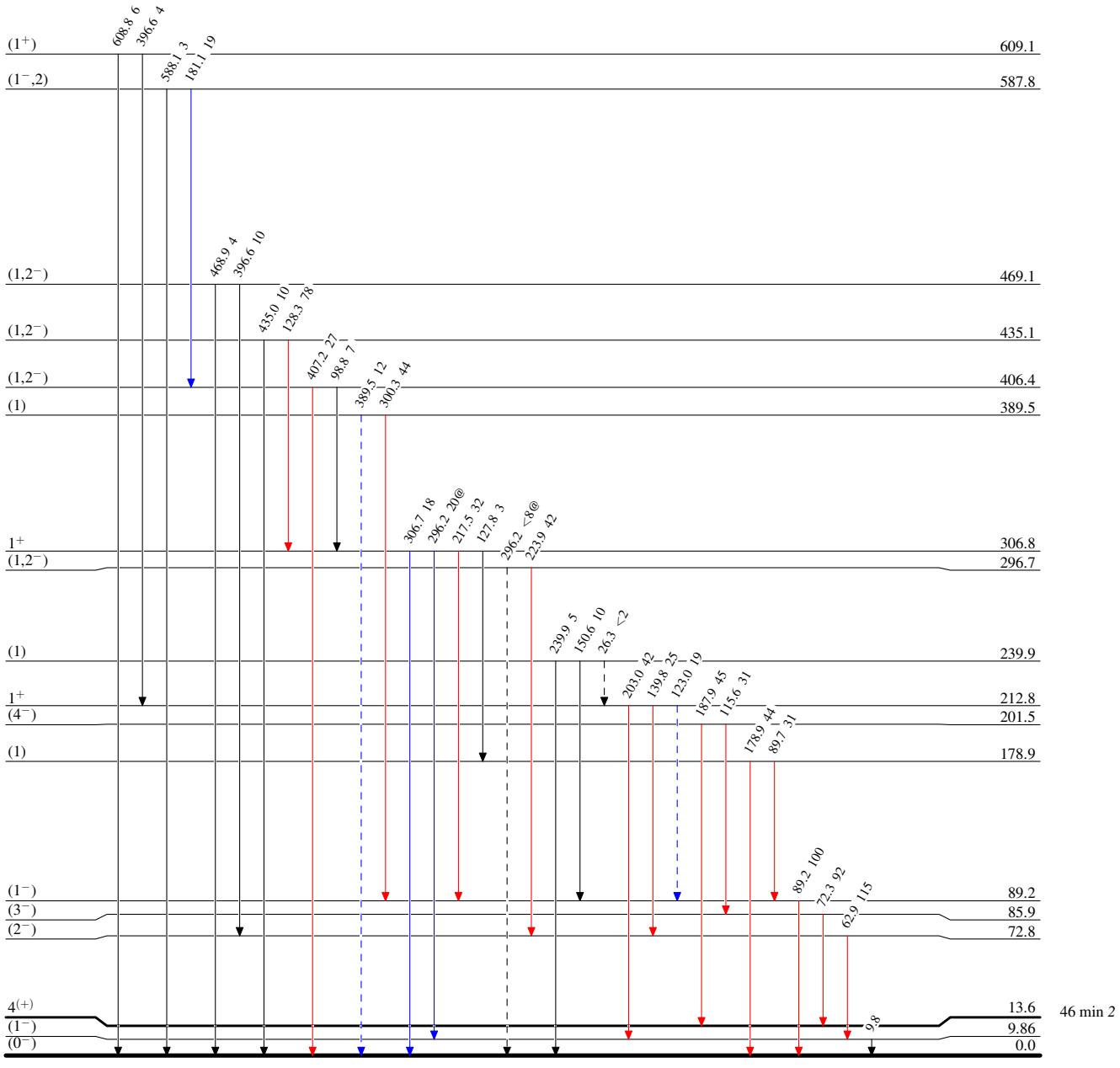
Legend

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

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

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

γ Decay (Uncertain)



$^{74}_{35}Br_{39}$