^{208}Pb(^{18}O,Xγ) E=91 MeV 2005Fo05

Type	Author	History Citation	Literature Cutoff Date
Modified	Balraj Singh	ENSDF	08-May-2015

Includes ^{173}Yb(^{24}Mg,Xγ) and ^{176}Yb(^{23}Na,Xγ).

^{85}Br nuclide produced in fission of the compound nucleus in three independent experiments: 1. ^{173}Yb(^{24}Mg,Xγ) E=134.5 MeV; 2. ^{176}Yb(^{23}Na,Xγ) E=129 MeV; 3. ^{208}Pb(^{18}O,Xγ) E=91 MeV.

Measured Eγ, Iγ, $\gamma\gamma$, fragment-γ coin with the Gammasphere array. For the first experiment, the array consisted of 92 Compton-suppressed large volume HPGe detectors while in the latter two, the number of Ge detectors was increased to 100.

^{85}Br Levels

E(level)[†]	J$^\pi$[‡]	Comments
0.0	3/2$^-$	
344.72 *18*	5/2$^-$	
1427.10 *18*	(7/2$^-$)	
1572.29 *22*	(7/2,9/2)	
1859.58 *25*	(9/2,11/2)	J$^\pi$: (9/2$^+$) in Adopted Levels. If 1514.8γ to 5/2$^-$ level exists, then 9/2$^+$ and 11/2 are less likely, unless the level is long-lived. A 9/2$^+$ level is expected in this energy region from systematics, with possible configuration=$\pi g_{9/2}^{-1}$. E(level): 2005Fo05 suggested that intensity imbalance at this state may be due to the presence of a short-lived isomer at this energy. But this conclusion is not supported in the high-spin study of 2006As07 who did not find this imbalance and ascribe the one deduced by 2005Fo05 to possible problems with the splitting the intensities of the doublet at 432.5+434.6.
2165.55 *22*	(9/2,11/2)	
2991.8 *4*	(9/2 to 13/2)	
3326.2 *3*	(11/2 to 15/2)	
3421.9 *3*	(11/2,13/2)	
3685.8 *5*	(13/2,15/2)	
3708.4 *4*	(13/2 to 17/2)	
3856.4 *5*	(13/2,15/2)	
3956.1 *8*	(13/2,15/2)	
4341.9 *4*		
4440.6 *5*	(15/2,17/2)	
4658.0 *5*	(17/2,19/2)	
4678.8 *5*	(15/2,17/2)	
4907.9 *5*	(19/2,21/2)	

[†] From least-squares fit to Eγ data.

[‡] Assignments proposed based upon comparison with shell model calculations and with systematics of heavier odd-mass isotopes. See Adopted Levels for somewhat different assignments.

γ(^{85}Br)

E$_\gamma$[†]	I$_\gamma$[‡]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
217.3 *6*	8 *2*	4658.0	(17/2,19/2)	4440.6	(15/2,17/2)
229.0 *6*	7 *2*	4907.9	(19/2,21/2)	4678.8	(15/2,17/2)
250.0 *2*	24 *5*	4907.9	(19/2,21/2)	4658.0	(17/2,19/2)
344.6 *2*	100[#]	344.72	5/2$^-$	0.0	3/2$^-$
382.2 *2*	31 *6*	3708.4	(13/2 to 17/2)	3326.2	(11/2 to 15/2)
432.5 *2*	46 *8*	1859.58	(9/2,11/2)	1427.10	(7/2$^-$)
434.6 *5*	17 *4*	3856.4	(13/2,15/2)	3421.9	(11/2,13/2)
467.3 *10*	3 *1*	4907.9	(19/2,21/2)	4440.6	(15/2,17/2)
584.0 *5*	14 *4*	4440.6	(15/2,17/2)	3856.4	(13/2,15/2)

Continued on next page (footnotes at end of table)

^{208}Pb(^{18}O,Xγ) E=91 MeV 2005Fo05 (continued)

γ(^{85}Br) (continued)

E_γ [†]	I_γ [‡]	E_i(level)	J_i^π	E_f	J_f^π
593.2 *2*	54 *8*	2165.55	(9/2,11/2)	1572.29	(7/2,9/2)
633.5 *2*	24 *4*	4341.9		3708.4	(13/2 to 17/2)
702.0 *10*	<3	4658.0	(17/2,19/2)	3956.1	(13/2,15/2)
738.5 *2*	25 *4*	2165.55	(9/2,11/2)	1427.10	(7/2$^-$)
864.5 *5*	12 *3*	3856.4	(13/2,15/2)	2991.8	(9/2 to 13/2)
949.5 *6*	5 *2*	4658.0	(17/2,19/2)	3708.4	(13/2 to 17/2)
972.4 *6*	8 *3*	4658.0	(17/2,19/2)	3685.8	(13/2,15/2)
992.8 *6*	5 *2*	4678.8	(15/2,17/2)	3685.8	(13/2,15/2)
1018.8 *5*	12 *3*	4440.6	(15/2,17/2)	3421.9	(11/2,13/2)
1082.1 *5*	19 *3*	1427.10	(7/2$^-$)	344.72	5/2$^-$
1132.1 *5*	15 *3*	2991.8	(9/2 to 13/2)	1859.58	(9/2,11/2)
1160.6 *2*	55 *7*	3326.2	(11/2 to 15/2)	2165.55	(9/2,11/2)
1227.5 *2*	75 *9*	1572.29	(7/2,9/2)	344.72	5/2$^-$
1257.0 *6*	8 *2*	4678.8	(15/2,17/2)	3421.9	(11/2,13/2)
1419.3 *6*	5 *2*	2991.8	(9/2 to 13/2)	1572.29	(7/2,9/2)
1427.2 *2*	49[#] *6*	1427.10	(7/2$^-$)	0.0	3/2$^-$
1514.8[@] *10*	<3	1859.58	(9/2,11/2)	344.72	5/2$^-$
1562.3 *2*	42 *7*	3421.9	(11/2,13/2)	1859.58	(9/2,11/2)
1790.7 *10*	4 *1*	3956.1	(13/2,15/2)	2165.55	(9/2,11/2)
1826.2 *5*	20 *3*	3685.8	(13/2,15/2)	1859.58	(9/2,11/2)

