^{96}Ru(^{40}Ca,n3pγ) 1991WaZS

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Yu. Khazov, A. A. Rodionov and S. Sakharov, Balraj Singh	NDS 104, 497 (2005)	1-Jul-2022

1991WaZS: E≈180MeV. 10 Ge detectors, 5 neutron counters, POLITESSA array, recoil mass separator. Measured recoils, γ, n, and their mutual coincidences.

^{132}Pm Levels

E(level)	Comments
0+x[†]	Additional information 1.
131.0+x[‡] *8*	
275.0+x[†] *8*	
435.0+x[‡] *10*	
609.0+x[†] *11*	
828.0+x[‡] *12*	
1058.0+x[†] *13*	
1348.0+x[‡] *13*	
1645.0+x[†] *14*	
1990.1+x[‡] *15*	
2352.8+x[†] *16*	
2735.5+x[‡] *16*	
3154.8+x[†] *19*	
3565.5+x[‡] *19*	
4026.8+x[†] *21*	
4469.5+x[‡] *22*	
4964.8+x[†] *23*	
0+y[#]	Additional information 2.
107.0+y[@] *8*	
249.0+y[#] *8*	
430.0+y[@] *10*	
644.0+y[#] *11*	
895.0+y[@] *12*	
1173.0+y[#] *13*	
1488.0+y[@] *13*	
1823.0+y[#] *14*	
2193.0+y[@] *15*	
2576.0+y[#] *16*	
2993.0+y[@] *16*	
3410.0+y[#] *19*	
3866.0+y[@] *19*	
0+z[&]	Additional information 3.
88.0+z[a] *8*	
204.0+z[&] *8*	
327.0+z[a] *10*	
496.0+z[&] *11*	
646.0+z[a] *12*	
882.0+z[&] *13*	

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^{96}Ru(^{40}Ca,n3pγ) 1991WaZS (continued)

^{132}Pm Levels (continued)

E(level)	Comments
1057.0+z[a] *16*	
1365.0+z[&] *16*	
1574.0+z[a] *19*	
1947.0+z[&] *19*	
2201.0+z[a] *21*	
2631.0+z[&] *22*	
2934.0+z *23*	
3765+z[a] *3*	
4684+z[a] *3*	
0+u[b]	Additional information 4.
104.3+u[c] *8*	
218.7+u[b] *8*	
368.1+u[c] *10*	
532.5+u[b] *11*	
720.9+u[c] *12*	
949.3+u[b] *13*	
1170.7+u[c] *13*	
1456.0+u[b] *14*	
1711.7+u[c] *17*	
2048.0+u[b] *18*	
2674.0+u[c] *20*	
2724.0+u[b] *20*	
3382.0+u[c] *23*	
3484.0+u[b] *23*	
4173.0+u[c] *25*	
4331.0+u[b] *25*	

[†] Band(A): Band structure; K=(4). $\pi h_{11/2}\otimes\nu h_{11/2}$ or $\pi h_{11/2}\otimes\nu g_{7/2}$.
[‡] Band(a): Band structure; K=(4). $\pi h_{11/2}\otimes\nu h_{11/2}$ or $\pi h_{11/2}\otimes\nu g_{7/2}$.
[#] Band(B): Band structure; K=(5). $\pi h_{11/2}\otimes\nu h_{11/2}$ or $\pi h_{11/2}\otimes\nu g_{7/2}$.
[@] Band(b): Band structure; K=(5). $\pi h_{11/2}\otimes\nu h_{11/2}$ or $\pi h_{11/2}\otimes\nu g_{7/2}$.
[&] Band(C): Band structure; K=(5). $\pi g_{7/2}\otimes\nu h_{11/2}$ or $\pi g_{7/2}\otimes\nu g_{7/2}$.
[a] Band(c): Band structure; K=(5). $\pi g_{7/2}\otimes\nu h_{11/2}$ or $\pi g_{7/2}\otimes\nu g_{7/2}$.
[b] Band(D): Band structure; K=(5). $\pi g_{7/2}\otimes\nu h_{11/2}$ or $\pi g_{7/2}\otimes\nu g_{7/2}$.
[c] Band(d): Band structure; K=(5). $\pi g_{7/2}\otimes\nu h_{11/2}$ or $\pi g_{7/2}\otimes\nu g_{7/2}$.