[†] 2005Fo05 quote uncertainties on γ-ray energies as varying from 0.2-0.5 keV for strong transitions and from 0.6-1.0 keV for the weaker ones. The evaluators have assigned the following uncertainties: 0.2 keV for Iγ>20, 0.5 keV for Iγ=10-20, 0.6 keV for Iγ=5-10 and 1.0 for Iγ<5.

[‡] Probably obtained from ^{208}Pb(^{18}O,Xγ) reaction in as ^{85}Br was only weakly populated in the other reactions.

[#] Obtained from double gate on known transitions of ^{137}Cs complementary fragment from fission of ^{226}Th.

[@] Placement of transition in the level scheme is uncertain.

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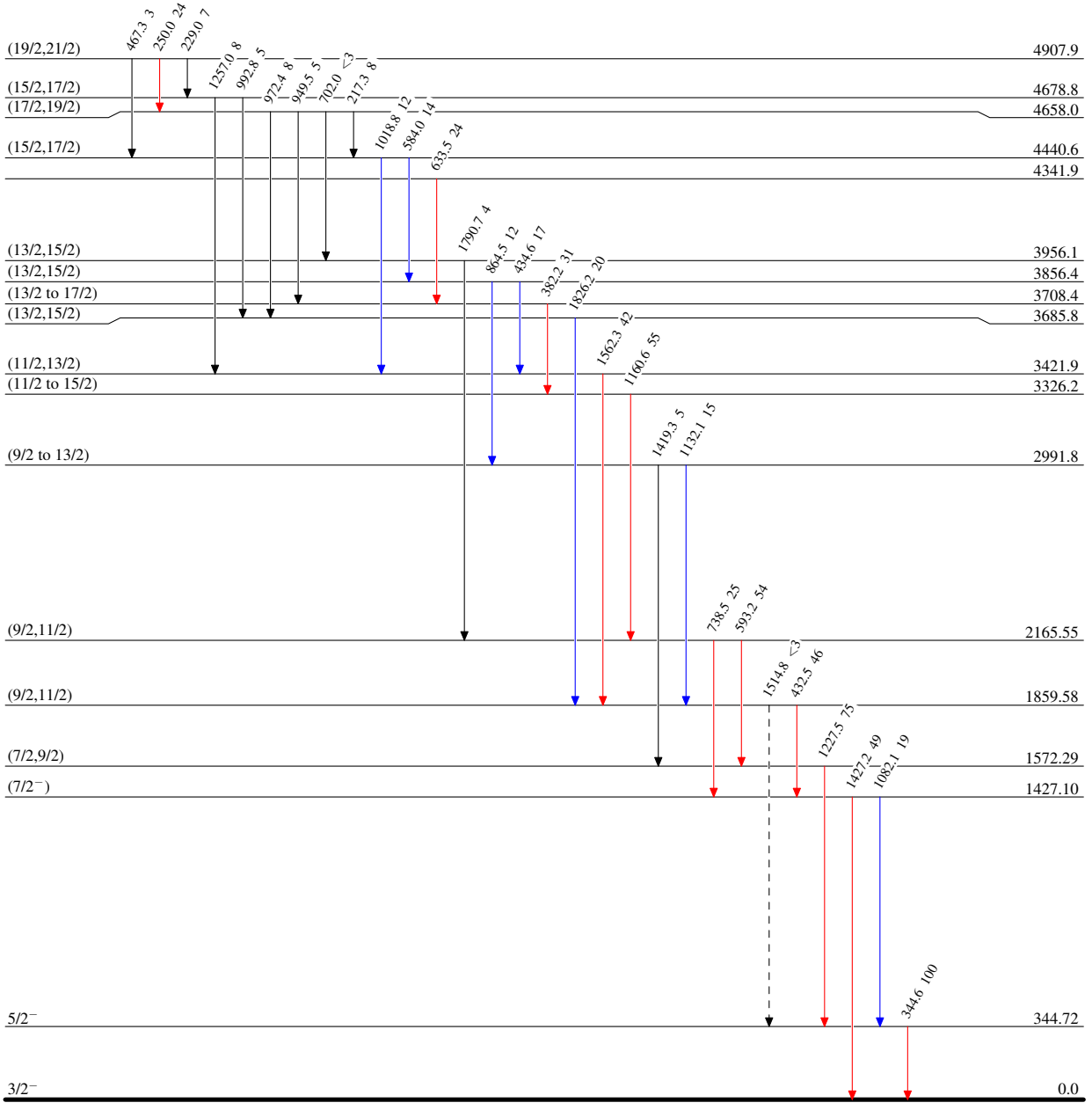
Level Scheme

Intensities: Relative I_γ

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)



$^{85}_{35}Br_{50}$