γ(^{132}Pm)

E_γ	E_i(level)	E_f	E_γ	E_i(level)	E_f	E_γ	E_i(level)	E_f
88	88.0+z	0+z	142	249.0+y	107.0+y	174	609.0+x	435.0+x
104	104.3+u	0+u	144	275.0+x	131.0+x	181	430.0+y	249.0+y
107	107.0+y	0+y	149	368.1+u	218.7+u	188	720.9+u	532.5+u
114	218.7+u	104.3+u	150	646.0+z	496.0+z	204	204.0+z	0+z
116	204.0+z	88.0+z	160	435.0+x	275.0+x	214	644.0+y	430.0+y
123	327.0+z	204.0+z	164	532.5+u	368.1+u	219	828.0+x	609.0+x
131	131.0+x	0+x	169	496.0+z	327.0+z	219	218.7+u	0+u

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^{96}Ru(^{40}Ca,n3pγ) 1991WaZS (continued)

γ(^{132}Pm) (continued)

E_γ	E_i(level)	E_f	Comments
222	1170.7+u	949.3+u	
229	949.3+u	720.9+u	E_γ: from level-energy difference. Eγ=237 in 1991WaZS seems a misprint.
230	1058.0+x	828.0+x	
236	882.0+z	646.0+z	
239	327.0+z	88.0+z	
249	249.0+y	0+y	
251	895.0+y	644.0+y	E_γ: from level-energy difference. Eγ=201 in 1991WaZS seems a misprint.
264	368.1+u	104.3+u	
275	275.0+x	0+x	
278	1173.0+y	895.0+y	
285†	1456.0+u	1170.7+u	E_γ: from level-energy difference. Eγ=385 in 1991WaZS seems a misprint.
290	1348.0+x	1058.0+x	
292	496.0+z	204.0+z	
297	1645.0+x	1348.0+x	
304	435.0+x	131.0+x	
314	532.5+u	218.7+u	
315	1488.0+y	1173.0+y	
319	646.0+z	327.0+z	
323	430.0+y	107.0+y	
334	609.0+x	275.0+x	
335	1823.0+y	1488.0+y	
345	1990.1+x	1645.0+x	
353	720.9+u	368.1+u	
363	2352.8+x	1990.1+x	
370	2193.0+y	1823.0+y	
383	2735.5+x	2352.8+x	
383	2576.0+y	2193.0+y	
386	882.0+z	496.0+z	
393	828.0+x	435.0+x	
395	644.0+y	249.0+y	
411	1057.0+z	646.0+z	
417	2993.0+y	2576.0+y	
417	949.3+u	532.5+u	
449	1058.0+x	609.0+x	
449	1170.7+u	720.9+u	
465	895.0+y	430.0+y	
483	1365.0+z	882.0+z	
507	1456.0+u	949.3+u	
517	1574.0+z	1057.0+z	
520	1348.0+x	828.0+x	
529	1173.0+y	644.0+y	
541	1711.7+u	1170.7+u	
582	1947.0+z	1365.0+z	
587	1645.0+x	1058.0+x	
592	2048.0+u	1456.0+u	
593	1488.0+y	895.0+y	
626	2674.0+u	2048.0+u	
627	2201.0+z	1574.0+z	
642	1990.1+x	1348.0+x	
650	1823.0+y	1173.0+y	
676	2724.0+u	2048.0+u	
684†	2631.0+z	1947.0+z	
705	2193.0+y	1488.0+y	
708	2352.8+x	1645.0+x	
708	3382.0+u	2674.0+u	
733	2934.0+z	2201.0+z	

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^{96}Ru(^{40}Ca,n3pγ) 1991WaZS (continued)

$\gamma(^{132}Pm)$ (continued)

E_γ	E_i(level)	E_f	E_γ	E_i(level)	E_f	E_γ	E_i(level)	E_f
745	2735.5+x	1990.1+x	802	3154.8+x	2352.8+x	872	4026.8+x	3154.8+x
753	2576.0+y	1823.0+y	830	3565.5+x	2735.5+x	873	3866.0+y	2993.0+y
760	3484.0+u	2724.0+u	831	3765+z	2934.0+z	904	4469.5+x	3565.5+x
791†	4173.0+u	3382.0+u	834	3410.0+y	2576.0+y	919†	4684+z	3765+z
800	2993.0+y	2193.0+y	847	4331.0+u	3484.0+u	938	4964.8+x	4026.8+x

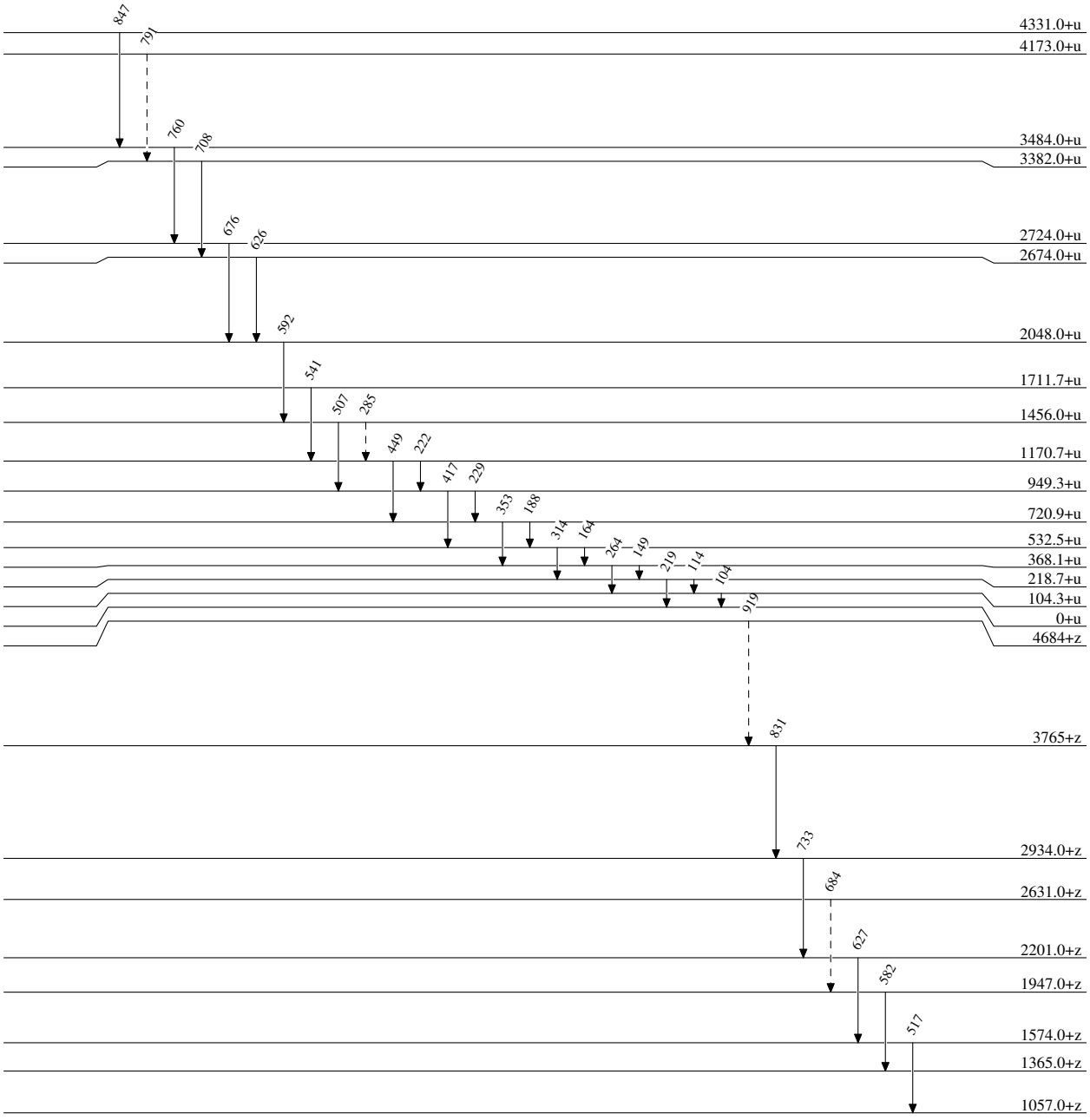
† Placement of transition in the level scheme is uncertain.

Legend

^{96}Ru(^{40}Ca,n3pγ) 1991WaZS

Level Scheme

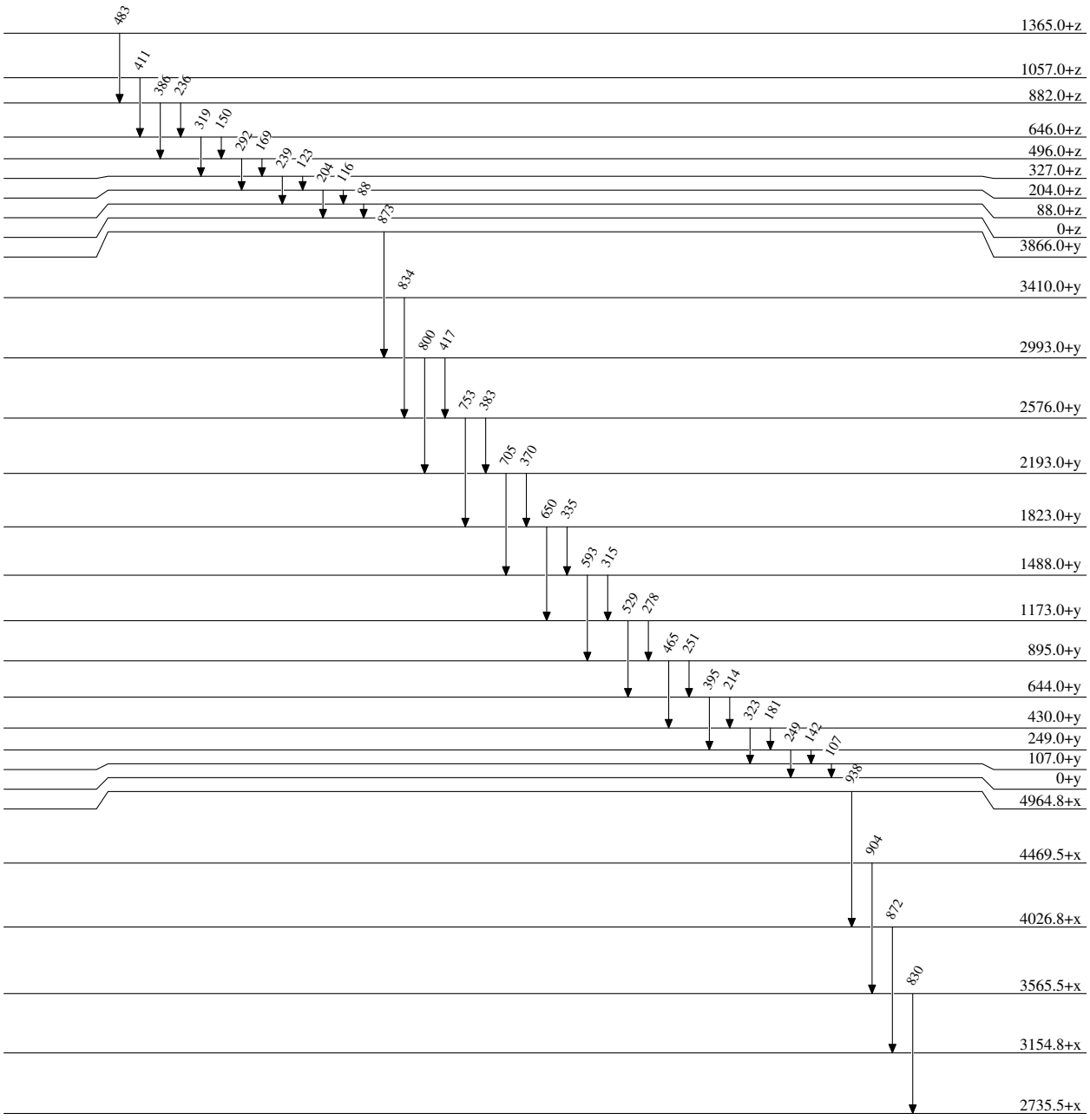
γ Decay (Uncertain)



$^{132}_{61}Pm_{71}$

^{96}Ru(^{40}Ca,n3pγ) 1991WaZS

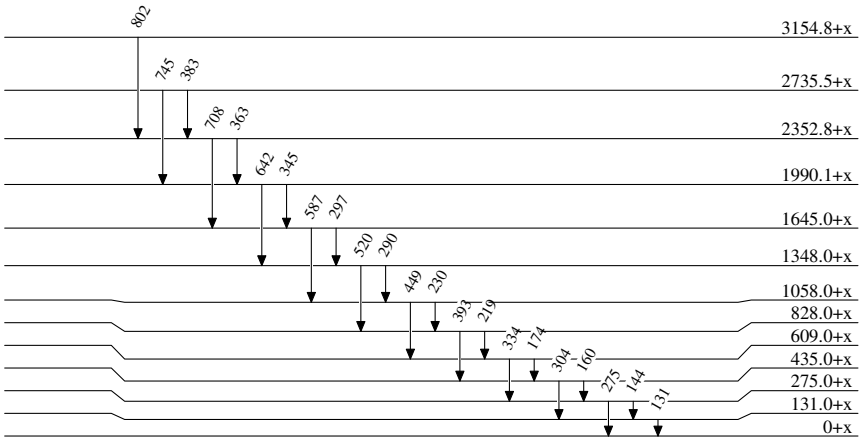
Level Scheme (continued)



$^{132}_{61}Pm_{71}$

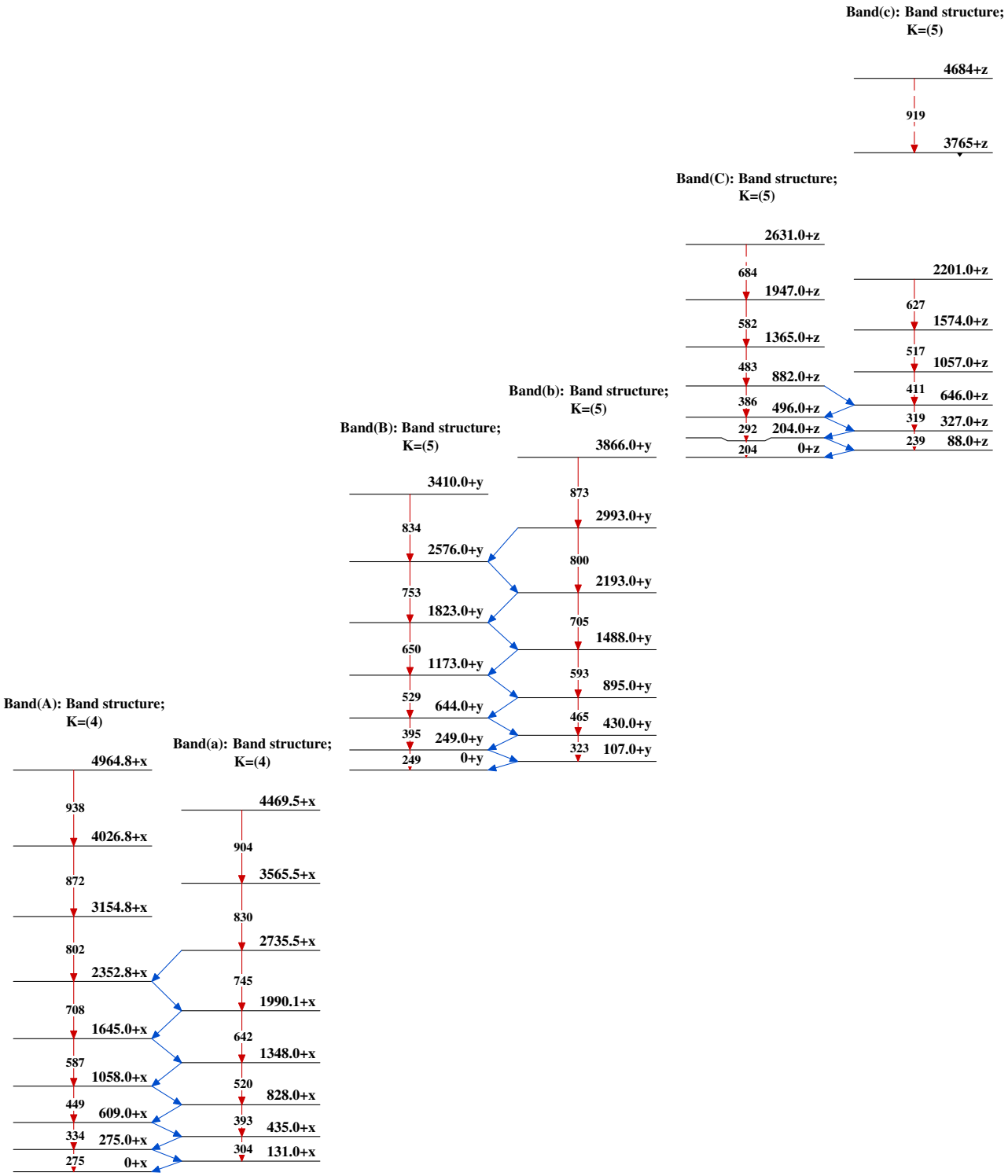
^{96}Ru(^{40}Ca,n3pγ) 1991WaZS

Level Scheme (continued)

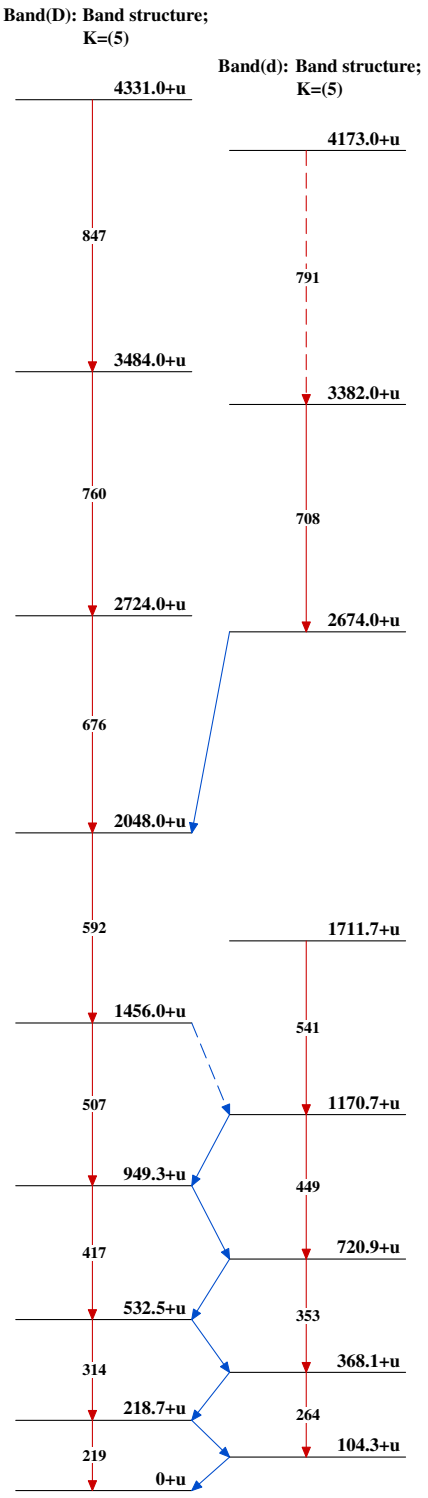


$^{132}_{61}Pm_{71}$

^{96}Ru(^{40}Ca,n3pγ) 1991WaZS



^{96}Ru(^{40}Ca,n3pγ) 1991WaZS (continued)



$^{132}_{61}Pm_{71}$